

**WAITES HOUSES, 77 – 79 PRIORY ROAD
LONDON NW6**

**SPECIFICATION
FOR PLANTING WORKS**

FL_WAI_spec_001

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REVISIONS

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DRAWINGS TO BE READ WITH THIS SPECIFICATION

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C10 SITE SURVEY

Refer to Main Contractor's Preliminaries for specification relating to:

- Site survey
- Preliminary works by others
- Access to the site including agreed working hours
- Acceptance of the site by the Contractor
- Unforeseen hazards
- Provision for temporary works and protection
- Provision and location of water supply on site
- Provision of power supply on site
- Workmanship

C11 SITE INVESTIGATION

Refer to Main Contractor's Preliminaries for specification relating to:

- Site investigation report

Refer to Q28 for specification relating to:

- Obtaining topsoil analysis laboratory tests both for soils from the site and soils for import to site.

Q28 TOPSOILING

To be read with Preliminaries/General conditions.

120a SITE INVESTIGATION AND EARTHWORKS BY OTHERS

- Prior to commencing any works, it is the Contractor's responsibility to familiarise himself with the Ground Investigation Report and with any groundworks which have been carried out by others and to satisfy himself that the report and the works by others are acceptable.

PROVISION OF WATER SUPPLY BY OTHERS

- Prior to commencing any works, it is the Contractor's responsibility to satisfy himself that arrangements for access to a water supply are adequate and suitable for use during the landscape works, the establishment and maintenance periods.

ACCEPTANCE OF HARD LANDSCAPE WORKS BY OTHERS

- Prior to commencing any works, it is the Contractor's responsibility to satisfy himself that works by others, eg to form planting pits and retained containers, are acceptable and that they are free-draining.

PROGRAMME AND COORDINATION WITH WORKS BY OTHERS

- Prior to commencing any works, it is the Contractor's responsibility to satisfy himself that the planting works can be coordinated with hard landscape works, which are being completed by others and to ascertain from others when their works eg footpaths, drainage and tree pits/tree grilles will be completed, such that a coordinated programme for all the planting works can be agreed with the CA at the start of the contract.

200a SUBSOIL

- General: Subsoil shall be dry, clean, good quality, free from clay, gravel, ashes, hardcore, concrete, bricks and other extraneous material. It shall also be free from toxic or any other content injurious to soil structure or plant growth, and from stones over 50mm diameter and from all timber, ferrous metals and any materials liable to cause settlement.
- Soil to be analysed: A representative sample of a) the stored site subsoil and / or b) of any subsoil to be imported to site. Results to be submitted to the CA for approval with a detailed report of the physical and chemical properties and recommendations for making good any deficiencies and for any treatments relating to the planting proposals.
- Soil analyst: Any reputable testing laboratory with ISO 1725 accreditation. Supply name of soil analyst to the CA.
- Treatments: Address the recommendations of the soil analyst.
- Samples: Collect in accordance with BS 3882, Annex A.
- Submit originals of: - Declaration of analysis of structure and composition.
- Soil analyst's report including recommendations.
- The CA reserves the right to decline to accept soil that is not of the standard specified or that does not suit local ground conditions.
- Subsoiling depths: All areas require subsoil to a minimum depth of 250mm. All topsoil (whether imported or stripped site topsoil) shall always be placed upon subsoil.
- Grading: Grade to smooth flowing contours to achieve specified finished levels of topsoil.

210 LIGHT AND NONCOHESIVE SUBSOILS

- Loosening: Use a three tine ripper, drawn 300 mm deep at 600 mm centres in two directions obliquely, when ground conditions are reasonably dry.

230 ROCK AND CHALK SUBGRADES

- Loosening: Lightly scarify to ensure free drainage.

250 DRAINAGE AND SURFACE PREPARATION PRIOR TO TOPSOILING

- Drainage: Prior to preparation of the surface, ensure that all areas are free-draining and allow for approval of free-draining substrate and subsoil by the CA. Allow for acceptance of planting areas which are in constructed / retained containers made by others and ensure that these are free-draining and that they allow for specified depths of planting substrate including subsoil, topsoil and mulch.
- Stones: Immediately before spreading topsoil remove stones larger than 50 mm.
- Other items: Remove all perennial roots and stems, tree roots, timber, glass, wire, building debris and extraneous materials.
- The CA reserves the right to decline to approve any prepared areas or planting containers which are not demonstrated as being free-draining.

PROTECTION OF THE GROUND AND METHODOLOGY FOR WORKING WITHIN PROXIMITY OF EXISTING TREES

- **No alterations to be made to soil levels and no soil disturbed in any way, unless the methodology for the works is agreed in advance with the CA and carried out to the standards in BS 5837 and to any recommendations which have been given by the Local Authority Tree Officer.**

PREPARATION OF WOODCHURCH ROAD GARDEN AREA: BENEATH EXISTING TREES

- **All the area beneath the existing trees is subject to designation and inspection by the Local Authority's Tree Officer.**
- **Allow for preparation using hand tools only and in accordance with the standards in BS 5837 for work within the proximity of existing trees.**
- **In this area, the planting is groundcovers and bulbs in order to achieve the effect of a woodland groundflora.**
- **Existing soil is to be inspected and recommendations for any improvement are to be submitted to the CA for approval.**
- **Existing soil is only to be worked in small localised areas, as required to plant the plants and bulbs.**
- **Setting out is to be random and naturalistic and therefore the Contractor is to agree the setting out principles with the CA prior to application of soil and any preparation works.**

PREPARATION OF PRIORY ROAD GARDENS AND ENTRANCE AREA: BENEATH EXISTING TREES AND EXISTING HEDGELINE

- **All the area beneath the existing trees is subject to designation and inspection by the Local Authority's Tree Officer.**
- **Allow for preparation using hand tools only and in accordance with the standards in BS 5837 for work within the proximity of existing trees.**
- **Existing soil is to be inspected and recommendations for any improvement are to be submitted to the CA for approval.**

- **Existing soil is only to be worked in localised areas, as required to plant the hedge plants.**
- **The existing hedge is to be infilled where scarce cover remains and therefore the Contractor is to agree the extent and method for this prior to preparation of the ground and prior to application of soil.**
- **Areas of turf are also proposed in this area, therefore the Contractor is to agree method of preparation and is to allow for localised modifying of levels and preparation throughout the zone of the trees' roots.**

300a TOPSOIL ANALYSIS

- Soil to be analysed: A representative sample of a) the stored site topsoil and / or b) of the topsoil the Contractor proposes to import. Results to be submitted to the CA for approval, prior to placing an order for the soil, together with a detailed report from a soil analyst of the physical and chemical properties and recommendations for making good any deficiencies and for any treatments relating to the planting proposals.
- Soil analyst: Any reputable testing laboratory with ISO 1725 accreditation.
- Samples: Collect in accordance with BS 3882, Annex A.
- Submit originals of:
 - Declaration of analysis of structure and composition.
 - Soil analyst's report including recommendations.
- Submit the name of both the topsoil supplier and the soil analyst to the CA.
- The CA reserves the right to decline or accept the soil if it is not of the standard specified.

310a PROTECTION OF AREAS WHICH HAVE BEEN PREPARED WITH SUBSOILS AND TOPSOILS

- Protect these areas. Avoid trampling or tracking over with feet or machinery and avoid storing any materials in this area. Avoid any access or activities which may compact the soil structure.
- General: Prepare areas to receive soft landscaping as necessary to ensure that the topsoil is in a suitable state for cultivation operations specified in sections Q30 and/or Q31.

LAWN AREAS AND ANY OTHER AREAS IN WHICH TREES / SHRUBS REQUIRE DEEPER PITS THAN THE SURROUNDING AREAS OF SOILS

- Break up the ground only as necessary to dig pits for new trees and to allow for new shrub, perennial and bulb planting. Remove stones and excavate locally to specified depths for pits and break up base of pits, checking that each is free-draining. Soil excavated is to be re-used on site. During planting of trees and shrubs, protect surrounding areas of soil from footfall or machinery or any other compaction using adequate temporary protective measures.

342a IMPORTED TOPSOIL FOR ALL PLANTING AREAS

- Treatments: Address the recommendations of the soil analyst.
- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
- Source: Local provenance if possible. If local soil not available, then soil to suit site ground conditions as demonstrated by soil analysis results.
- Texture to BS 3882, figure K1: suited to local ground conditions.
- Reaction, to BS 1377-3: pH suited to local ground conditions.
- Organic matter: not less than 4% dry weight organic matter and 25% water holding capacity.

- Nutrient content: Minimum index values for nitrogen, phosphorus, potassium and magnesium to be as for general purpose grade of BS 3882.
- Crumb structure: Made up of discernible crumbs, typically 2–7 mm diameter, each comprising an aggregation of soil particles attracted around a sticky humus centre.
- Size of stones in any dimension (maximum): 25 mm.
- Stone content by dry weight (maximum): 10 %.
- Foreign matter: On visual inspection, free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, and the like.
- Other requirements:
 - All topsoil used to be suitable for domestic garden use
 - Topsoil for the planters is to be suitable for growing vegetables and fruit.
 - It is the Contractor's responsibility to make proposals for improvement of topsoil as necessary to ensure establishment of plants. Proposals including addition of organic matter and fertilizers or other material to be made to the CA for approval.
- The CA reserves the right to decline to accept soil that is not of the standard specified or that does not suit local ground conditions.

360a NOTICE

- Give notice for approvals:
 - After subsoil preparation
 - after ensuring that all planted areas are free-draining
 - at delivery of sample topsoil
 - before delivery of topsoil to site and
 - after topsoiling.
- Notice period: 5 days.

370 SAMPLE LOAD OF IMPORTED TOPSOIL

- General: Deliver to site a sample load of not less than 5 m3.
- Give notice: Allow CA to inspect before making further deliveries to site. Retain for comparison with subsequent loads.

380a CONTAMINATION

- General: Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
 - Corrosive, explosive or flammable.
 - Hazardous to human or animal life.
 - Detrimental to healthy plant growth.
- Subsoil: In areas to receive topsoil, do not use subsoil contaminated with the above materials.
- Give notice: If any evidence or symptoms of soil contamination are discovered on the site, or in topsoil to be imported.

410a HANDLING TOPSOIL

- Aggressive weeds: Give notice and obtain instructions before moving topsoil.
- Plant: Select and use plant to minimize disturbance, trafficking and compaction.
- Protection: Take appropriate measure to protect all soils during works.
- Contamination: Do not mix topsoil with:
 - Subsoil, stone, hardcore, rubbish or material from demolition work.
 - Other grades of topsoil.
- Handling: Keep to a minimum. Use topsoil immediately after stripping / delivery.

- Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than its plastic limit. Avoid any compaction and damage to the soil structure at all times.
- If in the opinion of the CA, damage has been caused to any soils on site, then the CA reserves the right to request replacement or decompaction treatments as necessary and at the Contractor's expense.

420a SPREADING TOPSOIL

- Temporary surfacing: Remove before spreading topsoil.
- All topsoil (whether imported or stripped site topsoil) shall be placed upon subsoil. The minimum depth of this subsoil shall be 250mm. Topsoil is to be placed upon prepared areas, which have been cleared of debris, broken up to ensure free-drainage and subsoiled in accordance with clauses 200a, 250 and 310a above.
- Layers:
 - Depth of each layer (maximum): 150 mm.
 - Gently firm each layer before spreading the next.
- All soil levels to be made up with minimum 250mm subsoil below and with the following minimum depths of topsoil above, after firming and settlement:
 - Tree pits: 1000mm
 - Shrub planting and hedge planting areas: 450mm
 - Flower garden and private garden areas: 350mm EXCEPT areas beneath existing trees, for which localised preparation and topsoiling is specified and for which works are to be in accordance with the guidelines and method in BS 5837.
 - Lawns: Turf planting: 200mm
- Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.
- Grading: All areas to be graded to a true and even surface free from any pronounced local mounds or depressions. Fork and rake new soil to achieve a fine even tilth at least 75mm deep and include raking to marry in adjoining areas, allowing for settlement. Grade to give gentle falls to assist drainage and avoid ponding.

420b PLANTER CONTAINERS: DRAINAGE LAYER, GEOTEXTILES

- Free-draining: Ensure all retained planters are free-draining and have appropriate outflow drainage channels built in or are adequately loosened/broken out at their bases such as to allow water to drain out.
- Gravel drainage layer: Line containers with gravel drainage layer to depth of 150mm. Product used to be washed drainage gravel 10-5mm and approved by CA, to be suited to purpose and laid evenly, with a layer of permeable geotextile above to separate from soil.
- Geotextiles: Provide a fully permeable geotextile at the base of each planter, securely fixed to ensure that no materials flow out as water drains. Also provide a permeable geotextile separation between the gravel drainage layer and soil. Products used to be Terram 1000 or equivalent approved by CA, to be suited to purpose and laid to manufacturer's recommendations. Terram Ltd, Mamhilad, Pontypool NP4 0YR T: 01495 767406 www.terram.com
Geotextile linings or root barriers should not in any way be detrimental to soil permeability or to the successful establishment of plants.

- 420c HEDGING PITS: GRAVEL DRAINAGE LAYER
- Prepared trenches for hedging to have 150mm gravel layer applied over subsoil. Product used to be washed grit for horticultural use and approved by CA, to be suited to purpose and to be combined thoroughly and evenly prior to spreading topsoil. Supplier: CED Ltd 728 London Road, West Thurrock RM20 3LU, t: 01708 867230. Gravel layer to be covered with geotextile prior to topsoiling.
- 420d ROOTGUARD AROUND NEW PLANTING NEAR PAVED SURFACES AND STRUCTURES
- New trees next to Pergola Walkway: Allow for installation of rootguard to ensure no interference with surrounding infrastructure of paving or pergola. Product used to be Terram Rootguard approved by CA, to be suited to purpose and laid to manufacturer's recommendations. Terram Ltd, Mamhilad, Pontypool NP4 0YR t: 01495 767406 www.terram.com
- 450a FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT
- Below dpc of adjoining buildings or structures: Not less than 150 mm.
 - Adjoining soil areas: Marry in.
 - Thickness of mulch: Included.
 - Above adjoining paving or kerbs: 20 mm. During planting camber down towards the perimeter with excess soil raked back towards the centre of the area. Final levels to allow for mulch and to be level with the top of adjacent areas after settlement.

Q30 SEEDING/TURFING

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/REQUIREMENTS

115a TURFED AREAS

- Growth and development: Healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.
- Appearance: A closely knit, continuous ground cover of even density, height and colour.

120a CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable. and where possible, during autumn and early winter operations (no turf should be laid in exceptionally dry or frosty weather).

145a WATERING

- Quantity: Wet full depth of topsoil.
- Application: Even and without displacing grasses or soil.
- Frequency: As necessary to ensure the establishment and continued thriving of all turfing.

150a WATER RESTRICTIONS

- Timing: If water supply is or is likely to be restricted by emergency legislation do not carry out turfing until instructed. If turfing has been carried out, obtain instructions on watering.

160 NOTICE

- Give notice before:
 - Setting out.
 - Applying fertilizer.
 - Preparing turf bed
 - Setting out
 - Turfing.
 - Visiting site during maintenance period.
- Period of notice: 5 days.

170a SETTING OUT

- Boundaries of turfing areas: Mark clearly.

PREPARATION

205 PREPARATION MATERIALS

- General: Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Certified materials: For each of the following materials submit a certificate giving supply source, content analysis, confirmation of suitability for purpose and confirmation of absence of harmful substances: Soil conditioner, fertilizer.
 - Give notice before ordering or using.

- 222 SOIL AMELIORANT/CONDITIONER FOR TURFED AREAS
- Type: Organic soil conditioner approved by the Soil Association.
 - Supplier/Source: Vitagrow (Fertilizers) Ltd (01704 507777).
 - Reference/Description/Grading: Follow supplier's recommendations.
 - Coverage: Follow supplier's recommendations.
 - Timing: Apply prior to cultivation.
- 231 PEAT
- Peat or products containing peat: Do not use.
- 250 CULTIVATION
- Compacted topsoil: Break up to full depth.
 - Tilth: Reduce top 100 mm of topsoil to a tilth suitable for blade grading (10 mm down particles).
 - Material brought to the surface: Remove stones and clay balls larger than 30 mm in any dimension, roots, tufts of grass, rubbish and debris.
- 260a GRADING
- Topsoil condition: Reasonably dry and workable.
 - Contours: Smooth and flowing, with falls for adequate drainage. Remove minor hollows and ridges.
 - Finished levels after settlement: 20 mm above adjoining paving, kerbs.
 - Blade grading: May be used to adjust topsoil levels provided depth of topsoil is nowhere less than 200 mm.
 - Give notice: If the required levels cannot be achieved by movement of the existing soil.
- 275 FERTILIZER & WATER STORING GRANULES FOR ALL TURFED AREAS
- Type: Organic fertilizer approved by Soil Association, Vitagrow (Fertilizers) Ltd (01704 507777).
 - Application: Before final cultivation and three to five days before turfing.
 - Coverage: Spread evenly at rate g/m² to manufacturer's recommendations.
 - 100gms/M² of broadleaf P4 water retention polymer is to be incorporated into the full depth of cultivation.
 - Supplier of water storing granules: Agricultural Polymers International Ltd (01452 521733) - Product reference: Broadleaf P4 or other similar approved biodegradable product.
 - Coverage: As directed by supplier.
- 280 FINAL CULTIVATION
- Timing: After grading and fertilizing.
 - Seed bed: Reduce to fine, firm tilth with good crumb structure.
 - Depth: 25 mm.
 - Surface preparation: Rake to a true, even surface, friable and lightly firmed but not over compacted.
 - Remove surface stones/earth clods exceeding:
 - General areas: 30 mm in any direction.
 - Fine lawn areas: 25 mm in any direction.
 - Adjacent levels: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels. Camber down towards the perimeter with adjoining areas with excess soil raked back towards the centre of the area. Final levels to be level with the top of adjoining areas allowing for settlement.

TURFING

410 TURF FOR ALL AREAS

- Standard: To BS 3969, free from undesirable grasses and weeds.
 - Grade: Fine grade amenity turf.
- Source: Submit proposals including details of species and make up of the sward.
- Samples: Submit sample turves for approval by CA before ordering and laying.
- Generally: All turves to be well-rooted, mown and free from matted and dead grass. Turves to be 900 x 300mm or other regular approved size and not less than 25mm even thickness.

420a DELIVERY AND STORAGE

- Timing: Lay turf with the minimum possible delay after lifting.
- Delivery: Arrange so as to avoid need for excessive stacking.
- Stacking height (maximum): 1 m. All turves to be stacked grass to grass.
- Dried out or deteriorated turf: Do not use.

423 INSPECTION OF TURF

- Give notice: After final cultivation, at sample delivery and before lifting turf: 5 days notice.

430a TURFING GENERALLY

- Time of year: Avoid seasons with prolonged dry weather and drying winds.
- Timing of laying:
 - Spring and summer: within 18 hours of delivery.
 - Autumn and winter: within 24 hours of delivery.
- Weather conditions: Do not lay turf when persistent cold or drying winds are likely to occur or soil is frost bound, waterlogged or excessively dry.
- Working access: Planks laid on previously laid turf. Do not walk on prepared bed or newly laid turf.
- Jointing: Lay with broken joints, well butted up. Do not stretch turf.
- Edges: Use whole turfs. Trim to a true line.
- Adjusting levels: Rake out high spots and infill hollows with fine soil.
- Consolidating: Firm lightly and evenly with wooden beaters as laying proceeds to ensure full contact with the substrate. Do not use rollers.
- Dressing: Finely sifted topsoil as supplied for planting areas. Brush well in to completely fill all joints.
- Watering: Thoroughly water completed turf immediately after laying. Check by lifting a corner of turf that water has penetrated to the soil below.
- Finished levels: The finished level of turf abutting paving or tops of kerbs after laying and beating operations shall be not less than 25mm above the adjacent hard surface.

440a BANKS EXCEEDING 30 DEGREES SLOPE

- Turf standard: To BS 3969 and to be sufficiently fibrous to withstand handling conditions.
- Turf configuration: Diagonal or horizontal.
- Securing turfs:
 - Fixings: Either: Pointed softwood pegs, 200 mm long x 25 mm square, or galvanized wire pins, bent or hairpin pattern, 200 mm long x 4 mm diameter.
 - Frequency of fixings: As necessary to ensure establishment of the turf.

- Removal of fixings: With approval of the CA after all areas have been certified as satisfactory.
- 450 **NEWLY PLANTED TREES**
- Surrounding turf: Neatly cut away to a diameter of 1000 mm around individual trees. Expose the soil and mulch to 75mm depth as specified in Q31.

PROTECTING/CUTTING

- 510a **PROTECTIVE FENCING**
- Protection: Ensure all turfed and grassed areas are adequately protected to allow for establishment.
 - Drawing references: All turfed areas as shown in FL_WAI_P_002, FL_WAI_P_008.
 - Fencing type: Submit proposals of suitable fencing type to CA.
 - Erection: On completion of turfing/ seeding.
 - Removal: After CA has approved successful establishment of turfed areas.
- 530a **FIRST CUT OF TURFED AREAS**
- Timing: When grass reaches 75mm high and is reasonably dry.
 - Preparation: Before cutting, remove debris, litter, and stones and earth clods larger than 25 mm in any dimension.
 - Height of first cut: to 40 mm.
 - Arisings: To be collected and removed from site for composting.
- 590 **CLEANLINESS**
- Soil and arisings: Remove from hard surfaces.
 - General: Leave the works in a clean, tidy condition at Completion and after any maintenance operations.

MAINTENANCE

- 605 **MAINTENANCE**
- Duration: Carry out the operations in clauses 610 to 685 from completion of seeding/turfing until end of defects liability period and maintenance period.
- 610a **FAILURES OF TURFING**
- General: Grassed areas that have failed to thrive (unless due to theft or malicious damage), during the period stated in clause 605, will be regarded as defects due to materials or workmanship not in accordance with the Contract. Make good by recultivation and returfing.
 - Timing of making good: Submit proposals.
- 620 **MAINTAINING TURFED AREAS**
- Maximum height of growth at any time: 40 mm.
 - Preparation: Before each cut remove all litter and debris.
 - Cutting: As and when necessary to a height of 25-40 mm.
 - Arisings: To be collected and removed from site for composting.
 - Trimming: At the time of each cut, trim all grass edges, including round the base of trees, manholes, etc. and remove arisings.
 - Weed control: Keep the sward substantially free of broad leaved weeds by applying a suitable selective herbicide.

- Watering: Wet full depth of topsoil. Water evenly, without displacing turf or soil and as necessary to ensure the establishment and thriving of all turfing.

685 FERTILIZER FOR ALL TURFED AREAS

- March application:
 - Manufacturer: Vitagrow (Fertilizers) Ltd (01704 507777).
 - Product reference: Organic fertilizer approved by Soil Association.
 - Coverage rate: Spread evenly at rate g/m² to supplier's recommendations.
- September application:
 - Manufacturer: Vitagrow (Fertilizers) Ltd (01704 507777).
 - Product reference: Organic fertilizer approved by Soil Association.
 - Coverage rate: Spread evenly at rate g/m² to supplier's recommendations.

Q31 EXTERNAL PLANTING

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/ REQUIREMENTS

112 SITE CLEARANCE

- General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
- Stones: Remove those with largest dimension exceeding 50 mm.
- Contamination: Remove substances injurious to plant growth including rubble, fuel, and lubricants.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.

118 SOIL CONDITIONS

- Soil for cultivating and planting: Moist, friable and not waterlogged.
- Frozen or snow covered soil: Give notice before planting. Provide additional root protection. Prevent planting pit sides and bases and backfill materials from freezing.

120a CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable. Do not plant during periods of frost, strong winds or cold dry winds or during periods of drought or when soil is waterlogged.

125 TIMES OF YEAR FOR PLANTING

- Deciduous trees and shrubs: Late October to late March.
- Conifers and evergreens: September/ October or April/ May.
- Herbaceous plants: September/ October or March/ April.
- Container 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.
- Green bulbs: After flowering in spring.

130 MECHANICAL TOOLS

- Restrictions: Do not use within 100 mm of tree and plant stems.

145 WATERING

- Quantity: Wet full depth of topsoil.
- Application: Even and without damaging or displacing plants or soil.
- Frequency: As necessary to ensure establishment and continued thriving of planting.

150 WATER RESTRICTIONS

- General: If water supply is or is likely to be restricted by emergency legislation, do not carry out planting until instructed. If planting has been carried out, obtain instructions on watering.

160a NOTICE

- Give notice:
 - Before selecting plants at nurseries
 - After final cultivation

- Before setting out
 - Before applying fertilizers and conditioners.
 - At delivery of plants/ trees.
 - At planting of trees and shrubs into previously dug pits.
 - After planting and mulching.
 - Visiting site during maintenance period.
 - Period of notice: 5 days.
- 165a PREPARATION, PLANTS AND MULCH MATERIALS, NURSERY INSPECTIONS
- Generally: Do not use materials containing concentrations of toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
 - Submit to CA: A supplier's certificate for the use of the following materials and obtain approval before ordering or using: fertilizers, soil conditioners, mulch. The certificate supplied must contain source of supply, analysis of content, confirmation of suitability for purpose and confirmation of absence of harmful substances.
 - DEFECTS LIABILITY PERIODS: These shall commence at the date of Practical Completion and will last as follows:

- Trees	2 years
- Shrubs, climbers and hedges	1 year
- Herbaceous plants and bulbs	1 year
- Grass areas	1 year
 - INSPECTIONS OF ALL PLANTS: All plants to be supplied must be approved by the CA at the nursery prior to ordering. The Contractor is to make arrangements as necessary for an inspection at the nursery prior to ordering. The expense for inspections is to be included in the tender price. If plants do not meet the required specification, the Contractor must have an acceptable substitute ready for inspection within 14 days. If no substitutes have been proposed within 14 days, the CA may give instructions for the plants to be obtained from a source specified by the CA and at the expense of the Contractor.
 - PLANT SUPPLIERS: Trees (except fruit trees), hedging, shrubs and perennials to be selected from this list.

Barcham Trees
 Ely Hill Drove
 Ely
 Cambridge CB7 5XF
 T: 01353 720 748
www.barcham.co.uk

Hillier Nurseries
 Amptfield House
 Amptfield Romsey
 Hampshire SO51 9PA
 T: 01794 368733
www.hillier.co.uk

Robin Tacchi Plants
Fen Farm
Garboldisham
Diss
Norfolk IP22 2RL
T: 01953 681312
www.robintacchiplants.com

Wyevale Nurseries Ltd
Kings Acre
Hereford HR4 7AY
T: 01432 845200
www.wyevalenurseries.co.uk

Tendercare Nurseries
Southlands Road
Denham
Uxbridge
Middlesex
T: 01895 835544
www.tendercare.co.uk

- Apple trees, fruit bushes and perennials: To be from:

Brogdale Plant Centre
Brogdale Farm
Kent
ME13 8XZ
T: 01795 531 888
www.brogdaleonline.co.uk

Keepers Nursery
Gallants Court
East Farleigh
Maidstone
Kent ME15 0LE
T: 01622 726465
www.keepers-nursery.co.uk

- Native groundcovers, bulbs and seed: To be from:

HV Horticulture Ltd (Really Wild Flowers)
55 Balcombe Road
Haywards Heath
West Sussex RH16 1PE
T: 01444 413376
www.reallywildflowers.co.uk

- For turf, refer to Q30 above.

200a PLANTS/ TREES – GENERAL

- Condition: Materially undamaged, sturdy, healthy and vigorous.
- Appearance: Of good shape and without elongated shoots.
- Hardiness: Grown in a suitable environment and hardened off.
- Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
- Budded or grafted plants: Bottom worked.
- Balanced branch and root system: To match the requirements of the NATIONAL PLANT SPECIFICATION including regular transplanting in accordance with good horticultural practice.
- Species: True to name and with shoots and foliage development typical for species or type.
- Origin/ Provenance: As specified: Origin and Provenance have the meaning given in the National Plant Specification. All plants shall originate from a comparable climatic zone within the EU, the place of origin to be certified.
- Production: State whether plants are raised from seed or propagated vegetatively.

215a PLANTS/ TREES - SPECIFICATION CRITERIA

- Name, forms, dimensions, provenance and other criteria: As scheduled and defined in the NATIONAL PLANT SPECIFICATION.

ROOTBALLED PLANTS/TREES

- Rootballed Plants/trees: Supplied with rootball of depth and size appropriate to size and species. All rootballs to be not less than a ratio of 250mm diameter of rootball to 25mm diameter of stem measured at 300mm above ground level. No rootball to be smaller in diameter than 450mm. Rootballs to be firm and well wrapped with damp biodegradable hessian and to be kept well moist from the time of lifting until planting.

235a CONTAINER GROWN PLANTS/ TREES

- Growing medium: With adequate nutrients for plants to thrive until permanently planted.
- Plants: Centred in containers, firmed and well watered.
- Root growth: Substantially filling containers, but not root bound, and in a condition conducive to successful transplanting.
- Hardiness: Grown in the open for at least two months before being supplied.
- Containers: With holes adequate for drainage when placed on any substrate commonly used under irrigation systems. The stem girth/height and the volume of the container are to be to the size specified in the plant schedule.

245 LABELLING AND INFORMATION

-To BS 3936

- General: Provide each plant/ tree or group of plants/ trees of a single species or cultivar with supplier's labelling for delivery to site, showing:
 - Full botanical name.
 - Total number, Number of bundles, Part bundles.
 - Supplier's name.
 - Employer's name and project reference.
 - Plant specification, in accordance with scheduled National Plant Specification categories.
 - Trees shall have clearly marked labels stating date of lifting.

260 PLANT/ TREE SUBSTITUTION

- Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering: Submit alternatives, stating:
 - Price.
 - Difference from specified plants/ trees.
- Further alternatives: Proposed substitutions may not be acceptable and submission of further alternatives may be required.
- Approval: Obtain before making any substitution.

265 PLANT/ TREE HANDLING, STORAGE AND TRANSPORT

- Standard: To CPSE 'Handling and establishing landscape plants' (obtainable from the Horticultural Trades Association) Part I, Part II and Part III, paragraphs 1.3.3 to 1.3.6, 3.0, and 4.0.
- Frost: Protect plants/ trees from frost.
- Handling: Handle plants/ trees with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
- Plant packaging: Adequate protection to be provided for transport to site and unloading without damage. If plants suffer slight damage, this may be treated/pruned with CA's approval. The CA reserves the right to decline to accept and to instruct replacement of any plants/trees which have been damaged.
- Packaging of bulk quantities: It is the Contractor's responsibility to ensure that all plant material is packaged appropriately in order to avoid any damage.

270a PLANTING GENERALLY

- Standard: To CPSE 'Handling and establishing landscape plants' (obtainable from the Horticultural Trades Association) Part III, paragraphs 6.2 to 6.6.
- Appearance: Plant upright or well balanced with best side to front.

280 TREATMENT OF TREE WOUNDS

- Cutting: Keep wounds as small as possible.
 - Cut cleanly back to sound wood using sharp, clean tools.
 - Leave branch collars. Do not cut flush with stem or trunk.
 - Set cuts so that water will not collect on cut area.
- Fungicide/ Sealant: Do not apply unless instructed.

285a PROTECTION OF ALL PLANTED AREAS

- General: Protect areas affected by planting operations using boards/ tarpaulins. Avoid all disturbance and compaction of soils. Do not place excavated or imported materials, stored items or equipment directly on any planted areas or on any other areas unless these have been adequately protected and approved for use.

290 SURPLUS MATERIAL

- General: Remove subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, prunings and other arisings/ rubbish.

PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS

305 WEED CONTROL

- Locations: All areas.
- General: Prevent weeds from seeding and perennial weeds from becoming established, by weeding.

- 335a **GENERAL FERTILIZER**
- Locations: All areas.
 - Manufacturer: Vitagrow (Fertilisers) Ltd (01704 507777) www.vitagrow.co.uk or other manufacturer approved by the Soil Association.
 - Product: Organic fertilizer approved by the Soil Association.
 - Application: Spread evenly.
 - Timing: Immediately before cultivation.
 - Coverage: 80-100 g/m² and in accordance with recommendations of soil analyst and supplier.
- 341 **PEAT**
- Peat or products containing peat: Do not use.
- 359 **SOIL AMELIORANT/ CONDITIONER**
- Locations: All areas.
 - Manufacturer/ Supplier: Vitagrow (Fertilisers) Ltd (01704 507777) www.vitagrow.co.uk or other manufacturer approved by the Soil Association.
 - Product: Organic soil conditioner approved by the Soil Association.
 - Coverage: In accordance with recommendations of soil analyst and supplier.
 - Timing: Apply prior to cultivation.
- 365a **SPECIALIST WATER STORING GRANULES**
- Locations: All areas with trees and shrubs and all pits and raised containers.
 - Manufacturer/ Supplier: Agricultural Polymers International Ltd (01452 521733) www.agripol.co.uk
 - Product reference: Broadleaf P4 or other similar approved biodegradable product.
 - Coverage: As directed by supplier.
- 375a **CULTIVATION**
- Compacted topsoil: Break up to full depth, taking reasonable care not to mix with subsoil.
 - Cultivation: Loosen, aerate and break up soil into particles of 2 - 8 mm.
 - Depth: Top 400 mm of planting beds.
 - Timing: Within a few days before planting.
 - Weather and ground conditions: Suitably dry.
 - Surface: Leave regular and even.
 - Levels:
 - As required in section Q28.
 - Or within 20mm of levels specified on drawings.
 - Undesirable material brought to the surface: Remove, including weeds, roots, stones and clods larger than 25 mm in any dimension, tufts of grass and foreign matter.
 - Soil within root spread of trees and shrubs which have already been planted: Do not dig or cultivate.

PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS

SETTING OUT OF ALL PLANTING

- All setting out to be approved by CA prior to planting.
- Setting out of plants in areas close to buildings/construction/structures or close to existing boundaries may need to be adjusted locally dependant upon structures of foundations and with the approval of the CA.

- 400a PLANT LAYOUT - RANDOM/ NATURALIZED
- Spacing: Evenly, avoiding straight lines.
 - Density: Refer to Schedule of Plants FL_WAI_S_010 appended to this document.
- 401a PLANT LAYOUT - REGULAR/ FORMAL
- Spacing: Refer to Drawings:
FL_WAI_P_002 – FL_WAI_P_011
 - Density: Refer to Schedule of Plants FL_WAI_S_010 appended to this document.
- 405a SHRUB PLANTING PITS AND CLIMBING PLANT PITS
- Timing: Excavate 1 day (maximum) before planting.
 - Sizes: Measured from finished level of topsoil to be 500mm x 500mm x 500mm or at least 200mm wider than the spread of the roots and 75mm deeper, whichever is greater.
 - Additional requirements: All pits to be approved by CA prior to planting/backfilling.
 - Pit bottom improvement: Break up subsoil at base of pit to a depth of 300mm and ensure that pit is free-draining.
 - Planting: Prepared pits to be large enough to allow root system to be spread out evenly. Plants to be positioned showing best side to view and in an upright and well-balanced stance. Take great care not to damage root system or stems. All plants to be planted at same depth at which they had been growing in the nursery.
 - Backfilling material: To be topsoil as specified and approved by CA, improved with organic soil conditioner and fertilizer in accordance with the soil analyst's recommendations.
- 415a ANTIDESSICANT
- Any evergreens or deciduous shrubs to be moved whilst in leaf or in bud, are to be sprayed with an approved anti-dessicant in accordance with manufacturer's instructions.
 - Application: Dip before delivering to site. Spray before moving/planting.
- Do not apply in wet or frosty weather.
- 435a HERBACEOUS PLANTS
- Planting: Prepared holes to be large enough to allow root system to be spread out evenly. Plants to be positioned showing best side to view and in an upright and well-balanced stance. Take great care not to damage root system or stems. All plants to be planted at same depth at which they had been growing in the nursery.
 - Backfilling: Finely broken soil. Lightly firm to existing ground level and ensure no air pockets.
- PLANTING WILDFLOWER PLANTS (AND SEED MIXES)
- Handling: Keep plants watered and in shade until planted. Do not allow to dry out.
 - Preparation: **Tree protection measures apply to all works in these areas. Follow arboriculturalist's recommendations for working including hand working and avoidance of tree roots. If roots are found, then avoid this area and reposition.**

- Planting: Prepared holes to suit plant size and shape and to avoid disturbing surrounding soil. Create a cleft at the bottom to improve rooting. Take great care not to damage root system or stems. Gently firm plant into hole. All plants to be planted at same depth at which they had been growing in the nursery.
- Establishment: Follow up wildflower planting with seeding of same species as shown on planting plan: FL_WAI_P_009, 010 and 011.

445 PLANTING BULBS/ CORMS/ TUBERS

- Depth: Top of bulb/ corm/ tuber at a depth of approximately twice its height, base in contact with bottom of hole.
 - Backfilling: Finely broken soil. Lightly firm to existing ground level.
 - Naturalized planting in existing grassed areas:
 - Scattering: Random. Plant bulbs/ corms/ tubers where they fall.
 - Planting: Neatly remove a plug of turf and replace after planting.

465 CLIMBING PLANTS

- Pits to be constructed by main contractor including timber edging and inspected and accepted by landscape contractor. Pits then to be prepared as for shrub pits clause 450 above
- Planting: 150 mm clear of wall / fence / trellis with roots spread outward. Lightly secure branches to support. Retain canes of plants which are too small to reach supports. All plants to be planted at same depth at which they had been growing in the nursery.
- Setting out for climber supports: Wires to be set out in accordance with detailed drawings and installed as part of the construction works for the Pergola.
- Supplier, tensioning and operating of wires: All fixings to be supplied by Spencer Rigging Ltd (01983 292022) www.spencerrigging.co.uk and installed and tensioned to their instructions. The Landscape Contractor is to check the installation of the wires and their functioning to ensure that correct tensioning can be achieved for the establishment and maintenance of the planting.

471a HEDGES

- Planting: In trenches large enough to take full spread of roots. Set out plants evenly. All plants to be planted at same depth at which they had been growing in the nursery.
- The specification for hedging is as for shrub planting except as stated below.
- Hedge trenches to be prepared as for shrub planting.
- Timber post and steel wire fences are to be erected prior to cultivation and planting of hedges, which are planted on both sides of the fence line.
 - Height: Fencing to be 900mm height with posts at 1.2m centres.
 - Wood: Softwood
 - Treatment: Treat components with biodegradable non toxic applications.
 - Finish: To be smooth and to allow weathering to silver grey.
 - Maximum centres of posts: 1.2M centres
 - Method of setting posts and struts: Driven
 - Straining posts: Driven to a minimum depth of 500mm
 - Struts: Driven to a minimum depth of 500mm
 - Intermediate posts: Driven to a minimum depth of 500 mm
 - Wires: 4 x rows of galvanised steel wires with tensioners.
- Setting out: Set out fencing and obtain approval of CA prior to installation.
- At planting which should ideally be carried out in February /March of the planting season, the material should be cut back by 1/3 of its height.
- Apply 75mm of Bark Mulch as per shrub specification.

476a BACKFILLING MATERIAL

- Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil to specification as required, together with:
 - Ameliorant/ Conditioner: Refer to clause 359.
Coverage: In accordance with the supplier's recommendations.
 - Fertilizer: Refer to clause 335a.
Coverage: In accordance with the supplier's recommendations.

480 AFTER PLANTING

- Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
- Firming: Lightly firm soil around plants and fork and/ or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.

485a MULCHING PLANTING BEDS

- Material: Melcourt Ornamental Bark Mulch 3-35mm (Melcourt Ltd, 01666 502711 www.melcourt.co.uk), or similar mulch, which is FSC certified and has even particle size distribution 3-35mm, is biodegradable, harmless to wildlife and is free of colourants, additives, dust, fines, pests and weeds. Sample to be approved by the CA prior to delivery to site.
 - Purity: Free of pests, disease, fungus and weeds.
- Preparation: Clear all weeds. Water soil thoroughly.
- Coverage: To an even depth of 75mm.
- Application: Mulch to be applied with hand tools, allowing mulch to be evenly spread and ensuring no damage occurs to plants.

PLANTING TREES

500 ANTIDESSICANT

- Evergreens and any deciduous trees to be moved whilst in leaf or in bud, are to be sprayed with an approved anti-dessicant in accordance with manufacturer's instructions.
- Application: Dip in or thoroughly spray before delivering to site. Apply again soon after planting.
 - Do not apply in wet or frosty weather.

505a TREE PITS

- Timing: Excavate 1 day (maximum) before planting.
- Sizes: To be to a diameter of 800mm greater than the rootball and not less than 1500mm wide. Depth to be 300mm deeper than the rootball and not less than 1200mm deep.
- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Pit bottoms: With slightly raised centre to promote drainage and give access below rootball during planting. Break up to a depth of 300mm minimum and ensure that pit is freedraining.
- Pit sides: Scarify.
- Additional requirements: All pits to be approved by CA prior to planting/backfilling.
- Backfilling material: To be topsoil as specified, improved with organic soil conditioner and fertilizer in accordance with the soil analyst's recommendations.

512a TREE PIT ACCESSORIES:

IRRIGATION AND AERATION PIPE:

- Locations: All tree pits.
- Manufacturer: To be approved by CA.
 - Product reference: Wavincoil.
- Type: Plastic watering and aeration pipe of 75mm diameter with cover cap. Place the pipe around the rootball approximately 100mm higher than its base. Join the pipe with a T-piece to which is attached a vertical piece extending upwards above the finished ground level and sealed with a plastic cap to prevent fouling with bark mulch or other debris.

UNDERGROUND GUYS / STAKES:

- All tree pits in Lawn areas: timber frame made of 4 stakes and 2 cross-braces: Please refer to clause 545a below. Reason: To ensure that no damage occurs from mowing machinery.
All other trees: Underground guying.
- Manufacturer: Platipus Anchors Ltd.
 - Product reference: Please refer to clause 555a below
- Type: Underground tensioned support with maintenance access.

515 TREE PIT DRAINAGE

- Drainage: It is the Contractor's responsibility to ensure that each pit is sufficiently free draining and, in the case of non cohesive soils, that each pit also has sufficient water retentive capacity for establishment of trees. Install pipes within aggregate drainage layer, connected to land drains or soakaways, if this is necessary in order to achieve free-draining conditions. Likewise, if the soil is too freely-draining to allow establishment of trees, add additional water-retaining soil materials, if this is necessary in order to retain water.
- Depth of excavation: Increase from specified size if aggregate layer is required, with base slightly falling to allow for exit of water.
- Aggregate layer, if required: Clean gravel or broken stone, with no fines, graded 40 to 20 mm. Product to be suited to purpose, approved by the CA and laid evenly.
 - Depth: 100mm.
- Geotextile filter required if an aggregate drainage layer is used:
 - Product: to be Terram 1000 or equivalent approved by CA, to be suited to purpose and laid to manufacturer's recommendations. Terram Ltd, Mamhilad, Pontypool NP4 0YR t: 01495 767406 www.terram.com
 - Lay over aggregate before completing backfilling.

525a TREES

- Standard: Prepare roots and transplant to BS 4043.
- Backfilling material: As clause 585.
- Support: Underground guying/ frame staking, as clauses 545a and 555a.
- Handling trees: The rootballs of trees must be thoroughly moist at the time of planting – if necessary by prior watering. Whenever trees are moved, the rootballs must be properly supported to prevent soil crumbling or the weight of soil damaging roots. Trees must never be lifted by the trunk alone and care must be taken to avoid damage to bark and branches.
- Moving trees: Trees are to be lifted into tree pits still supported by their wrappings. Only non-abrasive lifting slings/other suitable padded equipment are to be used and as much support as possible is to be given to the rootball during the lifting process. Only when in position are wrappings to be removed and slid out under the rootballs.
- Orientation: Trees are to be positioned with the same orientation to that as grown in the nursery, unless otherwise agreed with CA.
- Planting levels: All trees to be planted at levels which allow for settlement. They must have the same relationship to the soil level when planted as they had in the nursery. If the depth of the pit proves too deep, then some topsoil is to be added to the bottom of the pit, then well-watered to settle to the correct level, before the tree is set into the pit.
- Backfilling: To be done in layers, each layer to be firmed to eliminate air pockets, except the last layer which is to be filled to a height sufficient to allow for settlement. Face of rootball to be loosened very gently as backfilling proceeds and soil to be worked around roots. Great care to be taken to avoid damage to root system. Any broken or damaged roots to be cut back to sound growth and any cut ends over 25mm diameter to be treated with approved fungicidal sealant prior to completing backfilling.
- Inspection: All trees to be checked over after planting. Any broken or damaged branches or shoots to be cut back to sound growth and any cut ends over 25mm diameter to be treated with approved fungicidal sealant.
- Hessian wrapping: If instructed by CA, wrap each tree from the lowest branch to ground level with double thickness canvass secured with cords. Remove wrapping at the end of Defects Liability Period or when instructed by CA.
- Labels: Remove plant labels after approval by CA.

SETTING OUT OF TREES

- All setting out to be approved by CA prior to planting. Setting out of trees in areas close to buildings/construction/structures or close to existing boundaries may need to be adjusted locally dependant upon structures of foundations and with the approval of the CA.

TREES/PLANTS IN PAVED AREAS

- Acceptance of works by others: It is the Contractor's responsibility to ensure that all tree pits and planting pits forming part of the Hard Landscape Contract Works have been satisfactorily constructed and that the bases of all pits have been sufficiently broken out to ensure that they are free-draining. If the Contractor feels that any planting areas are not free-draining or are unsuitable in terms of subsoil content or construction, then the CA is to be informed and the situation addressed prior to delivery of topsoil and plants.
- Coordination: It is the Contractor's responsibility to arrange for access to any fixings that are required to adjust or reposition edgings/pit construction and also

that these items remain permanently available in order to allow for maintenance.

535 STAKING GENERALLY

- Stakes: Pressure-treated softwood, made of peeled chestnut, larch or oak, free from projections and large or edge knots and with pointed lower end.
 - Preservative treatment: To be a biodegradable treatment with no harmful effects to plants, wildlife and soils, approved by CA.
- Nails: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.
- Minimum stake sizes: 50mm diameter, 1.2m long for trees up to 1.5m in height, 75mm diameter, 1.5m long for trees up to 3.0m in height, 100mm diameter, 2.0m long for trees over 3.0m in height. Cross-braces: 50mm diameter half-sections. For multi-stemmed trees, stake lengths are to be agreed with the CA on site in relation to the actual form and stem spread of each tree.

545a FRAME STAKING

- Staking: Trees in lawn area to have a neat square frame made of 4 stakes and 2 cross-braces. Reason: To ensure that no damage occurs from mowing machinery. Form a frame with 4 vertical posts, angled slightly inwards to the top and secured with 2 rows of cross-bracing made of half-section posts. Position first stake close to tree on windward side and drive vertically at least 600 mm into bottom of pit before planting. Consolidate material around stakes during backfilling. Replace any stakes which are split and remove any snags or burrs which may cause chafing to trees.
- Height of stakes: Just below lowest branch of tree. For multi-stemmed trees, agreed final dimensions of frame with CA, in relation to the actual form and stem spread of each tree.
- Ties: To be 37.5mm nylon-reinforced rubber belts with rubber spacer sleeves, supplied by J Toms (01622 891111) or other similar approved by CA.
- Tying: Secure tree firmly but not rigidly to stake with at least two ties per stake. Use three ties if necessary to prevent tree touching stake. Position top tie within 100 mm of top of stake and lower tie approximately halfway down, spaced to suit the growth habit of the tree and to prevent bark damage by chafing.
- Cross bar: Softwood as stakes and as 535.
- Tying: Secure tree firmly but not rigidly to cross bar.

555a UNDERGROUND GUYING FOR ALL TREES IN PAVED AREAS AND FLOWER GARDEN

- Trees to be secured using 'Platipus' underground guying system, or equivalent approved by CA and installed to manufacturer's instructions.
 - Manufacturer: Platipus Anchors Ltd (01737) 762300
www.platipus-anchors.com

586 BACKFILLING MATERIAL

- Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil as required, together with:
 - Ameliorant/ Conditioner: Refer to clause 359. Coverage: Follow supplier's instructions.
 - Fertilizer: Refer to clause 335a. Coverage: Follow supplier's instructions.
 - Waterstoring Granules: Refer to clause 365a. Coverage: Apply evenly in the top 200-300mm at 100g/m² or to supplier's instructions.

590a **WATERING AND MULCHING TREES**

- Preparation: Clear all weeds. Water soil thoroughly upon completion of backfilling, but delay watering if there is risk of frost within 24 hours.
- Material: Melcourt Ornamental Bark Mulch 3-35mm (Malcourt Ltd, 01666 502711 www.malcourt.co.uk), or similar mulch which is FSc certified, free of colourants/additives, sample to be approved by the CA prior to delivery to site.
 - Purity: Free of pests, disease, fungus and weeds.
- Coverage: To an even depth of 75mm.

PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS

710a **MAINTENANCE**

- Duration: Carry out the operations in the following clauses from completion of planting until the end of the Defects Liability and Maintenance Periods.
- Frequency of maintenance visits: Twice monthly during growing season and monthly out of growing season. Visits to be programmed so as to ensure that the maintenance operations are carried out and the site kept in a tidy and weed-free condition at all times.
- Records: Keep records of all maintenance visits including the date and time, the maintenance works carried out, the staff and the weather records. Report immediately to the CA any note of damage, theft, vandalism or problems or suspicion of these.

720a **FAILURES OF PLANTING/OTHER DEFECTS**

- General: Plants/ trees/ shrubs that have failed to thrive (unless due to theft or malicious damage after completion) during period stated in clause 710a, will be regarded as defects due to materials or workmanship not in accordance with the Contract. Replace with equivalent plants/ trees/ shrubs/ climbers/ herbaceous/ bulbs.
- Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
- Other defects: Any other defect due to workmanship or materials not in accordance with the contract which becomes apparent within the Defects Liability Period shall also be made good at the Contractor's expense.
- Timing of making good: At the earliest possible time with approval of the CA. The Contractor shall put in hand all arrangements necessary to replace plants during the dormant season (or at any time except June, July and August for container grown trees/plants).

INSPECTIONS

- End of the Defects Liability Period: If there is any doubt about the health of any plant material, due to the inspection falling during the dormant season, the CA reserves the right to defer the final discharge of the Contractor's liability until 6 weeks after the leafing of buds in the next growing season.
- At the end of each 12 month period and again at the end of the Defects Liability Period: For each planting type (or at another suitable time depending on the growing season) the works shall be inspected by the CA who shall list all items which are dead, not thriving or missing. All items listed shall be replaced by the Contractor at the earliest possible time as specified in 720a above.

- 730a **PROTECTION FOR NEW PLANTING**
- Protection of planting: Ensure that all areas are protected using temporary fencing. Protection to include areas of hedging and groundcovers.
 - Protection of planting in the Flower Garden: Ensure this area is adequately protected to allow for establishment. It is the Contractor's responsibility to liaise with the residents as necessary to ensure that adequate means of protection is provided throughout the establishment period.
 - Fencing type: To be timber post and wire fencing, with approval of CA.
 - Erection: On completion of planting.
 - Maintenance: Fencing to be maintained in the course of regular maintenance visits in order that all fencing is securely fixed and upright.
 - Removal: Once new planting has established, with approval of the CA.
- 740 **CLEANLINESS**
- Soil and arisings: Remove from hard surfaces and grassed areas.
 - General: Leave the works in a clean tidy condition at completion and after any maintenance operations.
- 750a **PLANTING MAINTENANCE GENERALLY**
- Weed control: Maintain weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of original planting pit.
 - Keep planting beds clear of weeds, by weeding.
 - Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
 - Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
 - Tree supports: 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.
 - Irrigation/aeration tubes: Check condition and replace caps after watering to ensure that tubes do not become blocked with mulch or debris. Unblock any tubes as necessary.
 - Climber wires: Check condition and adjust tensioning as necessary.
 - Trees in paved areas: It is the Contractor's responsibility to arrange for access throughout the maintenance period to any keys or fixings that are required to access and adjust tree guys to facilitate maintenance works.
 - Frequency of checks to stakes, guys, tubes, climber wires: Monthly.
 - Trees: Spray crown when in leaf during warm weather. Carry out in the evening.
- 755a **PLANTING MAINTENANCE – FERTILIZER**
- Time of year: March or April.
 - Fertilizer: Organic fertilizer approved by the Soil Association.
 - Manufacturer: Vitagrow (Fertilisers) Ltd (01704 507777) www.vitagrow.co.uk or other manufacturer approved by the Soil Association.
 - Application: Evenly spread, carefully incorporating below mulch materials.
 - Coverage: 80-100 g/m² and in accordance with recommendations of soil analyst.
- 760 **PLANTING MAINTENANCE – PRUNING**
- General: 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.

- 765 PLANTING MAINTENANCE - WATERING
▪ General: As clauses Q31:145.
- 780 MAINTENANCE INSTRUCTIONS
▪ General: Before end of the period stated in clause 710, submit printed instructions recommending any additional procedures to be established by the Employer for maintenance of the planting works. To include all planting areas.
- 790 FINAL MULCHING
▪ Timing: At end of the period stated in clause 710.
▪ Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
▪ Planting beds: Remulch as clause 485.
Coverage: To an even depth of 75mm.
▪ Trees: Remulch as clause 590.
Coverage: To an even depth of 75mm.

Q35 LANDSCAPE MAINTENANCE

To be read with Preliminaries/General conditions.

GENERALLY

- Coordination: All Landscape Maintenance operations are to be coordinated within one seasonal maintenance programme which covers all plant types. The Contractor is to have responsibility for all planting. The Contractor is to liaise with the Residents to allow everyone to be informed about maintenance and also to arrange for the care of the raised planters. Residents who may wish to participate in the care of these planters are to be supported and assisted if they require by the Contractor. In any case, the planting in these areas includes shrubs and perennials, for which maintenance is covered in this specification.
- Duration: 5 years.
- Frequency of maintenance visits: Twice monthly during growing season and monthly out of growing season. Visits to be programmed so as to ensure that the maintenance operations are carried out and the site kept in a tidy and weed-free condition at all times.
- Records: Keep records of all maintenance visits including the date and time at which the maintenance works are carried out, the staff present and the weather records. Report immediately to the CA any note of damage, theft, vandalism or any issues affecting the maintenance.

110 NOTICE

- Give notice before:
 - Application of herbicide.
 - Application of fertilizer.
 - Watering.
 - Each site maintenance visit.
- Period of notice: 5 days.

130 REINSTATEMENT

- Damage or disturbance to soil structure, planting, grass, fencing, hard landscaping, structures or buildings: Reinstate to original condition.

155 WATERING

- Supply: Potable mains water.
- Quantity: Wet full depth of topsoil.
- Application: Do not damage or loosen plants.
- Compacted soil: Loosen or scoop out, to direct water to rootzone.
- Frequency: As necessary for the continued thriving of all planting.

175 DISPOSAL OF ARISINGS

- General: Unless specified otherwise, dispose of arisings off site.

180 CHIPPING OR SHREDDING ON SITE

- General: Not permitted on site.

190 LITTER

- Extraneous rubbish not arising from the contract work: Collect and remove from site.

- 193a PROTECTION OF TREE AND PLANT STEMS
- Ensure that no damage occurs to plants from use of any equipment including nylon filament rotary cutters and other mechanical tools. Do not allow closer than 500 mm to the stem of any tree or plant at any time.
 - Complete operations close to stems using hand tools.
- 195 PROTECTION OF EXISTING SURFACES
- General: Protect areas affected by maintenance operations using boards/tarpaulins. Do not place excavated or imported materials directly on any surfaces.
- 197 CLEANLINESS
- Soil and arisings: Remove from hard surfaces.
 - General: Leave the works in a clean, tidy condition at completion and after any maintenance operations.
- TEMPORARY FENCING
- Temporary fencing to be maintained in the course of regular maintenance visits in order that all fencing is securely fixed and upright.
- 250a LEAF REMOVAL
- Operations: Remove fallen leaves from grassed areas and compost them.
- 275a BULB AREAS WITHIN PLANTED AREAS AND GRASS
- Times of year/Frequency of cutting: As for other areas except when bulbs are in leaf/flowering.
 - Height of cut: As for other areas.
 - Arisings: Remove from site.
- 309a EDGES TO PLANTED AREAS
- Location: Planting beds and around newly planted trees.
 - Timing: After grassed areas are well established.
 - Edges: Cut to clean straight lines or smooth curves. Draw back soil to permit edging.
- 325 RELIEVING SURFACE COMPACTION IN TURF
- Standard: To BS 7370-3, clause 13.5.
- 350 FERTILIZER - SPRING APPLICATION
- Type: Organic fertilizer from Vitagrow (Fertilisers) Ltd (01704 507777) www.vitagrow.co.uk or other manufacturer approved by the Soil Association.
 - Coverage: To supplier's recommendation.
- 360 FERTILIZER - AUTUMN APPLICATION
- Type: Organic fertilizer from Vitagrow (Fertilisers) Ltd (01704 507777) www.vitagrow.co.uk or other manufacturer approved by the Soil Association.
 - Coverage: To supplier's recommendation.

PLANTED AREAS

460a PERENNIALS INCLUDING GROUNDCOVER MIXES

- Plant supports: Stake and tie plants using approved products.
 - Maintain throughout the growing season.
- Gaps in planting: Refill by replanting.
- Watering new plants: Before and after planting out.
- Operations at end of growing season:
 - Cut down older flowering stems of herbaceous perennials.
 - Generally clean through planted areas removing redundant plant supports, litter, debris, fallen leaves and arisings.
 - Fork over the soil, taking care not to cause undue disturbance to plants and apply mulch to specified depths.
- Groundcover mixes beneath existing trees: Monitor groundcover growth to achieve an effective, diverse and healthy spread over the area. Attend vigorous growth to allow other species space, where these may be slower to establish. Ensure that all planting has adequate moisture and soil to facilitate growth, especially under large trees, where soil may be prone to dryness and compaction. Take steps to alleviate this as required and in accordance with agreed measures of tree protection for rootzone areas. Generally the planting in these areas is to provide an effective cover and soil condition, working towards the same conditions, which also favour the trees' growth. Apply seed mixes as specified, in order to support the plantcover.

470a PLANTING GENERALLY

- Operations to be in accordance with good horticultural practice:
 - Remove dead flower heads and leaves as required to keep planting of good appearance. Flower Garden: Leave dry flower heads into autumn (eg grasses), provided that they continue to be attractive in form and appearance. Once they drop or decline in appearance, remove as above.
 - Remove all litter and debris.
 - Remove fallen leaves.
 - Thoroughly hand weed.
 - Lightly hoe.
 - Clip edges.
- Fungicide: Biodegradable and non-toxic to plants and wildlife, by approval with CA only.

SHRUBS/TREES/HEDGES

500a ESTABLISHMENT OF NEW PLANTING

- Duration: 5 years.
- Weed control:
 - Keep planting beds clear of weeds by weeding.
 - 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.
- Soil condition: Lightly fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
- Trees: When in leaf, spray crowns in the evening during warm weather.

- 502 ESTABLISHMENT OF NEW PLANTING - FERTILIZER
- Time of year: March or April.
 - Type: Organic fertilizer from Vitagrow (Fertilisers) Ltd (01704 507777) www.vitagrow.co.uk or other manufacturer approved by the Soil Association.
 - Spreading: Spread evenly. Carefully lift and replace any mulch materials.
 - Coverage: To supplier's recommendation.
- 510 TREE STAKES AND TIES
- Inspection/maintenance times: As necessary to ensure that trees are adequately supported at all times. Inspect regularly including after bouts of windy weather. Adjust if necessary to allow for growth and to prevent any rubbing of bark.
 - Stakes:
 - Replace loose, broken or decayed stakes to original specification.
 - If longer than half of clear tree stem height, cut to this height in spring. Retie to tree firmly but not tightly with a single tie.
 - Ties: Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing.
 - Where chafing has occurred, reposition or replace ties to prevent further chafing.
 - Removal of stakes and ties: At the end of Defects Liability Period or as instructed by CA.
 - Fill stake holes with lightly compacted soil.
- 515a TREE GUYS AND WIRES
- Inspection/maintenance times: As necessary to ensure that trees are adequately supported at all times.
 - Operations:
 - Replace or resecure loose or missing guy wires.
 - Adjust to suit stem growth and to provide correct and uniform tension.
- IRRIGATION / AERATION TUBES
- Check condition and replace caps after watering to ensure that tubes do not become blocked with mulch or debris. Unblock any tubes as necessary.
- ACCESS TO TREES IN PAVED AREAS
- It is the Contractor's responsibility to arrange for access throughout the maintenance period to any keys or fixings that are required to reposition or adjust tree guys to facilitate maintenance works.
- 520a REFIRMING OF TREES AND SHRUBS
- Timing: As necessary to ensure plants are always well firmed in and especially after strong winds, frost heave and other disturbances.
 - Refirming: Tread around the base until firmly bedded.
 - Collars in soil at base of tree stems, created by tree movement: Break up by fork, avoiding damage to roots. Backfill with topsoil and refirm.
- 535a TREE PITS
- Material for making up levels and refilling: Topsoil and mulch as specified in Q31 and to maintain specified levels.

540a PRUNING GENERALLY

- Identification: Before starting work agree which trees, shrubs and hedges are to be removed, pruned, crown reduced, shaped or thinned and present proposals for approval by CA.
- Consents: Ensure that the relevant consents have been obtained from the Local Planning Authority for any works, which are require consents.
- Pruning: In accordance with good horticultural and arboricultural practice.
 - Removing branches: Do not damage or tear the stem.
 - Wounds: Keep as small as possible and cut cleanly back to sound wood.
 - Cutting: Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
 - Larger branches: Prune neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.
- Appearance: Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
- Operatives: Pruning of trees must be carried out by an approved member of the Arboricultural Association or other approved specialist and by approval of CA.
- Tools: Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
- Disease or fungus: Give notice if detected.
- Growth retardants, fungicide or sealant: Do not use unless instructed.

545 PRUNING OF EXCESSIVE OVERHANG

- Timing: As necessary to ensure overhang does not obstruct paths or roads and in the correct season for that species according to best horticultural practice.
- Operations: Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.
- Special requirements: Ensure that where any pruning to trees is carried out the crown is left properly balanced.

550 PRUNING OF EXCESSIVE HEIGHT

- Timing: As necessary to ensure successful growth development of trees and in the correct season for that species according to best horticultural practice..
- Operations: Remove excessive height only by approval by CA.

555 PRUNING TREES AND SHRUBS

- Standard: To BS 7370-4, clauses 3.6.3 to 3.6.5.
- Special requirements: Ensure that all die back, diseased and dead or broken growth and suckers are removed.

570a FORMATIVE PRUNING OF YOUNG TREES

- Time of year: Do not prune during the late winter/early spring sap flow period.
- Young trees up to 4 m high:
 - Crown prune by removing dead branches and reducing selected side branches as necessary to preserve a well balanced head and ensure the development of a single strong leader.
 - Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.
- Feathered and multi-stemmed trees: Agree pruning with the CA.
- Operatives: Pruning of trees must be carried out by an approved member of the Arboricultural Association or other approved specialist and by approval of CA.

- 575 PRUNING ORNAMENTAL SHRUBS
- General: Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
 - Suckers: Remove by cutting back level with the source stem or root.
- 580a PRUNING FLOWERING SPECIES OF SHRUBS
- Time of year:
 - Shrubs flowering in winter or early spring: Spring/late spring according to each species.
 - Shrubs flowering between March and July: Immediately after the flowering period.
 - Shrubs flowering between July and October: Back to old wood in winter.
- 605a TRIMMING ESTABLISHING HEDGES
- Operations:
 - For non-flowering species, cut back in June and October of each year to encourage bushy growth down to ground level. Do trim the top until the finished height has been achieved. For flowering species, follow the general operations for establishment but allow for flowering to occur in relevant season, for example where flowering is in winter or early spring, retain the flowerbuds.
 - Light prune more frequently as necessary to maintain shape and height.
 - Allow to reach planned dimensions by degrees, depending on growth rate and habit.
 - Following planting and throughout establishment, the Contractor is to allow for watering of hedges, especially as new leaves unfold. It is critical that hedges are not allowed to dry out at this time.
 - In the spring prior to leaf break the hedges are to be top dressed with fertiliser at the recommended rates.
- 620 REMOVAL OF DEAD PLANT MATERIAL
- Operations: At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.
- 625a CLIMBING PLANTS
- Pruning: Remove excess growth to ensure that (in addition to the requirements of clause 545 where relevant) signs, light fittings, doors and windows and views, circulation routes and seating areas are kept clear at all times.
 - Insecure growth: Attach to supporting wires or structures using approved plant ties. Ensure that plants grow to extend throughout wire support area available.
 - Supporting structures, wires and tensioners: Check, adjust tensioning and repair as necessary.
- 630 DEAD PLANTS
- Removal: At every visit as necessary.
 - Replacement: In appropriate season and in accordance with Q31:720a.
- 635a REINSTATEMENT OF SHRUB/HERBACEOUS AREAS
- Dead and damaged plants: Remove.
 - Mulch:
 - Carefully move to one side and dig over the soil, leaving it fit for replanting.
 - Do not disturb roots of adjacent plants.
 - Replacement plants:
 - Use pits and plants to original specification or to match the size of adjacent or

nearby plants of the same species, whichever is the greater.

- Additional requirements: In appropriate season and in accordance with Q31:720a..

- Dressing: Slow release fertilizer:

- Type: Organic fertilizer from Vitagrow (Fertilisers) Ltd (01704 507777) www.vitagrow.co.uk or other manufacturer approved by the Soil Association.

- Spreading: Spread evenly. Carefully lift and replace any mulch materials.

- Coverage: To supplier's recommendation.

645 WEED CONTROL GENERALLY

- Weed tolerance: Seedling, maximum 2 weeks old. Do not allow to flower or seed.

- Adjacent plants, trees and grass: Do not damage.

650 HAND WEEDING

- General: Remove weeds entire, including roots.

- Disturbance: Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.

- Completion: Rake area to a neat, clean condition.

657a HERBICIDE TO KILL REGROWTH OF WEEDS

- Type: Suitable biodegradable foliar-acting herbicide to kill regrowth.

- Timing: Allow recommended period for herbicide to take effect before clearing arisings.

675 FORKING OVER

- General: Fork over beds with care as necessary to soil loose. Do not damage existing plants, bulbs and roots. Take care not to reduce the depth or effect of mulch.

- Depth of dig (minimum): 75mm.

680 SOIL AERATION

- Compacted soil surfaces: Prick up to aerate the soil of root areas. Break surface crust, reduce size of lumps to crumb and level off. Do not damage plants and their roots.

685 SOIL LEVEL ADJUSTMENT

- Level of soil/mulch at edges of beds: Reduce to 50 mm below adjacent grass or hard surface.

- Arisings (if any): Spread evenly over the bed.

690a MAINTENANCE OF LOOSE MULCH

- All areas as specified: Includes tree pits and plant beds.

- Thickness (minimum): 75 mm.

- Top up: if 50mm or less top up to 75mm.

- Mulch spill on adjacent areas: Remove weeds and rubbish and return to planting.

- Weeding: Remove weeds growing on or in mulch by light hoeing by hand.

- 695 **FERTILIZING ESTABLISHED TREES AND SHRUBS**
- Time of year: March or April.
 - Type of fertilizer: Organic fertilizer from Vitagrow (Fertilisers) Ltd (01704 507777) www.vitagrow.co.uk or other manufacturer approved by the Soil Association.
 - Spreading: Spread evenly. Carefully lift and replace any mulch materials.
 - Coverage: To supplier's recommendation.
- 700 **SNOW REMOVAL FROM SHRUBS/TREES**
- General: Remove snow as recommended by BS 7370-4, clause 3.5.15
- 705a **WINTER LEAF REMOVAL**
- Operations: Take down temporary leaf fences. Collect accumulations of drifted leaves from the vicinity and from planting beds and compost them.
 - Arisings: Remove from site.
- TREE WORK**
- 810a **TREE WORK GENERALLY**
- Identification: Before starting work agree which trees are to be removed, pruned, crown reduced, shaped or thinned and present proposals for approval by CA.
 - Consents: Ensure that the relevant consents have been obtained from the Local Planning Authority for any works, which are require consents.
 - Protection: Ensure any temporary protection required for public safety and to safeguard nearby landscape works is installed prior to commencing works.
 - Standards: To BS 3998 and Forestry and Arboriculture Training and Safety Council Safety Guides.
 - Removing branches: Cut as shown in Arboricultural Association Leaflet No 8 'Mature tree maintenance'. Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
 - Appearance: Leave trees with a well balanced natural appearance.
 - Chain saw work: Operatives must hold a Certificate of Competence.
 - Tree work: To be carried out by an approved member of the Arboricultural Association and with approval of CA.
- 815 **ADDITIONAL WORK**
- Defective, diseased, unsafe or weak parts of trees additional to those scheduled for attention: Give notice if detected.
- 820 **PREVENTION OF WOUND BLEEDING**
- Standard: To BS 3998, clause 8.
- 825 **PREVENTION OF DISEASE TRANSMISSION**
- Standard: To BS 3998, clause 9 and Appendix B.
- 830 **CLEANING OUT AND DEADWOODING**
- Remove:
 - Dead, dying, or diseased wood, broken branches and stubs.
 - Fungal growths and fruiting bodies.
 - Rubbish, wind blown or accumulated in branch forks.
 - Wires, clamps, boards and metal objects, if removable without causing

further damage and not part of a support structure that is to be retained.

- Other unwanted objects, e.g. tree houses, swings.
- Climbing plants: Prune away material as necessary to ensure successful plant development and in the recommended season for that species.

835a CUTTING AND PRUNING GENERALLY

- Tools: Appropriate, well maintained and sharp.
- Final pruning cuts:
 - Do not use chainsaws on branches of less than 50 mm diameter.
 - When using handsaws, cut in one continuous operation to form a smooth cut surface.
 - Do not use anvil type secateurs.
- Removing branches: Do not damage or tear the stem.
- Wounds: Keep as small as possible, cut cleanly back to sound wood leaving a smooth surface, and angled so that water will not collect on the cut area.
- Cutting: Cut at a fork or at the main stem to avoid stumps wherever possible.
- Large branches:
 - Remove in small sections and lower to ground with ropes and slings.
- Dead branches and stubs: When removing, do not cut into live wood.
- Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
- Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.

840 CROWN REDUCTION/SHAPING

- General: Cut back selectively to lateral or sublateral buds or branches to retain flowing branch lines without leaving stumps.

845 CROWN LIFTING

- Clearances: Remove branch systems to give clearances as follows: 2.5m to pavements and 1.8m to shrub beds.
- Removing branches: Remove whole branches back to the stem, or cut lower portions of branches back to lateral or sublateral buds or branches. Do not leave stumps.

850 CROWN THINNING

- Removing branches: Remove inward growing, crossing, rubbing, dead and damaged branches.
- Thinning: Present proposals for removal of secondary and small live branch growth evenly throughout the crown for approval by CA. Ensure that where pruning to trees is carried out, the crown is left properly balanced.
- Cutting: Make no cuts of more than 50 mm diameter. Cut portions of branches back to lateral or sublateral buds or branches without leaving stumps.
- Appearance: Leave a uniform and well balanced structure of branches and foliage.

855a AVOID DAMAGE TO TREE ROOTS

- Excavating: Use hand tools only within the branch spread of trees.
- Protected area: Do not cut roots, do not compact soil, disturb or change soil levels and do not store materials of any kind within an area which is the larger of:
 - the branch spread of the tree.
 - an area with a radius of half the tree's height, measured from the trunk.
- Outside protected area: Give notice of roots exceeding 30 mm in diameter. Do not cut without approval.
- Cutting:
 - Make clean smooth cuts with a hand saw.
 - Minimize the wound area and avoid ragged edges.
 - Pare cut surfaces smooth with a sharp knife.
- Backfilling:
 - Cover cut roots with clean sharp sand.
 - Backfill with original topsoil.

865 BARK DAMAGE

- Wounds:
 - Do not attempt to stop sap bleeding.
 - Gently remove ragged edges and remove splintered wood from deep wounds, but keep wounds as small as possible.
- Liquid or flux oozing from apparently healthy bark: Give notice.

870 CAVITIES IN TREES

- Investigation: Remove rubbish and rotten wood. Probe the cavity to find the extent of any decay, and give notice.
- Water filled cavities: Do not drain.
- Sound wood inside cavities: Do not remove.