

HARD & SOFT LANDSCAPE SPECIFICATION

KENAVON DRIVE, READING

FOR PLANNING

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Table of Contents

Title		Page
Q10	Kerbs/ edgings/ channels/ paving accessories	3
Q20	Granular sub-bases to roads/pavings	5
Q23	Gravel/ Hoggins/ Woodchip/ Resin bound roads/ paving/ overlays	7
Q25	Slab/brick/sett/cobble pavings	9
Q28	Topsoil and soil ameliorants	13
Q30	Seeding/turfing	24
Q31	External planting	27
Q35	Landscape maintenance	36
Q50	Site/street furniture/equipment	45

Q10

Kerbs/ edgings/ channels/ paving accessories

Q10 Kerbs/ edgings/ channels/ paving accessories**TYPES OF KERBS/EDGINGS AND CHANNELS****116 FLUSH KERB**

- Manufacturer: Wienerberger Ltd.
 - Web: www.wienerberger.co.uk.
 - Tel: 0161 491 8200.
 - Address: Wienerberger House
Cheadle Royal Business Park,
Brooks Drive, Cheadle,
Cheshire,
SK8 3SA
- Product reference: UWF Clay Paver
- Standard Finish: Tumbled
- Colour: Lotis
- Size: 200 x 50 x 65mm
- Fixings: As manufacturer's instructions
- Installation: Laid flush in a soldier course bond, as manufacturer's instructions

Q20 Granular sub-bases to roads/pavings

- 100 GRANULAR SUB-BASES GENERALLY
- All sub-bases to Structural Engineer's specification

Q23

**Gravel/ Hoggin/ Woodchip/ Resin bound roads/
paving/ overlays**

Q23 Gravel/ Hoggin/ Woodchip/ Resin bound roads/ paving/ overlays**TYPES OF SURFACING****160 LOOSE GRAVEL TO VENT MAINTENANCE STRIP**

- Manufacturer: Colchem
Hardscape Resourcing Limited
Westleigh Hall,
Wakefield Road,
Denby Dale
Huddersfield,
West Yorkshire
HD8 8QJ
- Tel: 01484 863 880
- Email: sales@colchem.co.uk
- Product Code: Recycled aggregate
- Aggregate:
 - Size: 25mm
 - Colour: White

LAYING**340 LAYING GENERALLY**

- Channels, gullies, etc: Keep clear.
- Finished surfaces:
 - Lines and levels: To prevent ponding.
 - Overall texture: Even.
 - State at completion: Clean.

350 COLD WEATHER WORKING

- Frozen materials: Do not use.
- Freezing conditions: Do not lay pavings.
- Cold bituminous surface dressings: Do not apply when ambient temperature is below 10° C.
- Other dressings or overlays: As manufacturers' recommendations.

390 PROTECTION FROM TRAFFIC AND PLANT

- Paved areas: Restrict access to prevent damage.

Q25

Slab/brick/sett/cobble pavings

Q25 Slab/brick/sett/cobble pavings**PRODUCTS****308 PAVING TYPE 1 TO ROOF TERRACE**

- Manufacturer: Marshalls PLC
Landscape House
Lowfield Business Park
Elland
HX5 9HT
 - Web: www.marshalls.co.uk
 - Email: info@marshalls.co.uk
 - Tel: 03334553463
- Product reference: Sylvern Limestone Paving
- Size: 560x560x23mm
- Colour: Sylvern
- Jointing: Butt jointed with sand brushed into joints (refer to engineers drawings for details)
- Laid in a stack bond pattern

308A CLAY PAVING TYPE 1 TO ROOF TERRACE

- Manufacturer: Wienerberger Ltd
Wienerberger House
Cheadle Royal Business Park,
Brooks Drive, Cheadle,
Cheshire,
SK8 3SA
 - Web: www.wienerberger.co.uk
 - Tel: 0161 491 8200
- Product reference: UWF Clay Paver
- Size: 200x50x65mm
- Colour: Lotis
- Jointing: Butt jointed with sand brushed into joints (refer to engineers drawings for details)
- Laid in a stack bond pattern

308B CLAY PAVING TYPE 2 TO ROOF TERRACE

- Manufacturer: Wienerberger Ltd
Wienerberger House
Cheadle Royal Business Park,
Brooks Drive, Cheadle,
Cheshire,
SK8 3SA
 - Web: www.wienerberger.co.uk
 - Tel: 0161 491 8200
- Product reference: KTF Clay Paver
- Size: 150x150x65mm
- Colour: Lotis
- Jointing: Butt jointed with sand brushed into joints (refer to engineers drawings for details)
- Laid in a stack bond pattern

311 FLAG PAVING STEPPING STONES

- Manufacturer: Marshalls plc.
Landscape House
Lowfield Business Park
Elland
HX5 9HT
 - Web: www.marshalls.co.uk.
 - Email: info@marshalls.co.uk
 - Tel: 03300574455
- Product reference: Yaletown Granite Paving
- Sizes: 900 x 450 x 50MM
- Colour: Mid grey
- Finish: Fine picked

314 CORDUROY TACTILE PAVING

- Manufacturer: Marshalls PLC
Landscape House
Lowfield Business Park
Elland
HX5 9HT
 - Web: www.marshalls.co.uk
 - Email: info@marshalls.co.uk
 - Tel: 03334553463
- Product reference: Hazard Warning Tactile Textured
- Sizes: 400 x 400 x 50mm
- Colour: Natural

EXECUTION

610 MATERIAL SAMPLES

- Samples representative of colour and appearance of designated materials: Submit before placing orders.
 - Designated materials: All pavings.

620 ADVERSE WEATHER

- General:
 - Temperature: Do not lay or joint paving if the temperature is below 3°C on a falling thermometer or below 1°C on a rising thermometer.
 - Frozen materials: Do not use. Do not lay bedding on frozen or frost covered bases.
- Paving with mortar joints and/ or bedding:
 - Protect from frost damage, rapid drying out and saturation until mortar has hardened.
- Paving laid and jointed in sand:
 - Stockpiled bedding sand: Protect from saturation.
 - Exposed areas of sand bedding and uncompacted areas of sand bedded paving: Protect from heavy rainfall.
 - Saturated sand bedding: Remove and replace, or allow to dry before proceeding.
 - Laying dry-sand jointed paving in damp conditions: Brush in as much jointing sand as possible. Minimize site traffic over paving. As soon as paving is dry, top up joints and complete compaction.

625 LAYING PAVINGS - GENERAL

- Appearance: Smooth and even with regular joints and accurate to line, level and profile.
- Falls: To prevent ponding.
- Bedding of paving units: Firm so that rocking or subsidence does not occur or develop.
 - Bedding/ Laying course: Consistently and accurately graded, spread and compacted to produce uniform thickness and support for paving units.
- Slopes: Lay paving units upwards from the bottom of slopes.
- Paving units: Free of mortar and sand stains.
- Cutting: Cut units cleanly and accurately, without spalling, to give neat junctions with edgings and adjoining finishes.

630 LEVELS OF PAVING

- Permissible deviation from specified levels:
 - Generally: ± 6 mm.
- Height of finished paving above features:
 - At gullies: +6 to +10 mm.
 - At drainage channels and kerbs: +3 to +6 mm.

637 REGULARITY OF PAVED SURFACES

- Maximum undulations in the surface of pavings (except tactile paving surfaces) under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface): 3 mm.
- Joints between paving units or utility access covers:
 - Joints flush with the surface: difference in level between adjacent units to be no more than twice the joint width (with a 5 mm max difference in level).
 - Recessed, filled joints: difference in level between adjacent units to be no greater than 2 mm; the recess to be no deeper than 5 mm.
 - Unfilled joints: difference in level between adjacent units to be no greater than 2 mm.
- Sudden irregularities: Not permitted.

640 COLOUR BANDING

- General: Unless premixed by manufacturer, select from at least 3 separate packs in rotation to avoid colour banding.

646 PROTECTION

- Cleanliness: Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
- Materials storage: Do not overload pavings with stacks of materials.
- Handling: Do not damage paving unit corners, arrises, or previously laid paving.
- Access: Restrict access to paved areas to prevent damage from site traffic and plant.

Q28 Topsoil and soil ameliorants**SYSTEM OUTLINE****110 SOIL SYSTEM**

- A number of soil types are to be used for the construction of the landscape scheme to ensure that each planting environment has the correct growing conditions.
- The soil materials covered by this specification document are:
 - Topsoil: tree pits, planting beds, planters and amenity grass areas over podium level
 - Landscape subsoil: Planting beds, wetland planting & amenity grass areas over existing ground and podium level
 - Washed sand: All trees on existing ground and podium level to the lower portion of tree pit

PRODUCTS**300 PREPARATION MATERIALS GENERALLY**

- Purity: Free of pests and disease.
- 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.
- Contamination: 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 or planting media, do not use subsoil contaminated with the above materials.
- Objectionable odour: None.
- Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

310 MATERIALS NOT PERMITTED

- Materials: Products containing peat.

320 IMPORTING TOPSOIL, SUBSOIL & WASHED SAND

- The Contractor shall allow sufficient time for sourcing and testing the necessary soils to meet the requirements of Q28.
- A copy of the Hard and Soft Landscape specification and the proposed planting list /drawings shall be provided for review by the Soil Scientist and for reference within the test report(s).
- The Contractor shall appoint a suitably qualified and approved, independent Soil Scientist to undertake the sampling and testing of the soil materials considered for importation.
- An approved Soil Scientist is:
Tim O'Hare Associates LLP
Howbery Park
Wallingford
Oxon OX10 8BA
Tel: 01491 822653
www.toha.co.uk
- The Contractor shall await written approval from the Contract Administrator prior to importing soil materials to site.

330 DOCUMENTATION FOR IMPORTED TOPSOIL, SUBSOIL & WASHED SAND

- The Contractor shall provide the Contract Administrator with the appointed Soil Scientist's report for each source and type of topsoil, subsoil & washed sand to be imported.
- Timing: At least 1 week prior to delivery.
- Each report shall contain the following information:
 - Source name and location;
 - Date of sampling;
 - Details of the Soil Scientist, including company information, qualifications;
 - Photographs of the stockpile and the soils;
 - Visual examination;
 - Certificate of Analysis;
 - Interpretation of all results with comments on the suitability of the soil for the proposed landscape scheme;
 - Recommendations for soil improvements, treatments, additives.
- Number of copies: 1 (in digital format)

331 SAMPLE AND TESTING - IMPORTED SOILS

- The soil materials considered for importation shall be independently sampled while stockpiled off site at their source or manufacture location.
- The samples shall be truly representative of the soil to be offered. One Composite Sample shall be taken for every 500m³ of each type of soil to be imported, with a minimum of 3 no. samples to be tested per source (unless alternative testing rates have been agreed with the Landscape Architect).
- Samples shall be analysed strictly in accordance with relevant Testing Schedule given in clauses Q28/332 and 334.
- The samples shall be analysed and reported on a 10 working day turnaround and the Contractor should incorporate this into their programme. An accelerated analysis turnaround will be permitted at the Contractor's cost where programme constraints deem this necessary.
- The sampled soil materials shall be temporarily stockpiled at the source location until the Contract administrator has provided written approval on its suitability for use within the project.

332 IMPORTED TOPSOIL - TESTING SCHEDULE

- Topsoil samples shall be tested prior to approval by the Contract Administrator. The following parameters shall be requested (methods in accordance with BS3882:2007 or as indicated):
 1. Visual examination to record Munsell colour, moisture status, aerobic state, soil structure, texture, stoniness (size & shape), the presence of any deleterious materials
 2. pH Value (1:2.5 soil/water extract)
 3. Electrical Conductivity (1:2.5 soil/water extract)
 4. Electrical Conductivity (1:2.5 soil/CaSO₄ extract)
 5. Exchangeable Sodium Percentage
 - 6a. Particle Size Analysis (clay, silt, 5 sands – USGA sieve sizes) – clause 333A only
 - 6b. Particle Size Analysis (clay, silt, sand) – clause 333B only
 7. Stone Content by % weight (2-20mm, 20-50mm, >50mm)
 8. Total Nitrogen (% - Dumas Method)
 9. Extractable Phosphorus, Potassium & Magnesium (RB427 Method)
 11. Organic Matter (%)
 12. Carbon: Nitrogen ratio (by calculation)
 13. Calcium Carbonate (%) – clause 333A only
 14. Potential Contaminants – See parameters in Clause Q28/336
- Additional samples and/or additional testing (eg. percolation) may be required if the initial results are not satisfactory or conclusive

333A IMPORTED TOPSOIL FOR TREE PITS

- Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
- The topsoil shall have a defined granular or blocky soil structure and shall comply with the following lower and upper limits:
 - Clay (<0.002mm): lower limit 5%, upper limit 18%
 - Silt (0.002-0.05mm): lower limit 5%, upper limit 35%
 - Sand (0.05-2.0mm) Of which at least 45% shall fall into fine to medium sand range: lower limit 55%, upper limit 85%
 - Stones (2-20mm): lower limit 0%DW, upper limit 20%DW
 - Stones (20-50mm): lower limit 0%DW, upper limit 5%DW
 - Stones (>50mm): lower limit 0%DW, upper limit 0%DW
 - pH Value: lower limit 5.5, upper limit 8.5
 - Electrical Conductivity (1:2.5 water extract): lower limit 0 μ S/cm, upper limit 1500 μ S/cm
 - Electrical Conductivity (CaSO₄ extract): lower limit 0 μ S/cm, upper limit 2800 μ S/cm
 - Exchangeable Sodium Percentage: lower limit 0%, upper limit 15%
 - Organic matter: lower limit 4%, upper limit 8%
 - Total Nitrogen: lower limit 0.2%, upper limit na
 - Carbon: Nitrogen Ratio: lower limit na, upper limit 20:1
 - Extractable Phosphorus: lower limit 26mg/l, upper limit 100mg/l
 - Extractable Potassium: lower limit 240mg/l, upper limit 1200mg/l
 - Extractable Magnesium: lower limit 50mg/l, upper limit 600mg/l
 - Calcium Carbonate: lower limit na. upper limit 5%

333B IMPORTED TOPSOIL – HEDGE AND SHRUB PLANTING

- Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
- The topsoil shall have a defined granular or blocky soil structure and shall comply with the following lower and upper limits:
 - Clay (<0.002mm): lower limit 5%, upper limit 30%
 - Silt (0.002-0.05mm): lower limit 5%, upper limit 45%
 - Sand (0.063-2.0mm): lower limit 40%, upper limit 85%
 - Stones (2-20mm): lower limit 0%DW, upper limit 15%DW
 - Stones (20-50mm): lower limit 0%DW, upper limit 20%DW
 - Stones (>50mm): lower limit 0%DW, upper limit 0%DW
 - pH Value: lower limit 5.5, upper limit 8.5
 - Electrical Conductivity (1:2.5 water extract): lower limit 0 μ S/cm, upper limit 1500 μ S/cm
 - Electrical Conductivity (CaSO₄ extract): lower limit 0 μ S/cm, upper limit 2800 μ S/cm
 - Exchangeable Sodium Percentage: lower limit 0%, upper limit 15%
 - Organic matter: lower limit 3%, upper limit 8%
 - Total Nitrogen: lower limit 0.15%, upper limit na
 - Carbon: Nitrogen Ratio: lower limit na, upper limit 20:1
 - Extractable Phosphorus: lower limit 16mg/l, upper limit 100mg/l
 - Extractable Potassium: lower limit 120mg/l, upper limit 1200mg/l
 - Extractable Magnesium: lower limit 50mg/l, upper limit 600mg/l

334 LANDSCAPE SUBSOIL - TESTING SCHEDULE

- Subsoil samples shall be tested prior to approval by the Contract Administrator. The following parameters shall be requested (methods in accordance with BS3882:2007 or as indicated):
 1. Visual examination to record Munsell colour, moisture status, aerobic state, soil structure, texture, stoniness (size & shape), the presence of any deleterious materials
 2. pH Value (1:2.5 soil/water extract)
 3. Electrical Conductivity (1:2.5 soil/water extract)
 4. Electrical Conductivity (1:2.5 soil/CaSO₄ extract)
 5. Exchangeable Sodium Percentage
 - 6a. Particle Size Analysis (clay, silt, 5 sands – USGA sieve sizes)
 - 6b. Particle Size Analysis (clay, silt, sand)
 7. Stone Content by % weight (2-20mm, 20-50mm, >50mm)
 8. Calcium Carbonate (% - BS7755:3:10:1995)
 9. Organic Matter (%)
 10. Saturated Hydraulic Conductivity (ASTM Method F1815-11 - modified)
 11. Potential Contaminants – See parameters in Clause Q28/336
- Additional samples and/or additional testing may be required if the initial results are not satisfactory or conclusive

335 IMPORTED SUBSOIL FOR HEDGE AND SHRUB PLANTING

- Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
- The subsoil shall comply with the following lower and upper limits:
 - Clay (<0.002mm): lower limit 5%, upper limit 40%
 - Silt (0.002-0.05mm): lower limit 5%, upper limit 45%
 - Sand (0.063-2.0mm): lower limit 30%, upper limit 85%
 - Stones (2-20mm): lower limit 0%DW, upper limit 35%DW
 - Stones (20-50mm): lower limit 0%DW, upper limit 15%DW
 - Stones (>50mm): lower limit 0%DW, upper limit 0%DW
 - pH Value: lower limit 5.0, upper limit 8.5
 - Electrical Conductivity (1:2.5 water extract): lower limit na, upper limit 1500 μ S/cm
 - Electrical Conductivity (CaSO₄ extract): lower limit na, upper limit 2800 μ S/cm
 - Exchangeable Sodium Percentage: lower limit na, upper limit 15%
 - Organic matter: lower limit na, upper limit 2%

336 ENVIRONMENTAL REQUIREMENTS

- The following Generic Assessment Criteria (GAC) shall be used as Tier 1 screening values for the assessment of soil(s) to be used, unless other Site-Specific Assessment Criteria (SSAC) is available.
- In circumstances where any of these values are exceeded, further risk assessment by the project Environmental Consultant and/or testing should be undertaken to confirm the significance of the non-compliance.
 - Inorganic Arsenic: 32mg/kg
 - Boron (soluble): 5mg/kg
 - Cadmium: 3mg/kg
 - Chromium (III): 3000mg/kg
 - Chromium (IV): 4.3mg/kg
 - Copper: 100mg/kg
 - Lead: 450mg/kg
 - Mercury: 1mg/kg
 - Nickel: 60mg/kg
 - Selenium: 350mg/kg
 - Zinc: 200mg/kg
 - Phenol: 420mg/kg
 - Benzene: 0.33mg/kg
 - Toluene: 610mg/kg
 - Ethylbenzene: 350mg/kg
 - Xylene - m: 240mg/kg
 - Xylene - o: 250mg/kg
 - Xylene - p: 230mg/kg
 - Aliphatics C5-C6: 110mg/kg
 - Aliphatics C6-C8: 370mg/kg
 - Aliphatics C8-C10: 110mg/kg
 - Aliphatics C10-C12: 540mg/kg
 - Aliphatics C12-C26: 3000mg/kg
 - Aliphatics C16-C35: 76,000mg/kg
 - Aromatics C5-C7: 280mg/kg
 - Aromatics C7-C8: 611mg/kg
 - Aromatics C8-C10: 151mg/kg
 - Aromatics C10-C12: 346mg/kg
 - Aromatics C12-C16: 593mg/kg
 - Aromatics C16-C21: 770mg/kg
 - Aromatics C21-C35: 1230mg/kg
 - Acenaphthene: 480mg/kg
 - Acenaphthylene: 400mg/kg
 - Anthracene: 4900mg/kg
 - Benzo(a)anthracene: 4.7mg/kg
 - Benzo[a]pyrene: 0.94mg/kg
 - Benzo(b)fluoranthene: 6.5mg/kg
 - Benzo(g,h,i)perylene: 46mg/kg
 - Benzo(k)fluoranthene: 9.6mg/kg
 - Chrysene: 8.0mg/kg
 - Dibenzo[a,h]anthracene: 0.86mg/kg
 - Fluoranthene: 460mg/kg
 - Fluorene: 380mg/kg
 - Indeno(1,2,3-cd)pyrene: 3.9mg/kg
 - Naphthalene: 3.7mg/kg
 - Phenanthrene: 200mg/kg

- Pyrene: 1000mg/kg
- Asbestos screen: Absent

GAC values derived from CLEA SGV 2009, LQM/CIEH 2009 and BS3882:2007

345 WASHED SAND

- Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
- Washed Sand shall be a quarried washed sand material that meets the following requirements. It shall not be a marine-dredged sand or a recycled sand.
 - Clay & Silt (less than 0.005mm): lower limit 0%, upper limit 5%
 - Very Fine Sand (0.05-0.15mm): lower limit 0%, upper limit 5%
 - Fine Sand (0.15-0.25mm): lower limit 5%, upper limit 20%
 - Medium Sand (0.25-0.50mm): lower limit 45%, upper limit 65%
 - Coarse Sand (0.50-1.0mm): lower limit 25%, upper limit 45%
 - Very Coarse Sand (1.0-2.0mm): lower limit 0%, upper limit 5%
 - Stones (2-10mm): lower limit 0%DW, upper limit 10%DW
 - Stones (> 10mm): lower limit 0%DW, upper limit 0%DW
 - pH Value: lower limit 5, upper limit 8.5
 - Calcium Carbonate: lower limit na. upper limit 2%

346 AGGREGATE FOR DRAINAGE LAYERS

- Quantity: Provide as necessary to complete the work.
- Material: Lightweight fired clay aggregate or similar approved.
- Product: 4-10mm RC Leca® LWA
- Manufacturer: Leca® UK, Regus House, Herons Way, Chester Business Park, Chester, CH4 9QR

347 GEOTEXTILE FILTER/SEPARATOR MEMBRANE FOR DRAINAGE LAYERS

- Manufacturer: Terram or similar and approved
- Product: T1000
- Jointing: 1000mm overlap
- Protect from:
 - Exposure to light, except during laying (max. 5 hours).
 - Contaminants.
 - Materials listed as potentially deleterious by geotextile manufacturer.
 - Damage, until fully covered by fill.
 - Wind uplift, by laying not more than 15m before covering with fill.
- Preparation: Remove humps and sharp projections and fill hollows before laying.

400 FERTILISER FOR TREES AND SHRUBS

- Type: Everris Enmag CRF (11%N:22%P2O5:9%K2O:6%MgO)

420 GREEN COMPOST FOR SOIL AMELIORATION

- Standard: In accordance with BSi PAS 100:2011 or current revision.
- Source: From PAS 100 compliant facility.
- The compost shall comply with the following lower and upper limits:
 - pH Value: lower limit 7.5, upper limit 8.5
 - Electrical Conductivity: lower limit 750 μ S/cm, upper limit 1400 μ S/cm
 - Moisture Content: lower limit 35%, upper limit 45%
 - Bulk Density: lower limit 450g/l, upper limit 550g/l
 - Particle Size / Grading: lower limit na, upper limit 10mm
 - Organic Matter: lower limit 25%, upper limit 35%
 - Total Nitrogen: lower limit 0.5%, upper limit 1.5%
 - C : N ratio: lower limit na, upper limit 20
 - Ammonia N: lower limit 1mg/l, upper limit 5mg/l
 - Nitrate N: lower limit 5mg/l, upper limit 5mg/l
 - Total Phosphorus: lower limit 4mg/l, upper limit 30mg/l
 - Soluble Potassium: lower limit 650mg/l, upper limit 1200mg/l
 - Free Carbonate: lower limit na, upper limit 5%
 - Water Soluble Sodium: lower limit na, upper limit 200mg/l
 - Water Soluble Chloride: lower limit na, upper limit 850mg/l

EXECUTION

610 CONTRACTOR METHOD STATEMENTS

- The Contractor shall supply Method Statements for all soiling operations (e.g. importation, handling, stockpiling, setting out, spreading, cultivations, amelioration, tree pit construction).
- Each Method Statement shall include details of the methods of working, proposed site machinery and tillage equipment, materials, manpower and Health & Safety requirements.
- Each Method Statement shall be submitted for written approval by the project Landscape Architect and Soil Scientist before any works commence.

620 INSPECTIONS

- Quality control checks will be carried out as appropriate and prior to any planting, turfing or seeding to ensure that the soil conditions, soil types and depths are satisfactory and compliant with the specification/design. It is the responsibility of the Contractor to inform the project Soil Scientist when the stages of the work are to commence:
- Give notice: Before commencing the following:
 - Soil stripping / importation
 - Temporary soil storage
 - Subsoil spreading
 - Topsoil spreading
 - Soil decompaction and cultivation
 - Soil amelioration (fertilisers, compost, etc.)
 - Tree pit construction and backfilling
- Notice period: 7 days

630 HANDLING TOPSOIL AND SUBSOIL

- Plant: Select and use plant to minimise disturbance, trafficking and compaction.
- Contamination: Do not mix topsoil with:
 - Subsoil, stone, hardcore, rubbish or material from demolition work.
 - Other grades of topsoil.
- Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately after stripping.
- It is important to avoid physical degradation to the soil during all phases of soil handling (e.g. stripping, stockpiling, spreading, cultivation, amelioration, planting, turfing and seeding). As a consequence, soil handling operations shall be carried out when soil is non-plastic (friable) in consistency (i.e. at least 5% below the soil's lower plastic limit).
- Soil shall not be unnecessarily compacted by trampling or trafficking by site machinery.
- Soil shall not be handled when frozen unless authorised by the project Landscape Architect / Soil Scientist.
- Soil handling shall be stopped during and after heavy rainfall, and not continue until the soil has regained a non-plastic (friable) consistency.
- If, during the course of the soiling and landscape works, the soil is compacted, it shall be suitably cultivated to relieve the compaction and restore the structure prior to any planting, turfing or seeding.

640 SOIL STORAGE HEAPS

- Location: As agreed with the Contract Administrator.
- Height (maximum): 2.0m unless advised by the project Soil Scientist.
- Soil Protection:
 - To protect from wet weather once the final height is achieved, a tracked dozer/excavator shall regrade the sides and top of each stockpile to encourage water to runoff. The tracked dozer/excavator shall then compact down the surface of the stockpile by tracking across it to seal in the dry soil and reduce rainfall infiltration.- Do not place any other material on top of storage heaps.
 - Do not place any other material on top of or adjacent to each stockpile.
 - Do not place different soil types on top of or adjacent to each stockpile.
 - Do not allow construction plant to pass over storage heaps.
 - Prevent compaction and contamination, by fencing and covering as appropriate.

650 SPREADING SUBSOIL (WHERE REQUIRED)

- Remove all hard surfacing /sub-base/buried obstructions/building materials to a sufficient depth to accommodate the specified depth
- Before placement of subsoil, the exposed surface of existing ground shall be loosened to minimum 300mm depth by either ripping using appropriate tillage equipment (e.g. rigid tine), or by hand forking (restricted access areas only).
- A dump truck shall transport the subsoil to the desired location and tip it in a line of heaps.
- The subsoil shall be spread in 200mm layers by excavator working from the formation layer or a temporary surface or adjacent hardstanding.
- Each subsoil layer shall be consolidated by tracking in, or using the excavator bucket, or by trampling in (restricted access areas only) as deemed appropriate.
- Grade to smooth flowing contours to achieve specified finished depths of subsoil. Depths after firming and settlement (minimum) to be as specified.

655 MECHANICAL TOOLS

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

660 SPREADING TOPSOIL

- Remove all temporary roads/surfacing before spreading topsoil.
- A dump truck shall transport the topsoil to the desired location and tip it in a line of heaps.
- The topsoil shall be spread in 200mm layers by excavator working from the subsoil layer or a temporary surface or adjacent hardstanding.
- Each topsoil layer shall be consolidated by tracking in, or using the excavator bucket, or by trampling in (restricted access areas only) as deemed appropriate.
- Depths after firming and settlement (minimum) to be as specified.
- Grade to smooth flowing contours to achieve specified finished depths of topsoil.

670 LANDSCAPE SUBSOIL / WASHED SAND DEPTHS

- For soil depths refer to details BMD.20.036.DR.P202 & P203

675A TOPSOIL DEPTHS

- For topsoil depths refer to details BMD.20.036.DR.P202 & P203

690 GRADING OF TOPSOIL

- Topsoil condition: Reasonably dry and workable.
- Contours: Smooth and flowing, with falls for adequate drainage.
 - Hollows and ridges: Not permitted.
- Finished levels after settlement: 25 mm above adjoining paving, kerbs, manholes etc.
- Blade grading: May be used to adjust topsoil levels provided depth of topsoil is nowhere less than 150 mm.
- Give notice: If required levels cannot be achieved by movement of existing soil.

702 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT

- Above adjoining paving or kerbs: 30mm.
- Below dpc of adjoining buildings: Not less than 150 mm.
- Shrub areas: Higher than adjoining grass areas by 100 mm.
- Adjoining soil areas: Marry in.
- Thickness of turf or mulch included.

SOIL AMELIORATION**800 USE OF COMPOST AND FERTILISERS**

- The use of additional green compost, fertilisers or any other soil ameliorants is dependent on the findings of the soil tests (as presented for Q28/330 Documentation).

810 APPLYING GREEN COMPOST – PROVISIONAL ITEM

- Apply and incorporate green compost (ref: clause Q28/420) into topsoil for tree, shrub or hedge planting to achieve specified levels of organic matter and fertility. Provisional rate: 20 litres/sq.m.
- Timing: Apply prior to topsoil cultivation.

820 APPLYING FERTILISER FOR TREES AND SHRUBS – PROVISIONAL ITEM

- Apply and incorporate compound, slow release fertiliser Evertis Enmag CRF (11%N:22% P2O5:9%K2O:6%MgO) at a provisional rate of 80 g/m2 and to a depth of 150mm.
- Timing: Apply 5-10 days prior to planting.

Q30 Seeding/turfing**GENERAL INFORMATION/REQUIREMENTS****100 SITE PREPARATION GENERALLY**

- All site preparation, planting and maintenance works shall be carried out in accordance with British Standards BS4428:1989 Code of Practice for General Landscape Operations.

120 CLIMATIC CONDITIONS

- General: Carry out the work while weather conditions are suitable.

160A NOTICE

- Give notice before:
 - Setting out.
 - Laying artificial turf.
 - Visiting site during maintenance period.
- Period of notice: 2 working days.

170 SETTING OUT

- Boundaries: Mark clearly.
- Delineation: In straight lines or smoothly flowing curves as shown on drawings.

TURFING**400A ARTIFICIAL TURF FOR ROOF TERRACE**

- Supplier: Easigrass
Unit 14
Falcon Buisness park
Ivanhoe road
Wokingham
RG40 4QQ
e: eastberkshire@easigrass.com
w: www.easigrass.com.
 - Product reference: Mayfair Easigrass.
- Installation: To manufacturers requirements

PROTECTING/CUTTING**590 CLEANLINESS**

- General: Leave the works in a clean, tidy condition at Completion and after any maintenance operations.

MAINTENANCE**610A FAILURES OF ARTIFICIAL TURFING**

- Duration: Carry out the following operations from completion of turfing until: the end of the rectification period.
- Defective materials or workmanship: Areas that have failed.
 - Exclusions: Theft or malicious damage.
- Method of making good: Rlaying artificial turf.
- Timing of making good: As soon as possible during the rectification period.

620A MAINTAINING ARTIFICIAL TURFED AREAS

- Duration: Carry out the following operations from completion of turfing until: the end of the rectification period.
- Preparation: Remove all litter and debris.

Q31 External planting

GENERAL INFORMATION/ REQUIREMENTS

100 SITE PREPARATION GENERALLY AND SOILS

- All site preparation, planting and maintenance works shall be carried out in accordance with British Standards BS 4428:1989 Code of Practice for General Landscape Operations (excluding hard surfaces)
- All trees and plants supplied shall comply with the requirements of all parts of British Standards 3936 Specification for Nursery Stock, BS 8545:2014 Trees: from nursery to independence in the landscape. Recommendations and The National Plant Specification.
- All new tree planting shall be positioned in accordance with the requirements of Table A.1 of British Standards BS 5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations.

110 BEST PRACTICE

- Follow the recommendations set down in BS 4428: 'Code of Practice for General Landscape Operations' unless stated otherwise in this specification

111 TOPSOIL DEPTH

- Ensure the topsoil depth as specified in section Q28, as illustrated on drawings BMD.20.036.DR.P101, P102, P202 and P203

112 SITE CLEARANCE GENERALLY

- General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
- Stones: Remove those with any dimension exceeding 75 mm.
- Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Vegetation: Clear scrub to ground level by flail mowing and remove arisings.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
- Additional requirements: Remove all rhizomatous weeds.

118 SOIL CONDITIONS

- Soil for cultivating and planting: Moist, friable and (except in aquatic/ marginal planting) 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.

120 CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable.
 - Strong winds: Do not plant.

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 (including marginal): September/ October or March/ April.
- Container grown plants: At any time if ground and weather conditions are favourable.
 - Watering and weed control: Provide as necessary.
- Dried bulbs, corms and tubers: September/ October.
- Colchicum (crocus): July/ August.
- Green bulbs: After flowering in spring.
- Wildflower plugs: Late August to mid November or March/ April.
- Aquatic plants: May/ June or September/ October.

130 MECHANICAL TOOLS

- Restrictions: Do not use within 100 mm of tree and plant stems or within canopies of retained and protected trees.

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.

160 NOTICE

- Give notice before:
 - Setting out.
 - Applying herbicide.
 - Applying fertilizer.
 - Delivery of plants/ trees.
 - Planting shrubs/plugs.
 - Planting trees into previously dug pits.
 - Watering.
 - Visiting site during maintenance period.
- Period of notice: One week.

165 PREPARATION, PLANTING AND MULCHING MATERIALS

- General: Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Certification of source, analysis, suitability for purpose and absence of harmful substances: Submit.
 - Certified materials: Spent mushroom compost.
 - Give notice before ordering or using.

200 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.
 - Root system and condition: Balanced with branch system.
 - Standard: The National Plant Specification.
 - Species: True to name.
 - Origin/ Provenance: British grown.
- Definition: Origin and Provenance have the meaning given in the National Plant Specification.

215 PLANTS/ TREES - SPECIFICATION CRITERIA

- Name, forms, dimensions, provenance and other criteria: As scheduled and defined in the National Plant Specification.

235 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.

245 LABELLING AND INFORMATION

- 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.
- Additional information: Submit on request: Country of origin and Date supplied and consignment details or reference.

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.
- Approval: Obtain before making any substitution.

265 PLANT HANDLING, STORAGE TRANSPORT AND PLANTING

- Standard: To HTA 'Handling and establishing landscape plants'.
- Frost: Protect plants from frost.
- Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
- Plant packaging: Coextruded polyethylene bags with black interior and white exterior.
- Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped.
- Planting: 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.

290 SURPLUS MATERIAL

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

PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS

305 WEED CONTROL FOR INVASIVE NON-NATIVE WEEDS

- Locations: All planting areas.
- General: Prevent weeds from seeding and perennial weeds from becoming established by contractor's choice of herbicide.

375 CULTIVATION

- As clause Q28:680

PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS

405 PLANTING PITS

- Timing: Excavate 1-2 days (maximum) before planting.
- Sizes: Wide enough to accommodate roots when fully spread and 75 mm deeper than root system.
- Pit bottom improvement Break up to a depth of 150 mm, incorporating 25 g of slow release fertilizer per planting pit.
- Backfilling material: Reuse excavated material.

470 FORMAL HEDGES

- Shrubs for hedges: Consistent in species, cultivar and clone to ensure a uniform hedge.
- Planting: In trenches large enough to take full spread of roots. Set out plants evenly.

476 SHRUB, HERBACEOUS AND BULB BACKFILLING MATERIAL

- Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil as required:
- Ameliorant/ Conditioner: Not required.
 - Application rate: To manufacturer's/ supplier's recommendations.
- Fertilizer: Slow release.
 - Application rate: To manufacturer's/ supplier's recommendations.

482 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.

485 MULCHING PLANTING BEDS

- Supplier:
Melcourt Industries Limited, Boldridge Brake, Long Newnton, Tetbury, Gloucestershire.
GL8 8RT
Tel: +44(0)1666 502711 Fax: +44(0)1666 504398 Email: mail @ melcourt.co.uk
- Material: Melcourt ornamental bark mulch or equivalent.
 - Purity: Free of pests, disease, fungus and weeds.
- Preparation: Clear all weeds. Water soil thoroughly.
- Coverage: 75 mm depth.

PLANTING TREES**509 TREE PITS**

- For tree pit details refer to drawings BMD.20.036.DR.P203

511 TREE PIT ROOT BARRIERS

- Locations: Installed where tree is located adjacent to buildings, services and drainage runs
- Manufacturer: GreenBlue Urban.
 - Web: www.greenblue.com
 - Email: enquiries@greenblueurban.com
 - Tel: +44 0800 018 7797
 - Address: Northpoint Compass Park, Junction Road, Bodiam TN32 5BS
 - Product reference: Re-Root 1000.
- Depth of top of root barrier below finished soil level: Flush.

512A TREE AERATION AND IRRIGATION SYSTEMS WITHIN TREE GRILLE

- Locations: For tree pit details refer to drawings BMD.20.036.DR.P203
- Manufacturer: GreenBlue Urban.
 - Web: www.greenblue.com
 - Email: enquiries@greenblueurban.com
 - Tel: +44 0800 018 7797
 - Address: Northpoint Compass Park, Junction Road, Bodiam TN32 5BS
- Product Reference: RRHYDR1A
- Typical installation: To suppliers requirements.

513 TREE AERATION AND IRRIGATION SYSTEMS

- Manufacturer: GreenBlue Urban.
 - Web: www.greenblue.com
 - Email: enquiries@greenblueurban.com
 - Tel: +44 0800 018 7797
 - Address: Northpoint Compass Park, Junction Road, Bodiam TN32 5BS
- Product reference: RRURB1A.
- Typical installation: To suppliers requirements.

- 515 TREE PIT / PODIUM DECK DRAINAGE LAYER
- To structural engineers specification and detail
 - Geotextile filter:
 - Manufacturer: Terram or similar
 - Position: Lay over aggregate before installing tree and backfill.
- 524 UNDERGROUND GUYING SEMI MATURE TREES (20CM+ GIRTH)
- Rootball fixing system 'PLATI-MAT' by Platipus using deadman anchors
 - Deadman anchor system:
 - Product code: RF2P
 - Installed to manufacturers instructions
 - Platipus Anchors Limited
Kingsfield Business Centre,
Philanthropic Road,
REDHILL,
Surrey,
RH1 4DP
 - Tel: +44 (0) 1737 762300
 - www.platipus-anchors.com
- 525 UNDERGROUND GUYING MULTI-STEM TREES
- Rootball fixing system 'PLATI-MAT' by Platipus using deadman anchors
 - Deadman anchor system:
 - Product code: RF1P
 - Installed to manufacturers instruction's
 - Platipus Anchors Limited
Kingsfield Business Centre,
Philanthropic Road,
REDHILL,
Surrey,
RH1 4DP
 - Tel: +44 (0) 1737 762300
 - www.platipus-anchors.com
- 587 TREE BACKFILLING MATERIAL
- Topsoil as clause Q28:333A
 - Washed sand as clause Q28:345

PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS

- 705 MAINTENANCE
- Duration: Carry out the operations in the following clauses from completion of planting until the end of the rectification period.
 - Duration of the rectification period for the following items:
 - Turf in public & communal areas: 12 months
 - General Planting in public & communal areas: 12 months
 - Trees in public & communal areas: 24 months
 - Semi-mature trees in public & communal areas: 36 months
 - Frequency of maintenance visits: In accordance with the agreed maintenance schedule.

720 FAILURES OF PLANTING

- Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
 - Exclusions: Theft or malicious damage after completion.
 - Rectification: Replace with equivalent plants/ trees/ shrubs.
- Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
- Timing of making good: During the next suitable planting season.

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.

750 PLANTING MAINTENANCE GENERALLY

- Weed control: Maintain weed free area around each tree and shrub.
 - Diameter (minimum): The larger of 1 m or the surface of original planting pit.
 - Keep planting beds clear of weeds: By hand weeding and maintaining full thickness of mulch.
- 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.
- Staking: Check condition of stakes, ties, guys and guards.
 - Broken or missing items: Replace.
 - Rubbing: Prevent.
 - Ties: Adjust to accommodate growth.
 - Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
 - Frequency of checks: At each scheduled maintenance visit.
- Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
- Watering: Ensure that sufficient water is applied to maintain healthy growth.

760 PLANTING MAINTENANCE - PRUNING

- General: Prune to promote healthy growth and natural shape.
 - Dead, dying, diseased wood and suckers: Remove.
 - Timing: As appropriate to the species.
 - Trees: Favour a single central leading shoot.
- Arisings: Remove.

780 MAINTENANCE INSTRUCTIONS

- General: Before end of the maintenance period, submit printed instructions recommending procedures to be established by the Employer for maintenance of the planting work for one full year: Provide a schedule of any ongoing maintenance problems experienced during the rectification period.

790 FINAL MULCHING

- Timing: At end of the maintenance period.
- Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
- Planting beds: Remulch.
Depth (minimum): 75 mm.
- Trees: Remulch.
Depth (minimum): 75 mm.

Q35 Landscape maintenance

GENERALLY

102 MAINTENANCE DURATION

- Public / communal areas: 5 years post practical completion

106 MAINTENANCE OBJECTIVES

- Key Objectives:
 - To ensure the successful establishment and continued growth through to maturity of the trees and planting as identified on drawings BMD.20.036.DR.P301 & P302
 - To ensure that the landscape develops in a manner commensurate with the original design intentions.
 - To secure a long term future for the new trees and planting with particular emphasis upon achieving enhancement of visual amenity.
 - To achieve rapid establishment of the plant material with resultant total ground cover, thereby suppressing weed growth and reducing maintenance requirements.
 - To retain the natural growth form and maximise the seasonal potential of individual species by the pruning methods adopted.
 - To manage the landscape in a manner convivial with the safety of site users, such as maintaining good surveillance and the removal of dead, dying or diseased plant material.
 - To maintain the high visual quality of hard landscaping by managing weed growth, excessive buildup of dirt / staining and removal of rubbish.
- General Maintenance Requirements:

There are a number of general prescriptions that apply to management of the development. These are:

 - All legally designated weeds shall be controlled
 - Vegetation, which suppresses or otherwise inhibits the development of planted species and proper management of habitats shall be restricted and/or removed
 - Any species which colonise the site, and are incongruous with the planting scheme shall be removed
 - All herbicides will be systemic, biodegradable and only used where necessary and appropriate
 - All areas will be subject to a regular system of litter collection and removal

110 NOTICE

- Give notice before:
 - Application of herbicide.
 - Application of fertilizer.
 - Watering.
 - Each site maintenance visit.
- Period of notice: 2 days.

130 REINSTATEMENT

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

- 156 **WATERING**
 - Supply: from taps located in external areas throughout the site. Refer to M&E Engineer's drawings for locations.
 - Quantity: Wet to field capacity.
 - Application: Do not damage or loosen plants.
 - Compacted soil: Loosen or scoop out, to direct water to rootzone.
 - Frequency:
 - As maintenance schedule.
 - In periods of summer drought extra waterings should be provided beyond the maintenance schedule.

- 160 **WATER RESTRICTIONS**
 - General: If water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.

- 171 **DISPOSAL OF ARISING**
 - General: Unless specified otherwise, dispose of arisings as follows:
 - Biodegradable arisings: Remove to recycling facility.
 - Tree roots and stumps: Remove from site.
 - Shrub and tree prunings: Remove to recycling facility.
 - Litter and nonbiodegradable arisings: Remove from site.

- 180 **CHIPPING OR SHREDDING**
 - General: Not permitted on site.

- 181 **MECHANICAL EQUIPMENT**
 - General: Minimize.
 - Prohibited equipment: Chippers.
 - Timing: In accordance with permissible working hours set out by Reading Borough Council .

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

- 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.

- 226 **TREE STEMS**
 - Precautions: Do not allow nylon filament rotary cutters and other mechanical tools closer than 100 mm to the stem of any tree.
 - Operations close to stems: Complete using hand tools.

- 250 **LEAF REMOVAL**
 - Operations: Collect fallen leaves.
 - Special requirements: None.
 - Disposal: Remove from site for recycling.

381A REINSTATEMENT OF WORN OR DAMAGED ARTIFICIAL LAWNS

- Worn or damaged areas: Make good by replacing and relaying artificial turf:
- Artificial turf: To match existing in appearance and quality.

SHRUBS/TREES/HEDGES**500 ESTABLISHMENT OF NEW PLANTING**

- Duration: Two years from date of practical completion.
- Weed control:
 - Method: Keep planting beds clear of weeds by maintaining full thickness of mulch.
 - Area: 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: Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
- Watering: As necessary for the continued thriving of all planting.

502 ESTABLISHMENT OF NEW PLANTING - FERTILIZER

- Time of year: March or April.
- Type: Slow release.
- Spreading: Spread evenly. Carefully lift and replace any mulch materials.
 - Application rate: As manufacturer's recommendations.

516 TREE GUY WIRES

- Inspection/ Maintenance times: Immediately after strong winds.
- Operations:
 - Replace or re-secure loose or missing guy wires.
 - Adjust to suit stem growth and to provide correct and uniform tension.

520 REFIRMING OF TREES AND SHRUBS

- Timing: 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.

540 PRUNING GENERALLY

- Pruning: In accordance with good horticultural and arboricultural practice.
 - Removing branches: Do not damage or tear the stem or bark.
 - 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.
- 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 infection: Give notice if detected.
- Growth retardants, fungicide or pruning sealant: Do not use unless instructed.

- 545 PRUNING OF EXCESSIVE OVERHANG
 - Timing: Annually.
 - Operations: Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.
 - Special requirements: Allow ground cover plants to partially overlap paths and lawns.
- 555 PRUNING TREES AND SHRUBS
 - Standard: To BS 7370-4.
 - Special requirements: Growth retardants not permitted.
- 570 FORMATIVE PRUNING OF YOUNG TREES
 - Standard: Type and timing of pruning operations to suit the plant species.
 - 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 by one third 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.
 - Whips or feathered trees: Do not prune.
 - Operatives: Approved specialist contractor.
- 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.
- 580 PRUNING FLOWERING SPECIES OF SHRUBS AND ROSES
 - Time of year:
 - Winter flowering shrubs: Spring.
 - Shrubs flowering between March and July: Immediately after the flowering period.
 - Shrubs flowering between July and October: Back to old wood in winter.
 - Rose bushes: Early spring to encourage basal growths and a balanced, compact habit.
- 606 TRIMMING HEDGES
 - Operations:
 - Timing: Cut back in June and September to encourage bushy growth and maintain tidy appearance.
- 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.
- 630 DEAD AND DISEASED PLANTS
 - Removal: As soon as possible.
 - Replacement: In the next suitable planting season.

- 635 REINSTATEMENT OF SHRUB/ HERBACEOUS AREAS
- Dead and damaged plants: Remove.
 - Mulch/ matting materials:
 - 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: None.
 - Dressing: Slow release fertilizer:
 - Type: Contractor's choice.
 - Application rate: As manufacturer's recommendations.
- 645 WEED CONTROL GENERALLY
- Weed tolerance: At all times, weed cover less than 5% and no weed to exceed 100 mm high.
 - Adjacent plants, trees and grass: Do not damage.
- 650 HAND WEEDING
- General: Remove weeds entirely, 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.
 - Mulch: Reinstate to original depth.
- 680 SOIL AERATION
- Compacted soil surfaces:
 - Prick up: To aerate the soil of root areas and break surface crust.
 - Size of lumps: Reduce to crumb and level off.
 - Damage: 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.
- 690 MAINTENANCE OF LOOSE MULCH
- Thickness (minimum): 75 mm.
 - Top up: Annually.
 - Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
 - Weeding: Remove weeds growing on or in mulch by hand weeding.
- 695 FERTILIZING ESTABLISHED TREES AND SHRUBS
- Time of year: During April or May.
 - Type of fertilizer: Slow release.
 - Application: Spread evenly.
 - Rate: As manufacturer's recommendations.

TREE WORK**810 TREE WORK GENERALLY**

- Identification: Before starting work agree which trees, shrubs and hedges are to be removed or pruned.
- Protection: Avoid damage to neighbouring trees, plants and property.
- Standards: To BS 3998 and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'.
- Removing branches: Cut as Arboricultural Association Leaflet 'Mature tree management'. 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.

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 to be removed if required to facilitate proper inspection of tree or if pose risk to tree safety.

835 CUTTING AND PRUNING GENERALLY

- Tools: Appropriate, well maintained and sharp.
- Final pruning cuts:
 - Chainsaws: Do not use on branches of less than 50 mm diameter.
 - Hand saws: Form a smooth cut surface.
 - Anvil type secateurs: Do not use.
- 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 only if unavoidable & with supervision of a qualified Arborist.
 - 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.

845 CROWN LIFTING

- Clearances: Remove branch systems to give clearance.
 - Height: 2.5 m above footpaths.
- 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.

855 CUTTING TREE ROOTS

- Excavating: Use hand tools only.
- Protected area: Do not cut roots 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 50 mm in diameter. Do not cut without approval.
- Cutting:
 - Cutting: Make clean smooth cuts with a hand saw.
 - Wounds: Minimize. Avoid ragged edges.
 - Finishing: Pare cut surfaces smooth with a sharp knife.
- Backfilling:
 - Protection: Cover cut roots with clean sharp sand.
 - Material: Backfill with original topsoil.

860 REMOVING TREES, SHRUBS AND HEDGES

- Standards: To BS 3998, Appendix A and Health & Safety Executive (HSE)/ Arboricultural and Forestry Advisory Group Safety Leaflets.
- Existing services: Check for below and above ground services. Give notice if they may be affected.
- Shrubs and smaller trees: Cut down and grub up roots.
- Tree stumps:
 - Removal: Remove mechanically to a minimum depth of 300 mm below ground level.
 - Removal by winching: Give notice. Do not use other trees as supports or anchors.
- Protection: Avoid damage to neighbouring trees, plants and property.
- Work near retained trees: Where tree canopies overlap and in confined spaces generally, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
- Filling holes:
 - Material: Use as-dug material and/ or imported soil as required.
 - Finishing: Consolidate and grade to marry in with surrounding ground level.

865 BARK DAMAGE

- Wounds:
 - Do not attempt to stop sap bleeding.
 - Bark: Remove ragged edges using a sharp knife.
 - Wood: Remove splintered wood from deep wounds.
 - Size: 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.
- Cavity openings: Do not cover.

HARD LANDSCAPE AREAS/FENCING

- 910 **HARD SURFACES AND GRAVEL AREAS**
- Herbicide: Apply a suitable foliar acting or residual herbicide. Allow recommended period for herbicide to take effect before clearing arisings.
 - Hard surfaces: Remove litter, leaves and other debris.
 - Surface gutters and channels: Remove mud, silt and debris.
 - Drainage gullies: Empty traps and flush clean.
 - Gravel areas: Rake over. Remove weeds, litter, leaves and debris, and level off.
 - Repairs to flexible bituminous pavings: In accordance with the original paving specification or BS 7370-2, clause 4.12.
 - Stain removal: In accordance with BS 7370-2, table 4.
- 921 **GATES TO PRIVATE TERRACE GARDENS**
- GATES: Inspect and repair to maintain its appearance and function
- 930 **GRAFFITI REMOVAL**
- Method: Chemical poultice.
 - Subsequent treatment: Not required.

Q50

Site/street furniture/equipment

Q50 Site/street furniture/equipment**121 PPC 900MM HIGH GATE TO PRIVATE TERRACE GARDENS**

- Location: Refer to landscape general arrangement drawings BMD.20.036.DR.P101 & P102
- Manufacturer: Alpha Rail
Nunn Brook Rise,
County Estate, Huthwaite,
Nottinghamshire,
NG17 2PD
 - Web: www.alpharail.co.uk
 - Tel: 01623 750 214
 - Email: websales@alpharail.co.uk
- Produce reference:
- Standard: To BS 4092-1.
- Material Galvanised Steel
- Jointing: Welded.
- Finish: Polyester powder coated
- Colour: RAL colour to match architectural finish.
- Fittings and accessories: Supplier to propose, for Landscape Architect and client approval.
- Method of setting posts: Supplier to propose, for Landscape Architect and client approval.

123 HIT & MISS PRIVACY SCREEN TO PRIVATE TERRACE GARDENS

- Location: Refer to landscape general arrangement drawings BMD.20.036.DR.P101 & P102
- Manufacturer: Jacksons Fencing
Stowting Common
Ashford
Kent
TN25 6BN
 - Web: www.jacksons-fencing.co.uk
 - Tel: 08004082234
 - Email: purchasing@jacksons-fencing.co.uk
- Produce reference: Venetian Hit & Miss Fence Panels
- Standard: To BS 4092-1.
- Material: Hardwood Timber
- Height: 1500mm
- Fittings and accessories: Supplier to propose, for Landscape Architect and client approval.
- Method of installation: Supplier to propose, for Landscape Architect and client approval.

220A BENCH SEATING

- Manufacturer: MMCITE
Exchange House, Regus
494 Midsummer Boulevard
Milton Keynes
Buckinghamshire
MK9 2EA
United Kingdom
- Web: www.mmcite.com
- Tel: +44 7401 575 290
- Email: enquiry@mmcite.co.uk
- Product reference: PQA154r Portiqoa Timber Hardwood Bench with Backrest
- Material: Timber lamellas on alluminium alloy casts.
 - Dimensions: Variable lengths x 650 x 770mm, see drawings BMD.20.036.DR.P101 and P102
- Fixing: Bolted to base plate as manufacturer's instructions. Concrete foundations to manufacturer's requirements and to Structural Engineer's approval.

365 PLAY TIMBER LOG TRAIL

- Manufacturer: Duncan & Grove.
34 Stephenson Way
Three Bridges
West Sussex
RH10 1TN
United Kingdom
Tel: +44 (0) 20 7112 7551
Web: www.duncanandgrove.com
 - Product reference: TT.2.06
- Material: BS EN 350-02 Class 1 Robinia Timber.

365 PLAY TIMBER JUMPING BLOCKS

- Manufacturer: Jupiter Play
9 Ainslie Place
Edinburgh
EH3 6AT
United Kingdom
Tel: 0131 445 7989
Web: www.jupiterplay.co.uk
 - Product reference: 906110300R
- Material: BS EN 350-02 Class 1 Robinia Timber.
- Approximate size: Various heights
- Setting out: minimum 600mm spacing between blocks

INSTALLATION

510 CONCRETE FOUNDATIONS GENERALLY

- Refer to Structural Engineer's specification and details
- Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

511 TIMBER POSTS TO PLAY EQUIPMENT

- Fixed to podium structural slab using bespoke post shoes, to supplier requirements, fixed to slab to structural engineer's design and specification

530 PRESERVATIVE TREATED TIMBER

- Surfaces exposed by minor cutting and drilling: Treated by immersion or with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.
- Heavily worked sections: Re-treat.

550 DAMAGE TO GALVANIZED SURFACES

- Minor damage in areas up to 40 mm² (including on fixings and fittings): Make good.
 - Material: Low melting point zinc alloy repair rods or powders made for this purpose or at least two coats of zinc-rich paint to BS 4652.
 - Thickness: Sufficient to provide a zinc coating at least equal to the original layer.

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