

SPECIFICATION EXTERNAL WORKS

Specification Revision History

No.	Purpose	
REV 00	DETAILS FOR PLANNING - DRAFT	25 th July 2022
REV 01	DETAILS FOR PLANNING	02 nd September 2022

Clauses amended

No.	Clause	
Q23/225C	RESIN BONDED GRAVEL TO ACCESS ROAD	Clause omitted
Q40	FENCING	Clause omitted
Q23/225A	PROPRIETARY RESIN BOUND CHIPPINGS	Clause added

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A Preliminaries

A10 General

10A GENERAL REQUIREMENTS

- The External Works Specification should be read in conjunction with ALL Landscape drawings and schedules and work should be carried out in accordance with the standards set out in the Specification. The External Works Specification should be read in conjunction with all other consultant's specifications. Work should be carried out in accordance with the standards set out in these specifications.
- The scope of this specification is limited to;
 - External surface finishes
 - Boundary treatment
 - Furniture
 - Planting and soft elements
- The following is specifically excluded from the scope:
 - Drainage, insulation, all paving buildups and other civil engineering aspects.
 - Furniture fixings - to engineer's specification and/or manufacturers details as indicated

D Groundwork

D20 Excavating and filling

GENERALLY / THE SITE

145 VARIATIONS IN GROUND WATER LEVEL

- Give notice: If levels encountered are significantly different from levels in the site investigation report or previously measured.

CLEARANCE/EXCAVATING

164 TREE ROOTS

- No excavation or construction work to take place within RPAs of trees to be retained prior to preparation of an Arboricultural Method Statement by a qualified Arboriculturalist.
- Pending detailed survey as part of AMS, protected areas to be measured as a circle around each tree of radius 4 times trunk girth, measured 1.5 m above ground level

168 SITE CLEARANCE

- Timing: Before topsoil stripping, if any.
- General: Clear site of rubbish, debris and vegetation. Do not compact topsoil.
- Treatment: Apply a suitable non-residual herbicide to areas to receive planting.

170 REMOVING SMALL TREES, SHRUBS, HEDGES AND ROOTS

- Identification: Clearly mark trees to be removed.
- Small trees, shrubs and hedges: Cut down
- Roots: Grub up and dispose of without undue disturbance of soil and adjacent areas
- Safety: Comply with HSE/ Arboriculture and Forestry Advisory Group safety leaflets.

175 FELLING LARGE TREES

- Definition: Girth over 600 mm.
- Identification: Clearly mark trees to be removed.
- Safety: Comply with HSE/ Arboriculture and Forestry Advisory Group safety leaflets.
- Felling: As close to the ground as possible.
- Stumps: Remove mechanically to a minimum depth of 300 mm below ground level.
- Work near retained trees: Take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained, where tree canopies overlap and in confined spaces generally.

180 CHIPPING AND SHREDDING

- General: Permitted, remove arisings from site.

220 STRIPPING TOPSOIL

- General: Before beginning general excavation or filling, strip topsoil from areas where there will be regrading, buildings, pavings/ roads and other areas shown on drawings.
- Depth:
 - Remove to an average depth of 300 mm.
 - Give notice where the depth of topsoil is difficult to determine.
- Handling: Handle topsoil for reuse or sale in accordance with clause 225.
- Around trees: Do not remove topsoil from below the spread of trees to be retained.
- Site storage: Keep separate from excavated sub-soil.

221 TREATING TOPSOIL

- Treatment: Apply a suitable translocated non residual herbicide.
- Timing: Not less than two weeks before excavating topsoil.

225 HANDLING TOPSOIL

- Standard: To BS 3882.
- Aggressive weeds:
 - Species: Included in the Weeds Act, section 2 or the appropriate Wildlife and Countryside Act for the relevant jurisdiction.
 - Give notice: Obtain instructions before moving topsoil.
- Contamination: Do not mix topsoil with:
 - Subsoil, stone, hardcore, rubbish or material from demolition work.
 - Other soil or material containing aggressive weeds, sharps, plastics and non soil forming materials and notifiable animal or plant diseases.
 - Oil, fuel, cement or other substances harmful to plant growth.
 - Other classifications of topsoil.
- Multiple handling: Keep to a minimum. Use topsoil immediately after stripping.

270 FOUNDATIONS GENERALLY

- Give notice if:
 - A natural bearing formation of undisturbed subsoil is not obtained at the depth shown on the drawings.
 - The formation contains soft or hard spots or highly variable material.

310 UNSTABLE GROUND

- Generally: Ensure that the excavation remains stable at all times.
- Give notice: Without delay if any newly excavated faces are too unstable to allow earthwork support to be inserted.
- Take action: If instability is likely to affect adjacent structures or roadways, take appropriate emergency action.

330 UNRECORDED FEATURES

- Give notice: If unrecorded foundations, beds, voids, basements, filling, tanks, pipes, cables, drains, manholes, watercourses, ditches, etc. not shown on the drawings are encountered.

370 UNDERGROUND STRUCTURES IN LANDSCAPE AREAS

- Generally: Remove walls, roads, foundations, disused services, drains, manholes and the like to minimum depth.
- Minimum depth below finished levels:
 - Grass, ground cover and perennial planting: 500 mm.
 - Shrub planting: 750 mm.
 - Within 2 m of tree planting: 1000 mm.

DISPOSAL OF MATERIALS**420 TOPSOIL STORAGE HEAPS**

- Location: to be advised by Contractor.
- Standard: To BS 3882.
- Height (maximum): 1m.
- Protection:
 - Do not place any other material on top of storage heaps.
 - Do not allow construction plant to pass over storage heaps.
 - Prevent compaction and contamination.

421 TOPSOIL STORAGE HEAP TREATMENT

- Treatment: Apply a suitable herbicide at appropriate times to prevent seeding of weeds .

441 SURPLUS SUBSOIL

- Excavated material: Stockpile in temporary storage heaps.

- Retained material: Spread and level surplus subsoil on site.
- Locations: to be agreed.
- Protected areas: Do not raise soil level within root spread of trees that are to be retained.
- Remaining material: Remove from site.

450 WATER

- Generally: Keep all excavations free from water until:
 - Formations are covered.
 - Below ground constructions are completed.
 - Basement structures and retaining walls are able to resist leakage, water pressure and flotation.
- Drainage: Form surfaces of excavations and fill to provide adequate falls.
- Removal of water: Provide temporary drains, sumps and pumping as necessary. Do not pollute watercourses with silt laden water.

454 GROUND WATER LEVEL, SPRING OR RUNNING WATER

- Give notice: If it is considered that the excavations are below the water table.
- Springs/ Running water: Give notice immediately if encountered.

FILLING

510 HAZARDOUS, AGGRESSIVE OR UNSTABLE MATERIALS

- General: Do not use fill materials which would, either in themselves or in combination with other materials or ground water, give rise to a health hazard, damage to building structures or instability in the filling, including material that is:
 - Frozen or containing ice.
 - Organic.
 - Contaminated or noxious.
 - Susceptible to spontaneous combustion.
 - Likely to erode or decay and cause voids.
 - With excessive moisture content, slurry, mud or from marshes or bogs.
 - Clay of liquid limit exceeding 80 and/or plasticity index exceeding 55.
 - Unacceptable, class U2 as defined in the Highways Agency 'Specification for highway works', clause 601.

530 PLACING FILL

- Surfaces of excavations and areas to be filled: Free from loose soil, topsoil, organic

material, rubbish and standing water.

- Freezing conditions: Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.
- Adjacent structures, membranes and buried services:
 - Do not overload, destabilise, or damage.
 - Submit proposals for temporary support necessary to ensure stability during filling.
 - Allow 14 days (minimum) before backfilling against in situ concrete structures.
- Layers: Place so that only one type of material occurs in each layer.
- Earthmoving equipment: Vary route to avoid rutting.

535 COMPACTION GENERALLY

- General: Compact fill not specified to be left loose as soon as possible after placing.
- After compaction: Surface of each layer must be well closed, showing no movement under compaction plant, and without cracks, holes, ridges, loose material and the like.
- Defective areas: Remove and recompact to full thickness of layer using new material.

610 COMPACTED FILLING FOR LANDSCAPE AREAS

- Fill: Material capable of compaction by light earthmoving plant.
- Filling: Layers not more than 200 mm thick. Lightly compact each layer to produce a stable soil structure.

615 LOOSE TIP FILLING FOR LANDSCAPE AREAS

- Filling: Do not firm, consolidate, or compact when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

Q Paving/Planting/Fencing/Site furniture

Q10 Kerbs/ edgings/ channels/ paving accessories

To be read with Preliminaries/General conditions.

TYPES OF KERBS/EDGINGS AND CHANNELS

10A PRECAST CONCRETE KERB TYPE K1 REFER TO DRAWING 2021-07_L-ZZ-00-100

- Standard Channel. Hydraulically pressed precast concrete channels manufactured to BS EN 1340: 2003.
- Application: Square channels are typically used as a spacer between the kerb and the carriageway or for off road parking and lay-bys.
- Manufacturer: Marshalls plc.
Web: www.marshalls.co.uk.
Tel: +44 (0)330 0574472.
- Product reference: Square Channel.
- Standard: In accordance with BS EN 1340: 2003.
- Finish: Solid unit with pimple surface.
- Material: Concrete includes hydraulically pressed precast concrete.
- Shape: Straight, Flush Kerb.
- Dimensions: 150 x 150 mm.
- Weathering resistance: $\leq 1.0 \text{ kg/m}^2$ as a mean with no individual value $> 1.5 \text{ kg/m}^2$ (freeze thaw durability). It should be appreciated that with all products weathering and site conditions can cause shade variation to appear across the surface of individual units. This does not in any way affect the performance of the units and any such variation will diminish over a period of time as the product matures.
- Abrasion resistance: $\leq 23 \text{ mm}$ (Wide Wheel Abrasion Test).
- Unpolished Slip Resistance value (usrv) (minimum): To BS EN 1340.

10B PRECAST CONCRETE KERB TYPE K2 REFER TO DRAWING 2021-07_L-ZZ-00-100

- Standard Half-Battered Kerb. Hydraulically pressed precast concrete channels manufactured to BS EN 1340: 2003.
- Features and benefits: Sleek, highly durable and precision manufactured concrete kerb system. Provides long-term performance.
- Application: Suitable for use as a concrete kerb system.
- Manufacturer: Marshalls plc.
Web: www.marshalls.co.uk
Tel: +44 (0)330 0574472.
- Product reference: Half-battered Kerb.
- Standard: In accordance with BS EN 1340: 2003.
- Color: Grey.
- Finish: Solid unit with pimple surface.
- Material: Concrete includes hydraulically pressed precast concrete.
- Shape: Straight.
- Size: 125 x 150mm
- Weathering resistance: $\leq 1.0 \text{ kg/m}^2$ as a mean with no individual value $> 1.5 \text{ kg/m}^2$ (freeze thaw durability). It should be appreciated that with all products weathering and site conditions can cause shade variation to appear across the surface of

individual units. This does not in any way affect the performance of the units and any such variation will diminish over a period of time as the product matures.

- Abrasion resistance: ≤ 23 mm (Wide Wheel Abrasion Test).
- Unpolished Slip Resistance value (usrv) (minimum): To BS EN 1340. Mean unpolished skid resistance value (USRV): > 45 .

200A *METAL EDGE TYPE E1. REFER TO DRAWING 2021-07_L-ZZ-00-100*

- Standard: To BS EN 1338.
- Manufacturer: Kinley Systems Ltd, Northpoint, Compass Park, Junction Road, Bodiam, East Sussex, TN32 5BS.
- Product reference: Rigid AluExcel Edge (AE100RM).
- Size: 6.5mm thick, 100mm high.
- Type/ Material: Aluminium.
- Finish: Mill Finish.
- Colour: Natural.
- Accessories: Supplied with fixing stakes and connector strips to be installed as per manufacturer's recommendations.
- Bedding: As per manufacturer's recommendations.
- Joints: As per manufacturer's recommendations.
- Fixing: As per manufacturer's recommendations.

250 *MATERIAL SAMPLES*

- Samples representative of colour and appearance of designated materials: Submit before placing orders.
- Designated materials: All metal or timber kerbs and edges.

250A *RANGE SAMPLES*

- Range samples representative of the colour and appearance of designated materials: Submit before placing orders.
- Designated materials: [All natural stone kerbs and edgings] .
- Samples required to show the colour range plus any variations in the material that may naturally occur in the proposed materials (ie. veining, markings, etc).
- No material will be accepted that falls out of the approved sample range agreed with the supplier.

LAYING

510A *LAYING KERBS, EDGINGS AND CHANNELS*

- Cutting: Neat, accurate and without spalling. Form neat junctions.
 - Long units (450 mm and over) minimum length after cutting: 300 mm.
 - Short units' minimum length after cutting: The lower of one third of their original length or 50 mm.
- Bedding of units: Positioned true to line and levelled along top and front faces, in a mortar bed on accurately cast foundations or on a race of fresh concrete.
- Securing of units: After bedding has set, secured with a continuous haunching of concrete or on a race of fresh concrete with backing concrete cast monolithically.

520 *ADVERSE WEATHER*

- Conditions: Do not construct if the temperature is below 3°C on a falling thermometer or 1° C on a rising thermometer. Adequately protect foundations, bedding and haunching against frost and rapid drying by sun and wind.

610 ANGLE KERBS

- Usage: Internal and external 90° changes of direction.
- Cutting of mitres: Not permitted.

620 ACCURACY

- Deviations (maximum):
- Level: ± 6 mm.
- Horizontal and vertical alignment: 3 mm in 3 m.

625 REGULARITY OF PAVED SURFACES

- Maximum undulation of (non-tactile) paving surface: 3 mm.
- Method of measurement: Under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface).
- Difference in level between adjacent units (maximum):
- Joints flush with the surface: Twice the joint width (with 5 mm max difference in level).
- Recessed, filled joints: 2 mm. Recess depth (maximum): 5 mm.
- Unfilled joints: 2 mm.
- Sudden irregularities: Not permitted.

641A TOOLED COLOURED MORTAR JOINTS

- Jointing: Refer to Engineer's specification
- Mortar colour: To match jointing colour used for similar kerb units.

Q21 In situ concrete roads/ paving/ bases

To be read with Preliminaries/ General conditions.

125A CONCRETE GRASS-FILLED PAVING SYSTEMS REFER TO DRAWING 2021-07_L-ZZ-00-100

- Description: Lightweight Grasscrete void former, reinforcement mesh, concrete soil and seed options used to create a monolithic cellular reinforced paving area using in-situ concrete suitable for the following applications:
Vehicle parking,
Sustainable urban drainage systems (SUDS).
- Manufacturer: GrassConcrete
Web: www.grasscrete.com
Tel: +44 (0)1924 379443
- Product Reference: Grasscrete
GC1
600 x 600 x 100 mm. Vehicle weight (maximum): 13.3 tonnes. Point load 16.65 kN.
- Standard product features
- Lay formers: 600 x 600 mm recycled plastic formers in depths of 100 mm.
- Grassmix, Refer to planting schedule 2021-07_L-ZZ-00-600 : No.1 (For vehicular parking or amenity areas): 35 g/m² sowing rate.
50% perennial ryegrass.
20% slender creeping red fescue.
25% strong creeping red fescue.
5% browntop bent.

Q23 Gravel/ Hoggin/ Woodchip/ Resin bound roads/ paving/ overlays

To be read with Preliminaries/ General conditions.

160A SELF-BINDING GRAVEL PAVING TO REAR GARDEN. REFER TO DRAWING 2021-07_L-ZZ-00-100

- Gravel: Laid and compacted to manufacturer's detail and specification.
- Type: CEDEC.
- Source: CED Stone Group, or equal and approved.
- Colour: Gold.
- Size: 6mm to fines.
- Thickness: 50mm compacted thickness.
- Laying: As per manufacturer's recommendations, compacted in layers.
- Sub-base: Refer to Engineer's specification.

225A PROPRIETARY RESIN BOUND CHIPPINGS TO ACCESS ROAD REFER TO DRAWING 2021-07_L-ZZ-00-100

- Sub-base, Base courses and layers thickness: refer to structural engineers detail and specification.
- Surface course:
 - Manufacturer: Sureset, www.dekorgrip.com or similar.
- Product reference: Sureset Resin Bound Natural Aggregate.
- Slip/ skid resistance: PTV to BS 7976-2 of 40 (water) wet.
- Binder: to manufacturers specification.
- Chippings: Angular chippings.
- Colour: Natural Aggregates Aztec Gold.
- Aggregate size: 6 mm.
- Application: Thoroughly mixed and uniformly spread.
- Compaction to all layers: By heavy roller or other appropriate means, adequate to resist subsidence or deformation of the completed roads/ pavings when in use.
- Edging: Precast Concrete Flush Kerb as Q10/10A

280A GEOTEXTILE FILTER MEMBRANE

- Manufacturer: TERRAM Fiberweb Geosynthetics Ltd A PGI Business Blackwater Trading Estate The Causeway Maldon Essex CM9 4GG
Tel: +44(0) 1621 874200
- email: info@terram.com
- Product: Terram 1000

LAYING

315 MATERIALS

- Compatibility: Chippings suitable for use with respective binders/ emulsions/ resin/ epoxy.

320 SAMPLES

- Submit: Representative samples of all materials

340 LAYING GENERALLY

- Channels, gullies: Keep clear.

- Finished surfaces: As per manufacturer's recommendations.
- 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 paving.
- Cold bituminous surface dressings: Do not apply when ambient temperature is below 10°C.
- Other dressings or overlays: As manufacturers' recommendations.

360 *DRAINAGE FALLS*

- Sealed surfaces:
- Falls and cross falls (minimum): 1:40.
- Camber (minimum): 1:50.
- Unsealed surfaces (minimum): 1:30.

370 *LAYING GRANULAR SURFACES IN VEHICULAR AREAS*

- Permissible deviation from required levels, falls and cambers (maximum): ± 20 mm.
- General: Spread and level in 150 mm maximum layers. As soon as possible compact each layer.
- Dry weather: Lightly water layers during compaction.

Q28 Topsoil and soil ameliorants

SYSTEM OUTLINE

125A *GREEN ROOF GROWING MEDIA SYSTEM TO FT4 CYCLE SHELTER*

- Product: Bauder extensive green roof substrate or similar
- Supplier: Bauder or similar

135A *NATURALLY OCCURRING SOIL SYSTEM FOR ALL PLANTING BEDS*

- Composition:
 - Topsoil: Imported topsoil to BS 3882.
 - Ameliorants: Fertilizer.
 - Accessories: None.

155A *MULCHING AND TOP DRESSING SYSTEM FOR SHRUB BEDS*

- Manufacturer: Contractors choice.
- Product reference: Bark mulch.
- Grade: Ornamental.
- Depth: 50mm

273 *FERTILISER FOR AMENITY GRASS*

- Type: Everris Sportsmaster Pre-seeder (8%N:12%P₂O₅:8%K₂O+3%MgO)

PRODUCTS

310 MATERIALS NOT PERMITTED

- Materials: Products containing peat and River and canal dredging.

315 IMPORTED TOPSOIL TO BS 3882 FOR ALL PLANTING BEDS

- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
- Standard: To BS 3882.
- Classification: Multipurpose.
- Grade: Within the parameters of 'sandy loam' textural class.
- Source: Contractor's choice.
- Product reference: Contractor's choice.

395 PEAT

- Peat or products containing peat: Do not use.

EXECUTION

610 TOPSOIL ANALYSIS

- Soil to be analysed: Imported topsoil.
- Soil analyst: contractors proposals.
- Samples: Collect in accordance with BS 3882.
- Submit:
 - Declaration of analysis: Maximum stone content, stone size and pH value and Nutrient content, pH value and textural classification.
 - Report detailing soil analyst's recommendations.

620 IMPORTING TOPSOIL

- Give notice: Before stripping topsoil for transfer to site.
- Notice period: 5 days.

625 SAMPLE LOADS FOR IMPORTED TOPSOIL

- Deliver to site a sample load: of 5 kg.
- Give notice: Allow inspection before making further deliveries to site. Retain for comparison with subsequent loads.
- Notice period: 7 days.

635 DOCUMENTATION FOR ALL IMPORTED SOIL MATERIALS

- The Contractor shall provide the Client's Representative with a report for each source and type of soil to be imported.
- Timing: 2 weeks 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;
 - Description of the soil material and components used;
 - Volume of the soil/compost in each stockpile and number of samples taken;
 - A plan and sketches detailing the locations where the samples were taken;
 - Photographs of the stockpile and the soils/compost;
 - Visual examination;
 - Certificates of Analysis;
- Interpretive Report to cover all results to confirm the suitability of the soils for the landscape scheme, and to provide recommendations for any treatments or additives.
- "Number of copies: 1 hard copy and 1 electronic copy (PDF format)

655 SOIL HANDLING: Multiple handling

- Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately. It is important to avoid physical degradation to the soil during all phases of soil handling (e.g. 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) unless authorised by the Soil Scientist.
- Plant: Select and use plant to minimise disturbance, trafficking and compaction.
- Contamination: Do not mix topsoil, rootzone or subsoil with:
 - Stone, hardcore, rubbish or material from demolition work.
 - Other grades of topsoil.
- Soil shall not be unnecessarily compacted by trampling or trafficking by site machinery.
- Soil shall not be handled when frozen unless authorised by the 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.

660 GRADING SUBSOIL

- General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
- Loosening:
 - Light and non-cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - Stiff clay and cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Areas of thicker topsoil: Excavate locally.

- Avoid over compaction.

665 SUBSOIL SURFACE PREPARATION

- General: Excavate and/ or place fill to required profiles and levels, as section D20.
- Loosening:
 - Light and non-cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - Stiff clay and cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Stones: Immediately before spreading topsoil, remove stones larger than 100 mm.
- Remove from site: Arisings, contaminants and debris and Builders rubble.

670 INSPECTING FORMATIONS

- Give notice: Before spreading topsoil for lawn areas and planting beds.
- Notice period: 14 days.

680 SURPLUS TOPSOIL TO BE RETAINED

- Generally: Spread and level on site:
 - Locations: Any areas where topsoil is required for new planting.
 - Protected areas: Do not raise soil level within root spread of trees that are to be retained.

690 TOPSOIL STORAGE HEAPS

- Location: Contractor to confirm.
- Height (maximum): 1.5 m.
- Width (maximum): 5.0 m.
- Formation: Loose tip and shape from the side only, without running machinery on the heap at any time.
- Protection:
 - Do not place any other material on top of storage heaps.
 - Do not allow construction plant to pass over storage heaps.
 - Prevent compaction and contamination, by fencing and covering as appropriate.

700 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.
- Give notice: If required levels cannot be achieved by movement of existing soil.

705 HANDLING TOPSOIL

- Aggressive weeds: Give notice and obtain instructions before moving topsoil.
- Plant: Select and use plant to minimize 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.
- Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than the plastic limit less 3%, to BS 1377-2.

710 SPREADING TOPSOIL

- Temporary roads/ surfacing: Remove before spreading topsoil.
- Layers:
 - Depth (maximum): 150 mm.
 - Gently firm each layer before spreading the next.
- Depths after firming and settlement (minimum): 300 mm for shrub planting, 150mm for grassed areas, 600mm tree pits.
- Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 LOOSE TIPPING OF TOPSOIL

- General: Do not firm, consolidate or compact topsoil when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

720 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT

- Above adjoining paving or kerbs: 20 mm.
- Below dpc of adjoining buildings: Not less than 150 mm.
- Planting beds: Higher than adjoining grass areas by 25 mm.
- Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.

- Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
- Adjoining soil areas: Marry in.
- Thickness of turf or mulch: Included.

810 *USE OF FERTILISERS*

- The use of additional fertilisers or any other soil ameliorants is dependent on the findings of the soil tests (as presented for Q28/635 Documentation) and the written approval of the Soil Scientist.

820 *APPLYING GENERAL FERTILIZER TO ALL PLANTING BEDS*

- Application: Spread evenly, carefully incorporating below mulch materials.
- Timing: Immediately before cultivation.
- Application rate: to suppliers recommendations.
- Other requirements: none.

830 *APPLYING FERTILISER TO PROPOSED AMENITY GRASS AREAS*

- Apply and incorporate the pre-seeding grass fertiliser (ref: Q28/273) at a rate of 35 g/m² and to a depth of 50mm.
- Timing: Before final cultivation and 4-5 days before seeding / turfing.
- Spread evenly, in transverse directions.

845 *APPLYING LOOSE MULCH FOR PLANTING BEDS*

- Timing: Immediately after planting.
- Preparation: Clear all weeds.
- Coverage of mulch (minimum):
- Planting beds (depth): 50 mm depth.
- Trees: 50 mm depth.
- Container planting: n/a.
- Finished level of mulch: 30 mm below adjacent grassed or paved areas.

COMPLETION

920 *APPLYING MULCH*

- Timing: At end of the maintenance period.
- Watering: Ensure that soil is thoroughly moistened prior to mulching, applying water where necessary.
- Planting beds: Re-mulch.
- Depth (minimum): 50 mm.
- Trees: Remulch.
- Depth (minimum): 50 mm.

- Container planting: Remulch.
- Depth (minimum): n/a.
- Watering: as necessary to ensure thriving of grass.

Q30 Seeding/turfing

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/REQUIREMENTS

115 SEEDED AND 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.

120 CLIMATIC CONDITIONS

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

145 WATERING

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

148 DRAINAGE TO TURFING AREAS

- To project Engineer's details and specification.

150 WATER RESTRICTIONS

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

160 NOTICE

- Give notice before:
- Setting out.
- Applying herbicide.
- Applying fertilizer.
- Preparing seed bed.
- Seeding or turfing.
- Visiting site during maintenance period.
- Period of notice: 1 week.

170 SETTING OUT

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

PREPARATION

205 PREPARATION 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 for any proposed soil improver giving supply source, content analysis, confirmation of suitability for purpose and confirmation of absence of harmful substances such as chemical, biological and physical contaminants.

231 *PEAT*

- Peat or products containing peat: Do not use.

260 *GRADING*

- Topsoil condition: Reasonably dry and workable. As per Q28/655
- Contours: As per Q28/675
- Finished levels As per Q28/690
- Give notice: If required levels cannot be achieved by movement of existing soil.

276 *FERTILISER FOR AMENITY LAWNS*

- Type: In accordance with Q28/395
 - Product reference: as above.
- Application: Before final cultivation and three to five days before seeding/ turfing. Rate: As per Q28/830 (provisional) or as recommended by Soil Scientists report (Q28/810).

280 *FINAL CULTIVATION*

- Timing: After grading and fertilizing.
- Seed bed: Reduce to fine, firm tilth with good crumb structure in accordance with Q28/685
 - Remove or breakdown surface stones/earth clods exceeding: 10 mm.
- Adjacent levels: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.

SEEDING

352 *EDGES TO SEEDED AREAS AROUND TREE PITS*

- Timing: After seeded areas are well established.
- Edges: Clean straight lines or smooth curves.
- Mulch and soil: Draw back to permit edging.
- Arisings: Remove.
- Completion: Respread soil and mulch.

352A *EDGES TO SEEDED AREAS ADJACENT TO PLANTING BEDS AND TREE PITS AROUND TREE PITS*

- Timing: After seeded areas are well established.
- Edges: Clean straight lines or smooth curves.
- Arisings: Remove from site.
- Completion: Re-spread soil and mulch.

TURFING

400A *CULTIVATED TURF FOR LAWNS*

- Product: High quality shade tolerant species rich turf
- Supplier: Wildflower Turf Ltd, Ashe Warren Farm, Overton, Basingstoke, RG25 3AW.
 - Product reference: Species rich lawn turf (WFT-Species-Rich-26).

420A DELIVERY AND STORAGE

- Timing: Lay turf with minimum possible delay after lifting. If delay occurs, lay turf out on topsoil and keep moist.
- Frosty weather or waterlogged ground: Do not lift turf.
- Delivery: Arrange to avoid need for excessive stacking.
- Stacking height (maximum): 1 m.
- Dried out or deteriorated turf: Do not use.

430A TURFING GENERALLY

- Time of year: At anytime when the weather is mild and ground conditions moist and workable.
- 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: Laid with broken joints, well butted up. Do not stretch turf.
- Edges: Whole turfs, trimmed to a true line.
- Adjusting levels: Remove high spots and fill hollows with fine soil.
- Consolidating: Lightly and evenly firm as laying proceeds to ensure full contact with substrate. Do not use rollers.
- Watering: Thoroughly water completed turf immediately after laying. Check that water has penetrated into the soil below.

450 TRIMMING TURF

- Newly planted tree pits: Neatly cut away around individual trees.
- Diameter: 800 mm.
- Tree pit surface: Respread existing mulch.

530 FIRST CUT OF GRASSED AREAS

- Timing: When grass is reasonably dry.
- Height of initial growth: 75 mm.
- Preparation:
 - Debris and litter: Remove.
 - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 50 mm.
- Mower type: Rotary.
- Arisings: Remove from site.

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 from completion of seeding/ turfing until practical completion.
- For all maintenance operations carried out prior to practical completion, follow Q35.

610A FAILURES OF SEEDING/TURFING

- Defective materials or workmanship: Areas that have failed to thrive.
- Exclusions: Theft or malicious damage.
- Method of making good: Recultivation and reseedling/ returfing.
- Timing of making good: The next suitable planting season.

620A MAINTAINING GENERAL GRASSED AREAS

- Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the rectification period.
- Maximum height of growth at any time: 75 mm.
- Preparation: Before each cut remove all litter and debris.
- Cutting: As and when necessary to a height of 35 mm.
- Arisings: Remove.
- Bulb planting areas: Do not cut until bulb foliage has died down.
- Trimming: All edges.
- Arisings: Remove.
- Weed control: Weed control for persistent weeds such as dandelion and thistle to be removed by hand- dug or spot treatment with herbicide.
- Stones brought to the surface: Remove regularly.
- Size: Exceeding 25 mm in any dimension.
- Areas of settlement: Make good.

Q31 External planting**GENERAL INFORMATION/ REQUIREMENTS****112 SITE CLEARANCE GENERALLY**

- General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
- Stones: Remove those with any dimension exceeding 100 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; retain and protect trees indicated on drawings.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
- Additional requirements: none.

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.

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.

- Planting trees into previously dug pits.
- Watering.
- Visiting site during maintenance period.
- Period of notice: One week.

170 SOIL REQUIREMENTS

- Type
- Planted beds: Planting bed soil system, as section Q28.
- Tree pits, shrub pits and other backfilling: Plant pit backfilling soil system, as section Q28.
- External container planting: n/a.
- Mulch applied after planting: Mulching and top dressing system, as section Q28.

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: Contractor's choice.

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.

225 BULBS/ CORMS/ TUBERS

- Condition: Firm, entire, not dried out or shrivelled.
- Health: Free from pests, diseases and fungus.
- Handling: Remove from packaging immediately.
- Storage: Permitted only when necessary.

- Location: Well ventilated, dark, covered, rodent proof container, away from exhausts and fruit.
- Duration: Minimum period.
- Temperature: 18-21°C.

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.

246 LABELLING AND INFORMATION

- Standard: To BS 3936.

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 CPSE '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.

PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS

401 REGULAR PLANT LAYOUT TO ALL BEDS

- Density: As plant schedule.

405 SHRUB PLANTING PITS

- Timing: Excavate 1-2 days (maximum) before planting.
- Sizes: 150 mm wider than roots when fully spread and 300 mm deep.
- Pit bottom improvement Break up to a depth of 150 mm, incorporating 25 g of slow release fertilizer per planting pit.

420A CLIMBING PLANTS

- Planting: 150 mm clear of supporting structure (e.g. wall/ fence) with roots spread outward.
- Branches: Lightly secured to supports.
- Climber supports: system to be confirmed.

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.
- Top dressing: Mulching and top dressing system, as section Q28.
- Depth: 50 mm.

PLANTING TREES

505 TREE PITS

- Sizes: Final tree pit size dependant on rootball. Landscape architect to inspect tree pits prior to planting. Typical tree pit sizes as plant schedule.

- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Pit bottoms: With slightly raised centre. Break up to a depth of 200 mm.
- Treatment: as detail drawing.
- Pit sides: Scarify.
- Backfilling material: Plant pit backfilling soil system, as section Q28.
- Accessories: Perforated plastics irrigation/ ventilation pipe, long double staking as clause 565.

512 TREE PIT ACCESSORIES

- Locations: All tree pits.
- Manufacturer: GreenBlue or similar.
- Product reference: Integrated root rain precinct.
- Type: Perforated plastics irrigation pipe, 50 mm diameter, in circle above and around sides of rootball, with plastics cap.

515A TREE PIT DRAINAGE

- Depth of excavation: Increase from specified size to allow for aggregate layer, with base slightly falling to outlet.
- Aggregate layer: Clean gravel or broken stone, with no fines, graded 40 to 20 mm.
- Depth: 150mm.
- Geotextile filter:
- Manufacturer: Contractor's choice.
- Product reference: Contractor's choice.
- Position: Lay over aggregate before installing tree or backfill.
- Completed pits: Test for free drainage before planting.

526 UNDERGROUND GUYING FOR TREES TO SOFT LANDSCAPE AREA

- Manufacturer: Platipus or similar. - Product reference: Plati-Mat.
- Anchoring system: Deadman System – RF1P.
- Installation: Ensure tree is positioned correctly and vertically prior to tightening guy line tensioners.

526A UNDERGROUND GUYING FOR TREES TO HARD LANDSCAPE AREAS

- Manufacturer: Green Blue Urban or similar. - Product reference: Arborguy.

- Anchoring system: strapped anchor system.
- Installation: Ensure tree is positioned correctly and vertically prior to tightening guy line tensioners.

535 STAKING GENERALLY

- Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
- Preservative treatment: Not required.
- Nails: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.
- Stake size (minimum): 75 diameter.

565 LONG DOUBLE STAKING FOR ALL TREES

- Staking: Drive stakes vertically at least 300 mm into bottom of pit on either side of tree position before planting.
- Backfilling: Consolidate material around stakes.
- Height of stakes: Cut off just below lowest branch of tree.
- Cross bar: Flexible webbing within 25 mm of top of stake.
- Firmly fix on windward side of tree and as close as possible to stem.
- Ties: Adjustable ties.
- Tying: Secure tree firmly but not rigidly to cross bar.

PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS

710 MAINTENANCE

- Duration: Carry out the operations in the following clauses from completion of planting until practical completion.
- Frequency of maintenance visits: Fortnightly during growing season.

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 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.
- Trees: Spray crown when in leaf during warm weather.
 - Timing: After dusk.
- Watering: as required to ensure continued thriving of planting.

760 PLANTING MAINTENANCE - PRUNING

- General: Prune to promote healthy growth and natural shape.
 - Dead, dying, diseased wood and suckers: Remove.
 - Timing: Contractor's choice.
 - 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 details of any special procedures to be carried out.

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): 50 mm.
- Trees: Remulch.
- Depth (minimum): 50 mm.

Q35 Landscape maintenance**GENERALLY****130 REINSTATEMENT**

- Damage or disturbance to soil structure, planting, grass: Reinstate to original condition.

155 WATERING

- Supply: tbc.
- 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.

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

.

175 DISPOSAL OF ARISING

- General: Unless specified otherwise, dispose of arisings as follows: remove from site.

180 CHIPPING OR SHREDDING

- General: Not permitted on site.

190 LITTER

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

195 PROTECTION OF EXISTING GRASS

- General: Protect areas affected by maintenance operations using boards/tarpaulins. Do not place excavated or imported materials directly on grass.

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.

225 TREE STEMS

- Precautions: Do not use mowing machinery closer than 100 mm to tree stems. Use nylon filament rotary cutters and other hand held mechanical tools carefully to avoid damage to bark.

250 LEAF REMOVAL

- Operations: Collect fallen leaves.
- Special requirements: Remove by hand raking.
- Disposal: Remove from site for recycling.

350 FERTILIZER - SPRING APPLICATION

- Type: Slow release.
- Application rate: 100 g/m².

360 FERTILIZER - AUTUMN APPLICATION

- Type: Slow release.
- Application rate: 100 g/m².

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

- Duration: up to 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: to ensure continued thriving of 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.

510 TREE STAKES AND TIES

- Inspection/ Maintenance times: As scheduled and immediately after strong winds.
- 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: During spring when no longer required to support the tree.
 - Fill stake holes with lightly compacted soil.

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.

555 PRUNING TREES AND SHRUBS

- Standard: To BS 7370-4.
- Special requirements: None.

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.

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.

625 CLIMBING PLANTS

- Pruning: Remove excess growth, to ensure that signs, light fittings, doors and windows are kept clear at all times.
- Insecure growth: Attach to supporting wires or structures using 1 mm diameter black plastics coated steel wire.
- Supporting structures: Check and repair as necessary.

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: Submit proposals.
 - 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.

657 HERBICIDE TO KILL REGROWTH

- Type: Suitable foliar acting herbicide to kill regrowth.
- Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.

665 WEED CONTROL WITH WINTER HERBICIDE

- Type: Suitable residual soil acting herbicide.

- Time of year: Unless otherwise agreed, complete before end of March.
- Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.

675 DIGGING OVER

- General: Dig over beds. Do not damage existing plants, bulbs and roots.
- Depth of dig (minimum): 75 mm.

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): 50 mm.
- Top up: Every 6 weeks.
- Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
- Weeding: Remove weeds growing on or in mulch by herbicide treatment.

705 WINTER LEAF REMOVAL

- Operations: Take down temporary leaf fences. Collect accumulations of drifted leaves from the vicinity and from planting beds.
- Arisings: Remove to recycling facility.

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 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.

825 PREVENTION OF DISEASE TRANSMISSION

- Standard: To BS 3998.

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 n/a.

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 with prior approval.

- 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.

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.

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.

Q37 Green roofs

PRODUCTS

330 PROTECTION LAYER TO FT4 CYCLE SHELTER GREEN ROOF

- Manufacturer: Bauder or similar .
- Product reference: Bauder FSM600 protection mat or similar .

- Material: polyester/polypropylene fibre mix .
- Thickness: 4mm .

335 SEPARATION LAYER TO FT4 CYCLE SHELTER GREEN ROOF

- Manufacturer: Bauder or similar .
- Product reference: Bauder PE foil separation layer or similar .
- Material: polythene foil .
- Thickness: 0.2mm .

350 DRAINAGE LAYER TO FT4 CYCLE SHELTER GREEN ROOF

- Manufacturer: Bauder or similar .
- Product reference: DSE40 drainage layer or similar .
- Material: Corrugated polyethylene board .
- Depth: 40 mm .
- Infill: Not required .

360 FILTER MEMBRANE TO FT4 CYCLE SHELTER GREEN ROOF

- Manufacturer: Bauder or similar .
- Product reference: Bauder filter fleece or similar .
- Material: polypropylene fleece .
- Mass: 125 g/m² .

EXECUTION

710 INSTALLATION GENERALLY

- Preparation: Clear all surfaces of debris.
- Timing: After certification of waterproof membrane integrity.
- Surface condition: Visually inspect waterproof membrane, report any damage.
- Faults in waterproof membrane: Report.
- Contamination: Do not use materials detrimental to healthy plant growth.
- Storage: Do not overload.
- Point loads: Avoid.
- Outlets: Do not block.
- Outlet grilles: Installed.

720 ADVERSE WEATHER

- Unfinished work: Secure from damage and wind uplift.
- Conditions: Do not install or work with frozen materials.

750 PROTECTION LAYER INSTALLATION

- Joints: Minimize.
- Overlaps (minimum): Manufacturer's recommendation .
- Upstands: Extend to top of growing medium.

755 SEPARATION LAYER INSTALLATION

- Joints: Minimize.
- Overlaps (minimum): Manufacturer's recommendation .
- Upstands: Extend to top of growing medium.

770 DRAINAGE LAYER INSTALLATION

- Extent: Continuous over entire roof area.
- Fitting: Manufacturer's recommendation .
- Upstands: Fit closely around penetrations and outlets.

780 FILTER MEMBRANE INSTALLATION

- Joints: Minimize.
- Overlaps (minimum): Manufacturer's recommendation .
- Fitting: Manufacturer's recommendation .
- Upstands: Extend to top of growing medium.

790 GROWING MEDIUM INSTALLATION

- Handling: Minimize.
- Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.
- Layers:
- Depth (maximum): 150 mm.
- Sequence: Gently firm each layer before spreading the next.

COMPLETION

910 INSPECTION

- Timing: Before handover.
- Give notice (minimum): 3 days.

920 COMPLETION

- General: Leave the works in a clean, tidy condition.
- Surfaces: Clean immediately before handover.
- Outlets: Clean and clear of obstructions.
- Completed green roof: Protect from adjacent or high level working.

Q50 SITE AND STREET FURNITURE AND EQUIPMENT

To be read with Preliminaries/ General conditions.

212A CYCLE LOCKERS

- Manufacturer: Asgard
Web: <https://www.asgardsss.co.uk/>
Tel: 03456 580 730.
- Product: Metal Bike Shed for 3 bikes
- Colour: Ivory.
- Material: Steel.
- Shape: Rectangle.
- Weight: 103kg
- Height: at rear: 1478mm, at front: 1434mm.
- Width: 1832mm.
- Depth: 924mm.
- Roof: Green roof system.
- Fixings: As manufacturer's recommendations.

350A INSECT HOTEL

- Manufacturer: TBC.
 - Product reference: Bespoke insect hotel.
- Material: Submit proposals. All material to be suitable for external applications.
- Accessories/ Special requirements: Concealed, vandal proof fixings.
- Method of fixing: Submit proposals.
- Other requirements: Ecological Consultant and Landscape Architect prior to beginning fabrication. Appointed supplier to provide evidence that proposals will be suitable for use by insects.

350B BIRD NESTING BOX FOR ROBINS TYPE 1

- Manufacturer: The Nestbox Company, T: 01675 442299, A: The Nestbox Company, Eastcote House, Barston Lane, Eastcote, Solihull, West Midlands, B920Hs, E: mail@nestbox.co.uk, W: www.nestbox.co.uk.
 - Product reference: A1ROBZZZZ.
- Material: FSC Certified Exterior Grade European Birch Plywood..

- Accessories/ Special requirements: Non-toxic water based stain and preservative.
- Method of fixing: 2 holes in back panel.
- Size: Overall height: 26 cm, Overall width: 16cm, Overall Depth: 17 cm.
- Other requirements: Installed in accordance with ecologists recommendation.

350C BIRD NESTING BOX FOR SMALL BIRDS TYPE EC1B

- Manufacturer: The Nestbox Company, T: 01675 442299, A: The Nestbox Company, Eastcote House, Barston Lane, Eastcote, Solihull, West Midlands, B920HS, E: mail@nestbox.co.uk, W: www.nestbox.co.uk..
 - Product reference: A1SMA.
- Material: FSC Certified Exterior Grade European Birch Plywood..
- Accessories/ Special requirements: 5 No. of them to have an entrance hole of 25mm, 4 No. of them with entrance hole 28 mm and 2 No. of them with entrance hole 32 mm .
- Method of fixing: 2 holes in back panel.
- Other requirements: Installed in accordance with Ecologist recommendations.
- " Accessories/ Special requirements: Fixings
 - Nest boxes to be screw-fixed to trees using stainless steel screws.
 - NOTE: In order to minimize the risk of infection of *Ceratocytis platani* (Canker stain of Plane trees) steps should be taken to ensure all implements used to cut or 'wound' trees, including screws, have been manufactured, stored (and have never left) the UK.
 - Method of fixing: Mounted to proposed tree.

INSTALLATION

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.



LUAR LANDSCAPE

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