

GM Mental Health Gardens Project

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D20 Excavating and filling

To be read with Preliminaries/General conditions

GENERALLY/THE SITE

CLEARANCE/EXCAVATING

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 grass areas as instructed.

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.

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 seek instruction.
 - 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: seek instruction.

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.

250 PERMISSIBLE DEVIATIONS FROM FORMATION LEVELS

- Beneath mass concrete foundations: ± 25 mm.
- Beneath ground bearing slabs and r.c. foundations: ± 15 mm.
- Embankments and cuttings: ± 50 mm.
- Ground abutting external walls: ± 50 mm, but such as to ensure that finished level is not less than 150 mm below dpc.

320 RECORDED FEATURES

- Recorded foundations, beds, drains, manholes, etc: Break out and seal drain ends.
- Contaminated earth: Remove and disinfect as required by local authority.

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.

DISPOSAL OF MATERIALS

410 EXCAVATED TOPSOIL STORAGE

- Storage: Stockpile in temporary storage heaps as agreed on site .

420 TOPSOIL STORAGE HEAPS

- Location: as agreed on site.
- 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.

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.

Q10 Kerbs/ edgings/ channels/ paving accessories

To be read with Preliminaries/General conditions.

TYPES OF KERBS/EDGINGS AND CHANNELS

200A SPECIAL

- Manufacturer: Kinley .
 - Web: www.kinley.co.uk.
 - Email: sales@kinley.co.uk.
 - Product reference: AluExcel Aluminium Edge Restraint
- Type: AE150.
- Variation: F – Flexible.
- Finish: M – Mill finish (silver).
- Fixings: Spiral landscape spikes and spot haunching with insitu concrete for additional strength..
- Accessories: 90° welded corners and Large connector strip.

200B ALUMINIUM LAWN EDGING

- Manufacturer: Kinley .
 - Web: www.kinley.co.uk.
 - Email: sales@kinley.co.uk.
 - Product reference: ALP100 AllEdge Aluminium Lawn Edging
- Finish: M – Mill finish.
- Fixing: 450 mm flat fixing stakes.
- Accessories: Aluminium connector strip.

LAYING

510 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.

530 CONCRETE FOR FOUNDATIONS, RACES AND HAUNCHING

- Standard: To BS 8500-2.
- Designated mix: Not less than GEN0 or Standard mix ST1.
- Workability: Very low.

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.

Q20 Granular sub-bases to roads/pavings

To be read with Preliminaries/ General conditions.

110 THICKNESSES OF SUB-BASE/ SUBGRADE IMPROVEMENT LAYERS

- Thicknesses: See sections:
 - Q22 Coated macadam/asphalt roads/pavings.

140 EXCAVATION OF SUBGRADES

- Final excavation to formation or subformation level: Carry out immediately before compaction of subgrade.
- Soft spots and voids: Give notice.
- Old drainage and service trenches: Give notice.
- Wet conditions: Do not excavate or compact when the subgrade may be damaged or destabilized.

145 PREPARATION AND COMPACTION OF SUBGRADES

- Timing: Immediately before placing sub-base.
- Soft or damaged areas: Obtain instructions.
- Compaction: Thoroughly, by roller or other suitable means, adequate to resist subsidence or deformation of the subgrade during construction and of the completed roads/ pavings when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

180 NOTICE

- Give notice: For inspection of granular sub-base material before spreading.
 - Period of notice: 2 working days.

205 HIGHWAYS AGENCY TYPE 2 UNBOUND MIXTURE FOR SUB-BASE

- Material: Type 2 unbound mixture to Highways Agency 'Specification for highway works', clauses 801 and 804.
 - Recycled aggregate: Permitted.
 - CBR (minimum): No requirement.

210 HIGHWAYS AGENCY TYPE 1 UNBOUND MIXTURE FOR SUB-BASE

- Material: Type 1 unbound mixture to Highways Agency 'Specification for highway works', clauses 801 and 803.
 - Recycled aggregate: Permitted.

210A HIGHWAYS AGENCY TYPE 3 UNBOUND MIXTURE FOR SUB-BASE

- Material: Type 3 unbound mixture to Highways Agency 'Specification for highway works', clause 805
 - Recycled aggregate: Permitted.

211 GRANULAR MATERIAL

- Quality: Of a known suitability for use in sub-bases, free from excessive dust, well graded, all pieces less than 75 mm in any direction, minimum 10% fines value of 50 kN when tested in a soaked condition to BS 812-111 or a resistance to fragmentation of LA50 for the Los Angeles test to BS EN 1097-2, and in any one layer only one of the following:
 - Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.
 - Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
 - Gravel or hoggins with not more clay content than is required to bind the material together, and with no large lumps of clay.
 - Natural gravel.
 - Natural sand.

Filling: Spread and levelled in 150 mm maximum layers, each layer thoroughly compacted.

230 PLACING GRANULAR MATERIAL GENERALLY

- Preparation: Loose soil, rubbish and standing water removed.
- Structures, membranes and buried services: Ensure stability and avoid damage.

250 LAYING GRANULAR SUB-BASES FOR PEDESTRIAN AREAS

- General: Spread and levelled.
- Compaction:
 - Timing: As soon as possible after laying.
 - Method: By roller or other suitable means, adequate to resist subsidence or deformation of the sub-base during construction and of the completed paving when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

310 ACCURACY

- Permissible deviation from required levels, falls and cambers (maximum):
 - Subgrades:
 - Roads and parking areas: +20 -30 mm.
 - Footways and recreation areas: ± 20 mm.
 - Sub-bases:
 - Roads and parking areas: ± 20 mm.
 - Footways and recreation areas: ± 12 mm .

330 COLD WEATHER WORKING

- Frozen materials: Do not use.
- Freezing conditions: Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.

340 PROTECTION

- Sub-bases: As soon as practicable, cover with subsequent layers, specified elsewhere.
- Subgrades and sub-bases: Prevent degradation by construction traffic, construction operations and inclement weather.

Q22 Asphalt roads/ pavings

To be read with Preliminaries/ General conditions.

TYPES OF PAVING

115A ASPHALT CONCRETE PAVING TO PATHS

- Standard: To BS EN 13108-1.
- Granular sub-base: Highways Agency Type 3.
 - Compacted thickness: 100 mm.
- Binder course: AC 14 open surf.
 - Paving grade: 100/150.
 - Compacted thickness: 40 mm.
- Reclaimed content:
 - Standard: To BS EN 13108-8.
 - Value (maximum): Contractor's choice.
- Surface treatment: Resin Bound Aggregate Surface Finish.
-

PREPARATORY WORK/ REQUIREMENTS

220 BITUMINOUS MATERIALS GENERALLY

- Suppliers names: Submit.
 - Timing (minimum): Two weeks before starting work.
- Test certificates: At the time of delivery for each manufacturing batch submit certificate:
 - Confirming compliance with this specification and the relevant standard.
 - Stating full details of composition of mix.

240 ACCEPTANCE OF SURFACES

- Surface: Sound, clean and suitably close textured.
- Level tolerances: To BS 594987.
- Kerbs and edgings: Complete, adequately bedded and haunched and to the required levels.

LAYING

310 LAYING GENERALLY

- Preparation: Remove all loose material, rubbish and standing water.
- Adjacent work: Form neat junctions. Do not damage.
- Channels, kerbs, inspection covers etc: Keep clean.
- New paving:
 - Keep traffic free until it has cooled to prevailing atmospheric temperature.
 - Do not allow rollers to stand at any time.
 - Prevent damage.
 - Lines and levels: With regular falls to prevent ponding.
 - Overall texture: Smooth, even and free from dragging, tearing or segregation.
 - State on completion: Clean.

320 ADVERSE WEATHER

- Frozen materials: Do not use.
- Suspend laying:
 - During freezing conditions
 - If the air temperature reaches 0°C, or in calm dry conditions -3°C, on a falling thermometer.
 - Hot rolled asphalt: During periods of continuous or heavy rain or if there is standing water on the base.

330 LEVELS

- Permissible deviation from the required levels, falls and cambers (maximum): In accordance with BS 594987, clause 5.2.

340 FLATNESS/ SURFACE REGULARITY

- Deviation of surface: Where appropriate in relation to the geometry of the surface, the variation in gap under a 3 m straightedge placed anywhere on the surface to be not more than:
 - Base: Hand laid, 25 mm.
 - Binder course: Hand laid, 13 mm.
 - Surface course: Hand laid, 10 mm.
 - Where a straightedge cannot be used the surface must be of a comparable standard of accuracy when judged by eye.

351 CONTRACTOR'S USE OF PAVEMENTS

- Preparation for final surfacing:
 - Timing: Defer laying until as late as practicable.
 - Immediately before laying final surfacing: Clean and make good the base/ binder course. Allow to dry.
 - Adhesion: Contractor's choice.
Application rate: As manufacturer's recommendation.
Accuracy: Uniform, without puddles.
 - Finishing: Allow emulsion to break completely before applying surface.

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

To be read with Preliminaries/ General conditions.

TYPES OF SURFACING

225A PROPRIETARY RESIN BOUND AGGREGATE SURFACING TO PATHS

- Base course: Asphalt concrete, as section Q22.
- Surface course:
 - Manufacturer: Contractor's choice.
Product reference: Contractor's choice.
 - Binder: Polyurethane.
 - Chippings: Submit proposals.
Colour: Mix of buffs, browns and golds. Submit proposed aggregate choice..
 - Aggregate size: Evenly graded 5-10 mm.
Application: Thoroughly mixed and uniformly spread.
 - Thickness: 20 mm.
 - 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.

LAYING

315 MATERIALS

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

320 SAMPLES

- Submit: Representative samples of all aggregates.

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.

360 DRAINAGE FALLS

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

380 LAYING GRANULAR SURFACES IN PEDESTRIAN AREAS

- Permissible deviation from required levels, falls and cambers (maximum): ± 12 mm.
- General: Spread and level in 100 mm maximum layers. As soon as possible, compact each layer.
- Dry weather: Lightly water layers during compaction.

- 390 PROTECTION FROM TRAFFIC AND PLANT
- Paved areas: Restrict access to prevent damage.

Q28 Topsoil and soil ameliorants

To be read with Preliminaries/ General conditions.

- 115 SOIL SYSTEM FOR GRASS SWARDS FOR LAWNS
- Composition:
 - Soil: Site sourced topsoil and Imported topsoil to BS 3882.
 - Ameliorants: Fertilizer to be incorporated into topsoil.
 - Accessories: None.
- 135 PLANTING BED SOIL SYSTEM FOR FLOWERING SHRUBS
- Composition:
 - Topsoil: Site sourced topsoil and Imported topsoil, custom mix.
 - Ameliorants: None.
 - Accessories: None.
- 145 PLANT PIT BACKFILLING SOIL SYSTEM FOR TREE PITS
- Composition:
 - Topsoil: Site sourced topsoil and Imported topsoil, custom mix.
 - Ameliorants: None.
 - Accessories: None.
- 155 MULCHING AND TOP DRESSING SYSTEM FOR SHRUB BEDS
- Composition:
 - Material: Bark mulch.

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.
- 315 IMPORTED TOPSOIL TO BS 3882 FOR TURFING
- 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.
 - Soil textural class to BS 3882, Figure 1: Any class.
 - Source: Contractor's choice.
 - Product reference: Contractor's choice.

- 335A IMPORTED MANUFACTURED TOPSOIL, CUSTOM MIX FOR PLANTING BEDS AND TREE PITS
- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
 - Source: Submit proposals.
 - Product reference: Submit proposals.
 - Soil textural class: Any class from silt loam to sandy clay.
 - Organic matter to PD CR 13456: Minimum 5%.
 - Nutrient content: Minimum index values for nitrogen, phosphorus, potassium and magnesium to be as for BS 3882 multipurpose topsoil.
 - Crumb structure: Made up of discernible crumbs.
 - Stone size in any dimension (maximum): 20 mm.
- 360 SANITIZED AND STABILIZED COMPOSTED MATERIALS CERTIFIED TO PAS 100 .
- Standard: In accordance with PAS 100.
 - Source: Contractor's choice.
 - Product reference: Contractor's choice.
 - Horticultural parameters:
 - pH (1:5 water extract): 7.0-8.7.
 - Electrical conductivity (maximum, 1:5 water extract): 200 mS/m.
 - Moisture content (m/m of fresh weight): 35-55%.
 - Organic matter content (minimum): 25%.
 - Grading (air dried samples): 99% passing 25 mm screen, and 90% passing: 10 mm screen mesh aperture.
 - Carbon:Nitrogen ratio (maximum): 20:1.
 - Texture: Friable.
 - Objectionable odour: None.
 - Compost Certification Scheme certification: Not required.
 - Declaration of analysis: Submit.
 - Additional analyses: Not required.
 - Samples: Not required.
- 405A INORGANIC FERTILIZERS FOR TURFING
- Manufacturer/ source: Contractor's choice.
 - Product reference: Contractor's choice.
 - Standard: In accordance with the Fertiliser Industry Assurance Scheme (FIAS).
 - Purpose: FOR PRE TURFING AND ESTABLISHMENT.
 - Availability to plants: Fast acting.

EXECUTION

- 630 DOCUMENTATION FOR IMPORTED TOPSOIL FOR PLANTING BEDS
- Timing: Submit at handover.
 - Contents:
 - Full description of all soil components.
 - Record of source for all soil components.
 - Record drawings showing the location and depth of all soils by type and grade.
 - Declaration of analysis: in accordance with BS 3882, clause 6 and Table 1.
 - Number of copies: One.

- 650 NOTICE
- Give notice before:
 - Setting out.
 - Spreading topsoil.
 - Applying herbicide.
 - Applying fertilizer.
 - Visiting site during maintenance period.
 - Period of notice: 3 working days.
- 670 INSPECTING FORMATIONS
- Give notice: Before spreading topsoil for lawn areas and planting beds.
 - Notice period: 7 days.
- 685 SURPLUS MATERIALS TO BE REMOVED
- Topsoil removal from site: as instructed.
 - Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.
- 690 TOPSOIL STORAGE HEAPS
- Location: Submit proposals.
 - Height (maximum): 1.0 m.
 - Width (maximum): 3.0 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.
 - Give notice: If required levels cannot be achieved by movement of existing soil.
- 705 HANDLING TOPSOIL
- Standard: In accordance with BS 3882.
 - 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 ..
- 710A SPREADING TOPSOIL ON GRASSED AREAS and ORNAMENTAL PLANTING BEDS
- Standard: In accordance with BS 3882.
 - Temporary roads/ surfacing: Remove before spreading topsoil.
 - Layers:
 - Depth (maximum): 150 mm.
 - Gently firm each layer before spreading the next.
 - Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 LOOSE TIPPING OF TOPSOIL

- Standard: In accordance with BS 3882.
- 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.

718 FINAL CULTIVATION FOR TURFING

- Compacted topsoil: Break up to full depth.
- Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
- Depth: 75 mm.
- Particle size (maximum): 10 mm.
- Timing: After grading and fertilizing, and within a few days before turfing.
- Weather and ground conditions: Suitably dry.
- Surface: Leave regular and even.
- Levels: 25 mm above adjoining paving or kerbs.
- Undesirable material brought to the surface:
 - Remove visible weeds.
 - Remove roots and large stones with any dimension exceeding 50 mm.

720 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT

- In relation to adjoining paving, kerbs or hard surfaces: 25 mm above .
- In relation to dpc of adjoining buildings: Not less than 150 mm below.
- In relation to adjacent grass areas: 50 mm below.
- Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
- Sportsfields: To even levels and within the following permitted deviations:
 - From levels or gradients shown on drawings: ± 75 mm.
 - From line between boning rods 30 m apart: ± 25 mm.
- 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.

825 APPLYING FERTILIZER TO PROPOSED GRASS AREAS TO TURFED AREAS

- Application: Before final cultivation and three to five days before seeding/ turfing.
- Coverage:
- Spread evenly, in transverse directions.
 - Rate: 50 g/m².

845 APPLYING LOOSE MULCH FOR PLANTING BEDS

- Timing: On completion of planting.
- Preparation: Ensure that soil is thoroughly moistened, applying water where necessary.
- Coverage of mulch (minimum):
 - Planting beds (depth): 50 mm depth.
 - Trees: In a circular area of 500 mm radius measured from the tree stem.
 - Container planting: 50 mm depth.
- Finished level of mulch: 30 mm below adjacent grassed or paved areas.

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.

146 WATERING

- Quantity: Wet full depth of topsoil.
- Application: Even and without displacing seed, seedlings or soil.
- Frequency: As required to establish and maintain turf to handover..

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: 3 working days.

170 SETTING OUT

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

PREPARATION

250 SOIL REQUIREMENTS

- Type:
 - Seeded areas: n/a.
 - Turfed areas: Soil for grass swards, as section Q28 .
 - Reinforced grass areas: n/a.

TURFING

400 CULTIVATED TURF FOR LAWNS

- Supplier: Contractor's choice.
 - Product reference: Contractor's choice.
- Properties of soil used for turf production: Well drained sandy loam.

420 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.
- Certification:
 - Standard: To BS 3969.
 - Declaration: not required.

430 TURFING GENERALLY

- Time of year: To be agreed.
- 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.
- Dressing, brushed well in to completely fill all joints: None.
- Watering: Thoroughly water completed turf immediately after laying. Check that water has penetrated into the soil below.

PROTECTING/CUTTING

530 FIRST CUT OF GRASSED AREAS

- Timing: When grass is reasonably dry.
 - Height of initial growth: 40-75 mm.
- Preparation:
 - Debris and litter: Remove.
 - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 25 mm.
- Mower type: Contractor's choice.
- 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

610 FAILURES OF SEEDING/TURFING

- Duration: Carry out the following operations from completion of seeding/ turfing until: practical completion and handover.
- Defective materials or workmanship: Areas that have failed to thrive.
 - Exclusions: Theft or malicious damage.
- Method of making good: Recultivation and reseeded/ returfing.
- Timing of making good: as soon as practical.

620 MAINTAINING GENERAL GRASSED AREAS

- Duration: Carry out the following operations from completion of seeding/ turfing until: practical completion and handover.
- 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: Substantially free of broad leaved weeds.
 - Method: Application of a suitable selective herbicide.
- Stones brought to the surface: Remove regularly.
 - Size: Exceeding 25 mm in any dimension.
- Areas of settlement: Make good.
- Watering: as required to establish.

Q31 External planting

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/ REQUIREMENTS

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.

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.

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: Three working days.

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: Container planting growing media system, as section Q28.
 - Mulch applied after planting: Ornamental bark mulch, particle size 5-35mm.

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 relevant parts of BS 3936.
- Species: True to name.
- Origin/ Provenance: British grown.
Definition: Origin and Provenance have the meaning given in the National Plant Specification.

216 PLANTS/ TREES - SPECIFICATION CRITERIA

- Name, forms, dimensions and other criteria: To the relevant part of BS 3936.

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: Black polyethylene bags.
- Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped.
- Planting: Upright or well balanced with best side to front.

290 SURPLUS MATERIAL

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

PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS

PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS

405 SHRUB 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 Not required.

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: Not required.
 - Depth: n/a.

PLANTING TREES

505 TREE PITS

- Sizes: 600 mm diameter x 600 mm deep.
- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Excavated material: Remove arisings.
- Pit bottoms: Excavate with slightly raised centre: Break up base to a depth of 150 mm.
 - Treatment: Not required.
- Pit sides: Scarify.
- Backfilling material: Topsoil, as section Q28.

535 TREE STAKES

- 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.
- Stake size (minimum): 75 mm diameter.
- Stake length (minimum): 2100 mm.

546 SINGLE VERTICAL STAKING FOR STANDARD TREES

- Staking:
 - Position: Close to tree position on windward side.
 - Driving: Vertically at least 300 mm into bottom of pit before planting.
 - Backfilling: Consolidate material around stake.
 - Firming: Sufficiently firm to prevent movement of the rootball/ rootstock.
- Height of stakes: Cut off at approximately one third of the height of the clear stem of tree.
- Ties: Adjustable.
 - Number of ties: One.
- Tying: Secure tree firmly but not rigidly to stake with ties. Prevent tree from touching stake using spacer blocks or cushions if required.
 - Position: Top tie within 25 mm of top of stake and additional ties equally spaced along the stake.
- Nails: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.

Q50 Site/street furniture/equipment

To be read with Preliminaries/ General conditions.

SITE AND STREET FURNITURE

220 BENCHES GEO MET

- Manufacturer: Sui Generis International Ltd, Tel 01206 798798, info@suigeneris.co.uk.
 - Product reference: Arc Single Seat - SGF121.
- Material: Composite moulded plastic.
 - Finish: As manufactured.
 - Colour: RAL 4010 Telemagenta.
- Size: 893 x 11366 x 450mm.
- Accessories/ Special requirements: Fitted with anchor bolts.
- Method of fixing: Bolted to insitu concrete pads.

220A BENCHES GEO MET

- Manufacturer: Sui Generis International Ltd, Tel 01206 798798, info@suigeneris.co.uk.
 - Product reference: Arc Single Seat - SGF121.
- Material: Composite moulded plastic.
 - Finish: As manufactured.
 - Colour: RAL 5018 Turquoise Blue.
- Size: 893 x 11366 x 450mm.
- Accessories/ Special requirements: Fitted with anchor bolts.
- Method of fixing: Bolted to insitu concrete pads.

222 MOULDED PLANTERS

Manufacturer: [Sui Generis International Ltd, Tel 01206 798798, info@suigeneris.co.uk].

- Product reference: [Cube planter -SGF106 C].

Material: [Composite moulded plastic].

- Finish: [As manufactured].
- Colour: [RAL 4010 Telemagenta].

Size: [570 x 570 x 496mm].

Accessories/ Special requirements: [Fitted with anchor bolts. Fitted with drainage - 16x12mm holes.].

Method of fixing: [Bolted to insitu concrete pads].

222A MOULDED PLANTERS

Manufacturer: [Sui Generis International Ltd, Tel 01206 798798, info@suigeneris.co.uk].

- Product reference: [Cube planter -SGF106 C].

Material: [Composite moulded plastic].

- Finish: [As manufactured].
- Colour: [RAL 2003 Pastel Orange].

Size: [570 x 570 x 496mm].

Accessories/ Special requirements: [Fitted with anchor bolts. Fitted with drainage - 16x12mm holes.].

Method of fixing: [Bolted to insitu concrete pads].

222B MOULDED PLANTERS

Manufacturer: [Sui Generis International Ltd, Tel 01206 798798, info@suigeneris.co.uk].

- Product reference: [Cube planter -SGF106 C].
- Material: [Composite moulded plastic].
- Finish: [As manufactured].
- Colour: [RAL 5018 Turquoise Blue].
- Size: [570 x 570 x 496mm].
- Accessories/ Special requirements: [Fitted with anchor bolts. Fitted with drainage - 16x12mm holes.].
- Method of fixing: [Bolted to insitu concrete pads].

222C MOULDED PLANTERS

Manufacturer: [Sui Generis International Ltd, Tel 01206 798798, info@suigeneris.co.uk].

- Product reference: [Drum planter -SGF113 C].
- Material: [Composite moulded plastic].
- Finish: [As manufactured].
- Colour: [RAL 4010 Telemagenta and RAL 2003 Pastel orange].
- Size: [500mm dia. 450mm ht.].
- Accessories/ Special requirements: [Fitted with anchor bolts. Fitted with drainage - 9x12mm holes.].
- Method of fixing: [Bolted to insitu concrete pads].

225 SEATS Single

- Manufacturer: Benchmark Design Ltd, Tel 01243 545926, ed@benchmark-ltd.co.uk.
- Product reference: CL001 Single Seat.
- Material: 316 Stainless steel, 320 grit.
- Finish: As manufactured.
- Colour: None.
- Size: Length 753mm, Height 817mm, Width 607mm.
- Accessories/ Special requirements: None.
- Method of fixing: Root, 300 mm below ground, set in concrete base.

225A SEATS Sun Lounger

- Manufacturer: Benchmark Design Ltd, Tel 01243 545926, ed@benchmark-ltd.co.uk.
- Product reference: CPSL Sun lounger.
- Material: 316 Stainless steel frame and timber slats.
- Finish: As manufactured.
- Colour: None.
- Size: Bespoke dimensions, Length 1800mm, Height 450mm, Width 750mm.
- Accessories/ Special requirements: None.
- Method of fixing: Embedment fixing - Root, 300 mm below ground, set in concrete base.

230 TABLES

- Manufacturer: Benchmark UK Ltd, Tel 01675 481155, info@bmark-uk.com.
- Product reference: Oxford Round Picnic Table.
- Material: Pressure treated timber.
- Finish: As manufactured.
- Colour: None.
- Size: Overall size 2x2m, table top 1.3m dia..
- Accessories/ Special requirements: None.
- Method of fixing: To be secured to ground as per manufacturers recommendation.

INSTALLATION

510 CONCRETE FOUNDATIONS GENERALLY

- Standard: To BS 8500-2.
- Concrete: Designated, not less than GEN 1.
- Admixtures: Do not use.
- Foundation holes: Neat vertical sides.
- Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

515 SETTING COMPONENTS IN CONCRETE

- Holes: As per installation instructions.
- Components: Accurately positioned and securely supported.
- Concrete fill: Fully compacted as filling proceeds.
- Concrete foundations exposed to view: Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
- Temporary component support: Maintain undisturbed for minimum 48 hours.

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.

Q52 Play and sports equipment

To be read with Preliminaries/ General conditions.

GENERAL

PRODUCTS

560A EXERCISE EQUIPMENT .

- Manufacturer: The Great Outdoor Gym Company Ltd, Tel 01795 373301, info@tgogc.com.
- Product reference: Spinning Bike, TGO970.
- Finish: Standard manufacturers powder coated finish. Colours:Black & Green.
- Method of fixing: Medium ground anchor fixed in C30 Concrete footing, 950x950x500mm deep..

560B EXERCISE EQUIPMENT .

- Manufacturer: The Great Outdoor Gym Company Ltd, Tel 01795 373301, info@tgogc.com.
- Product reference: Recumbent Bike, TGO891.
- Finish: Standard manufacturers powder coated finish. Colours:Black & Green.
- Method of fixing: Large ground anchor fixed in C30 Concrete footing, 1000x800x500mm deep..

560C EXERCISE EQUIPMENT .

- Manufacturer: The Great Outdoor Gym Company Ltd, Tel 01795 373301, info@tgogc.com.
- Product reference: Cross Trainer, TGO861.
- Finish: Standard manufacturers powder coated finish. Colours:Black & Green.
- Method of fixing: Large ground anchor fixed in C30 Concrete footing, 1000x800x500mm deep..

560D EXERCISE EQUIPMENT Table Tennis Table

- Manufacturer: Cornilleau, Tel 01403 865094.
- Product reference: Pro 510 Outdoor, 125615(Blue).
- Finish: Matt Top, Panel 7mm thickness, Frame 60mm, Colour:Blue.
- Method of fixing: Bolt/screw fixing to prepared insitu C30 concrete slabs at four legs, 250 x 250mm x 200mm deep..

EXECUTION

710 PLAY EQUIPMENT INSTALLATION GENERALLY

- Standard: To manufacturer's written instructions provided in accordance with BS EN 1176-1.

720 CONCRETE FOUNDATIONS GENERALLY

- Standard: To BS 8500-2.
- Concrete: Designated, not less than GEN 1 or Standard prescribed, not less than ST2.
- Admixtures: Do not use.
- Foundation holes: Neat vertical sides.
- Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

725 SETTING COMPONENTS IN CONCRETE

- Holes: As per manufacturers foundation requirements.
- Components: Accurately positioned and securely supported.
- Concrete fill: Fully compacted as filling proceeds.
- Concrete foundations exposed to view: Finished to weathering profile to shed water and trowel smooth.
- Temporary component support: Maintain undisturbed for minimum 48 hours.

750 DAMAGE TO GALVANIZED SURFACES

- Minor damage in areas up to 40 mm² (including on fixings and fittings): Make good.
 - Materials: 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.

COMPLETION

920 CLEANING

- General: Leave the works in a clean, tidy condition.
- Surfaces: Clean immediately before handover.

950 DOCUMENTATION

- Standard: To BS EN 1176-1.
- Contents:
 - Copies of test reports.
 - General product information.
 - Installation information.
 - Inspection and maintenance information.
- Number of copies: 2.
- Submission: 2 weeks after request by contract administrator.