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Kings Cross Plimsol Building Roof Garden:

Specification for the Soft Landscape

Rev A

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for

Kings Cross Central General Partner Ltd

EMPLOYERS'S REQUIREMENT ISSUE

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Drawing Reference:

KXP-LD-200 rev G
KXP-LD-201 rev F
KXP-LD-202 rev F
KXP-LD-400 rev A
KXP-LD-401 rev A
KXP-PS-131216 rev A

Please refer to David Morley Architects for architectural information

Please refer to Tim O'Hare Associates for Q28: Soil Specification

Q28 Topsoil and soil ameliorants

To be read with Preliminaries/ General conditions.

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.

330 IMPORTED MANUFACTURED TOPSOIL/ GROWING MEDIUM FOR PLANTING BEDS

- Type: Container planting medium.
- Grade: Within the parameters of 'sandy loam' textural class.
- Source: Contractor's choice.
- Product reference: Submit proposals.

EXECUTION

610 TOPSOIL ANALYSIS

- Soil to be analysed: Imported topsoil.
- Soil analyst: Voelcker Consultants or similar approved.
- Samples: Collect in accordance with BS 3882.
- Submit:
- Declaration of analysis: Chemical analysis and contaminants.
- Report detailing soil analyst's recommendations.
-

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, Annex E.
- Number of copies: Two.

650 NOTICE

- Give notice before:
- Setting out.
- Spreading topsoil.
- Applying herbicide.
- Applying fertilizer.
- Visiting site during maintenance period.
- Period of notice: 3 working days.





- 655 MECHANICAL TOOLS
- Restrictions: Do not use within 100 mm of tree and plant stems.
- 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 50 mm.
 - Remove from site: Arisings, contaminants and debris.
- 670 INSPECTING FORMATIONS
- Give notice: Before spreading topsoil for planting beds.
 - Notice period: 7 days.
- 685 SURPLUS MATERIALS TO BE REMOVED
- Topsoil: Remove from site topsoil remaining after completion of all landscaping work.
 - Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.
- 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): 450 mm.
- 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.

718 FINAL CULTIVATIONFOR PLANTING BEDS

- Compacted topsoil: Break up to full depth.
- Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
- Depth: 300 mm.
- Particle size (maximum): 2-8 mm.
- Timing: Within a few days before planting.
- 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.

845 APPLYING LOOSE MULCHFOR PLANTING BEDS

- Timing: Immediately after planting.
- Preparation: Ensure that soil is thoroughly moistened, applying water where necessary.
- Coverage of mulch (minimum):
- Planting beds (depth): 75 mm depth.
- Trees: In a circular area of 500 mm radius measured from the tree stem.
- Container planting: -.
- Finished level of mulch: 50 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): 75 mm.
- Trees: Remulch.
- Depth (minimum): 75 mm.
- Container planting: Remulch.
- Depth (minimum): -.

Q31 External planting



To be read with Preliminaries/General conditions.

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 50 mm.
- Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Vegetation:
- 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: Three working days.

165 PREPARATION, PLANTING AND MULCHING MATERIALS

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

200 PLANTS/ TREES - GENERAL

- Condition: Materially undamaged, sturdy, healthy and vigorous.
- Appearance: Of good shape and without elongated shoots.
- Hardiness: Grown in a suitable environment and hardened off.
- Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
- Budded or grafted plants: Bottom worked.
- Root system and condition: Balanced with branch system.
- Standard: The National Plant Specification.
- Species: True to name.
- Origin/ Provenance: 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°.

235 CONTAINER GROWN PLANTS/ TREES

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

245 LABELLING AND INFORMATION

- General: Provide each plant/ tree or group of plants/ trees of a



single species or cultivar with supplier's labelling for delivery to site, showing:

- Full botanical name.
- Total number.
- Number of bundles.
- Part bundles.
- Supplier's name.
- Employer's name and project reference.
- Plant specification, in accordance with scheduled National Plant Specification categories.
- Additional information: Submit on request: None.

246 LABELLING AND INFORMATION

- Standard: To BS 3936.

255 PLANTS/ TREES RESERVED AT SUPPLIER'S PREMISES

- Types/ Species: As plant schedule.
- Predelivery inspection: Give notice.
- Labelling: Identify inspected plants/ trees as reserved for use on this project.

260 PLANT/ TREE SUBSTITUTION

- Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering:
- Submit alternatives, stating:
- Price.
- Difference from specified plants/ trees.
- Approval: Obtain before making any substitution.

265 PLANT HANDLING, STORAGE TRANSPORT AND PLANTING

- Standard: To HTA 'Handling and establishing landscape plants'.
- Frost: Protect plants from frost.
- Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
- Plant packaging: 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.

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.

PLANT CONTAINERS

292A PREFABRICATED PLANT CONTAINERS

- Manufacturer: Refer to KXP-LD-200 rev G .



- Product reference: Sandblast Curved Stoneware Planter, Red Mud Hut.
- Material: cementitious ceramic sandblasted finish.
- Dimensions/ Shape:
- Lining:
- Accessories:

PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS

300 HERBICIDE

- Locations: As drawing KXP-LD-400 rev A.
- Type: Suitable for suppressing perennial weeds.
- Timing: Allow fallow period before cultivation. Duration (minimum): As manufacturer's recommendation.

305 WEED CONTROL FOR INVASIVE NON-NATIVE WEEDS

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

375 CULTIVATION

- Compacted topsoil: Break up to full depth.
- Cultivation: Loosen, aerate and break up soil into particles of 2-8 mm.
- Depth: minimum 300 mm.
- Timing: Within a few days before planting.
- Weather and ground conditions: Suitably dry.
- Surface: Leave regular and even.
- Levels: As drawing - refer to TLA drawing package.
- Undesirable material brought to the surface: Remove visible weeds, roots and large stones with any dimension exceeding 50 mm.
- Soil within root spread of trees and shrubs to be retained: Do not dig or cultivate.

PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS

401 REGULAR PLANT LAYOUT TO ALL BEDS

- Spacing: As drawing KXP-LD-400 rev A & KXP-LD-401 rev A.
- Density: As plant schedule.

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 Break up to a depth of 150 mm, incorporating 25 g of slow release fertilizer per planting pit.
- Backfilling material: Shrub planting backfilling material.

420 CLIMBING PLANTS

- Planting: 150 mm clear of supporting structure (e.g. wall/ fence) with roots spread outward.
- Branches: Lightly secured to supports.
- Climber supports: Hand cleft chestnut climbing frame.
- Base height: As drawing KXP-LD-401 rev A.
- Extent: As drawing KXP-LD-401 rev A.
- Centres: As drawing KXP-LD-401 rev A
- Distance from wall:
- Fixings: . Centres:

445 PLANTING BULBS/ CORMS/ TUBERS



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

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.

485 MULCHING PLANTING BEDS

- Material: Blended manure.
- Purity: Free of pests, disease, fungus and weeds.
- Recycled content: None permitted.
- Preparation: Clear all weeds. Water soil thoroughly.
- Coverage: 75 mm depth.
- Finished level of mulch: 30 mm below adjacent grassed or paved areas.



PLANTING TREES

505 TREE PITS

- Sizes: As drawing KXP-LD-400 rev A.
- 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 150 mm.
- Treatment: Soil ameliorant worked into pit bottoms.
- Pit sides: Scarify.
- Backfilling material: Tree backfilling material.
- Accessories: Perforated plastics irrigation/ ventilation pipe and Underground guying to BS 4043.

525 SEMIMATURE TREES

- Standard: Prepare roots and transplant to BS 4043.
- Backfilling material: As clause 585.
- Support: Underground guying refer to drawing KXP-LD-400 rev A
- Protection: Not required.

590 MULCHING TREES

- Material: Fine grade bark mulch.
- Purity: Free of pests, disease, fungus and weeds.
- Recycled content: None permitted.
- Preparation: Clear all weeds. Water soil thoroughly.
- Coverage: In a circular area of 500 mm radius measured from the tree stem.
- Finished level of mulch: 30 mm below adjacent grassed or paved areas.

665 SETTING OUT

- Distance between trees: As drawing KXP-LD-400 rev A & KXP-LD-401 rev A.

- Distance between rows: N/A.
- Plant in staggered rows.

PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS

710 MAINTENANCE

- Duration: Carry out the operations in the following clauses from completion of planting until the end of the rectification period.
- Frequency of maintenance visits: In accordance with the agreed maintenance schedule.

720 FAILURES OF PLANTING

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

740 CLEANLINESS

- Soil and arisings: Remove from hard surfaces and grassed areas.
- General: Leave the works in a clean tidy condition at completion and after any maintenance operations.

750 PLANTING MAINTENANCE GENERALLY

- Weed control: Maintain weed free area around each tree and shrub.
- Diameter (minimum): The larger of 1 m or the surface of original planting pit.
- Keep planting beds clear of weeds: By 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: Contractor's choice.

755 PLANTING MAINTENANCE - FERTILIZER

- Time of year: March or April.
- Fertilizer: Organic.
- Manufacturer: Contractor's choice.
- Product reference: Contractor's choice.
- Application: Evenly spread, carefully incorporating below mulch materials.
- Application rate: To manufacturer's recommendations.



760 PLANTING MAINTENANCE - PRUNING

- General: Prune to promote healthy growth and natural shape.
- Dead, dying, diseased wood and suckers: Remove.
- Timing: In accordance with the agreed maintenance schedule.
- 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): 75 mm.
- Trees: Remulch. Depth (minimum): 75 mm.



Q35 Landscape maintenance

To be read with Preliminaries/ General conditions.

GENERALLY

105A MAINTENANCE OBJECTIVES

- Location: Gas Holder Park.
- Duration: One year.
- Aims: Enhanced landscape quality.
- Restrictions: None.
- Results: Not applicable.

110 NOTICE

- Give notice before:
- Application of herbicide.
- Application of fertilizer.
- Watering.
- Each site maintenance visit.
- Period of notice: 7 days.

130 REINSTATEMENT

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

155 WATERING

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

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.

170 DISPOSAL OF ARISING

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

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.

GRASSED AREAS

210 MAINTENANCE OF GRASSED AREAS

- General: Maintain turf in a manner appropriate to the intended use.
- Soil and grass:
- Condition: Maintain a healthy vigorous sward, free from disease, fungal growth, discolouration, scorch or wilt.
- Waterlogging and compaction: Prevent.
- Damage: Repair trampling, abrasion or scalping.
- Ornamental lawns: Maintain reasonably free from moss, excessive thatch, weeds, frost heave, worm casts and mole hills.
- Edges: Neat and well defined, in clean straight lines or smooth flowing curves.
- Litter and fallen leaves: Remove regularly to maintain a neat appearance.



220 GRASS CUTTING GENERALLY

- Before mowing: Remove litter, rubbish and debris.
- Finish: Neat and even, without surface rutting, compaction or damage to grass.
- Edges: Leave neat and well defined. Neatly trim around obstructions.
- Adjoining hard areas: Sweep clear and remove arisings.
- Drought or wet conditions: Obtain instructions.

226 TREE STEMS

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

250 LEAF REMOVAL

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

255 FIRST CUT OF ALL GRASSED AREAS

- 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: Contractor's choice.
- Arisings: Remove.

260 MOWING LAWNS

- Grass height: Maintain between 25 and 50 mm.
- Arisings: Remove.

285 TOP DRESSING

- Location: As drawing GH8-LD-404.
- Timing: Following scarification and aeration.
- Material: Sand to compost (80:20 mix) into sand grooves.
- Supplier: Contractor's choice.
- Product reference: Contractor's choice.
- Declaration of analysis: Submit.

- Additional analyses: Not required.
- Samples: Not required.
- Application rate: As per manufacturers' recommendations.

290 ROLLING

- Location: As drawings GH8-LD-404 rev A.
- Timing: As necessary to relieve compaction.
- Roller: 100 kg (2 cwt).
- Operations: Consolidate turf and reduce frost heave.

295 SPIKING

- Location: As drawings GH8-LD-404 rev A.
- Timing: As necessary to relieve compaction.
- Operations: Aerate the soil and improve surface water penetration.
- Depth (minimum): 75 mm into soil.

300 SCARIFYING

- Location: As drawings GH8-LD-404.
- Timing: October or November, before top dressing.
- Operations: Relieve thatch conditions and remove dead grass.
- Depth (maximum): 25 mm into soil.
- Arisings: Remove.

310 RE-FORMING GRASS EDGES

- Location: As drawings GH8-LD-404.
- Edges: Draw back soil and re-form edges to clean straight lines or smooth flowing curves, sloping slightly back from vertical.

320 LEVELLING HOLLOW AND BUMPS IN TURF

- Standard: To BS 7370-3, clauses 12.4 and 12.5.

330 SELECTIVE HERBICIDE

- Location: As drawings GH8-LD404.
- Herbicide: Contractor's choice.
- Areas not to be sprayed: Desirable herbaceous plantings.

350 FERTILIZER - SPRING APPLICATION

- Type: Scotts Sierrablen Plus: Springstarter 4-5M (25+5+8+2).
- Application rate: 35 g/m²

360 FERTILIZER - AUTUMN APPLICATION

- Type: Scotts Sierrablen Plus: Springstarter 4-5M (25+5+8+2).
- Application rate: 35 g/m²

380 REINSTATEMENT OF DAMAGED LAWNS

- Damaged turf: Remove to a depth of 40 mm.
- Preparation: Cultivate substrate to a fine tilth.
- Reinstatement: Contractor's choice of returfing or topsoiling and reseeding:
- Returfing: Quality and appearance to match existing.
- Reseeding: Fill with fine topsoil to BS 3882 multi purpose class, free from stones, debris and weeds. Reseed with a seed mix to match existing grass in quality and appearance.
- Protection and watering: Provide as necessary to promote successful germination and/ or establishment.

460 BEDS OF PERENNIALS OR PERENNIALS AND ANNUALS

- Plant supports: Stake and tie plants using bamboo canes.



- Length: 1000 mm.
- Maintain throughout the growing season.
- Gaps in planting: Refill by replanting.
- Watering:
- New plants: Before and after planting out.
- Ongoing: As necessary for the continued thriving of all planting.
- Operations at end of growing season:
- Trim: Older flowering stems of herbaceous perennials.
- Remove: Redundant plant supports, litter, debris and arisings.
- Cultivate: Fork over the soil, taking care not to cause undue disturbance to plants.
- Top dress: Apply sanitized and stabilized compost top dressing.

470 FLOWER BEDS GENERALLY

- Operations:
- Remove: Dead flower heads, fallen leaves, litter and debris.
- Weeds: Thoroughly hand weed.
- Cultivate: Lightly hoe.
- Trim: Clip grass edges.
- Fungicide: Not required.
- Insecticide: Not required.

490 THINNING BY REMOVAL OF SURPLUS PLANTS

- Plants to be thinned: Subject to Dan Pearson Studio approval.
- Standard: BS 7370-4, clause 3.5.17.1.
- Timing: Thin when foliage of adjacent plants has begun to touch.
- Roots:
- Disturbance to adjacent plants: Minimise.
- Soil: Refill holes with topsoil to leave an even graded surface.
- Mulch: Maintain mulch as original specification.
- Adjacent plants: Make good any minor damage immediately.
- Plants for retention: Select plants with a strong healthy habit.
- Mature planting density: Subject to Dan Pearson Studio approval.

SHRUBS/TREES/HEDGES

500 ESTABLISHMENT OF NEW PLANTING

- Duration: One year.
- 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: Contractor's choice.

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: When instructed. 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.
- 545 PRUNING OF EXCESSIVE OVERHANG
- Timing: Annually.
 - Operations: Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.
 - Special requirements: None.
- 550 PRUNING OF EXCESSIVE HEIGHT
- Timing: Annually. Operations: Remove excessive height As instructed.
- 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: Willerbys.
- 575 PRUNING ORNAMENTAL SHRUBS
- General: Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
 - Suckers: Remove by cutting back level with the source stem or root.
- 580 PRUNING FLOWERING SPECIES OF SHRUBS AND ROSES
- Time of year:
 - Winter flowering shrubs: Spring.
 - Shrubs flowering between March and July: Immediately after the flowering period.
 - Shrubs flowering between July and October: Back to old wood in winter.
 - Rose bushes: Early spring to encourage basal growths and a balanced, compact habit.
- 590 PRUNING PARTICULAR SPECIES
- Species to be pruned to separate specific instructions: Dan Pearson Studio to advise.



- 620 REMOVAL OF DEAD PLANT MATERIAL
- Operations: At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.
- 630 DEAD AND DISEASED PLANTS
- Removal: As soon as possible.
 - Replacement: In the next suitable planting season.
- 635 REINSTATEMENT OF SHRUB/ HERBACEOUS AREAS
- Dead and damaged plants: Remove.
 - Mulch/ matting materials:
 - Carefully move to one side and dig over the soil, leaving it fit for replanting.
 - Do not disturb roots of adjacent plants.
 - Replacement plants:
 - Use pits and plants: To original specification or to match the size of adjacent or nearby plants of the same species, whichever is the greater.
 - Additional requirements: Submit details and cost of plants before ordering.
 - Dressing: Slow release fertilizer:
 - Type: Organic.
 - 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.
- 655 WEED CUTTING BY HAND OR MACHINE
- Undesirable grass, brambles and herbaceous growth: Cut down cleanly to a maximum height of 50 mm.
 - Herbicides: Give notice before use.
- 657 HERBICIDE TO KILL REGROWTH
- Type: Suitable foliar acting herbicide to kill regrowth.
- 675 DIGGING OVER
- General: Dig over beds. Do not damage existing plants, bulbs and roots.
 - Depth of dig (minimum): 150 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.
- 690 MAINTENANCE OF LOOSE MULCH
- Thickness (minimum): 50 mm.
 - Top up: Twice per year.

- Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
- Weeding: Remove weeds growing on or in mulch by hand weeding.

695 FERTILIZING ESTABLISHED TREES AND SHRUBS

- Time of year: During April or May.
- Type of fertilizer: Slow release.
- Application: Spread evenly. Rate: As manufacturer's recommendations.

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 as Arboricultural Association Leaflet 'Mature tree management'. Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
- Appearance: Leave trees with a well balanced natural appearance.
- Chain saw work: Operatives must hold a Certificate of Competence.
- Tree work: To be carried out by an approved member of the Arboricultural Association.

815 ADDITIONAL WORK

- Defective, diseased, unsafe or weak parts of trees additional to those scheduled for attention: Give notice if detected.

820 PREVENTION OF WOUND BLEEDING

- Standard: To BS 3998, clause 8.

825 PREVENTION OF DISEASE TRANSMISSION

- Standard: To BS 3998, clause 9 and Appendix B.

830 CLEANING OUT AND DEADWOODING

- Remove:
 - Dead, dying, or diseased wood, broken branches and stubs.
 - Fungal growths and fruiting bodies.
 - Rubbish, wind blown or accumulated in branch forks.
 - Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.
 - Other unwanted objects, e.g. tree houses, swings. Climbing plants.

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.

840 CROWN REDUCTION/ SHAPING

- General: Cut back selectively to lateral or sublateral buds or branches to retain flowing branch lines without leaving stumps.
- Operations: Reduce crown by 15%.

845 CROWN LIFTING

- Clearances: Remove branch systems to give clearance.
- Height: 2.5 m above footpaths.
- Removing branches: Remove whole branches back to the stem, or cut lower portions of branches back to lateral or sublateral buds or branches. Do not leave stumps.

850 CROWN THINNING

- Removing branches: Remove inward growing, crossing, rubbing, dead and damaged branches.
- Thinning: Selectively remove secondary and small live branch growth evenly throughout the crown.
- Quantity: 10 %.
- Cutting: Make no cuts of more than 25 mm diameter.
- Branches: Cut back to lateral or sublateral buds or branches without leaving stumps.
- Appearance: Leave a uniform and well balanced structure of branches and foliage.

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.



Q50 Site/street furniture/equipment

To be read with Preliminaries/ General conditions.

SITE AND STREET FURNITURE

220 BENCHES refer to KXP-LD-200 rev G

- Manufacturer: Benchmark.
- Product reference: centreline bench.
- Material: galvanised tubular steel.
- Finish: powder coated.
- Colour: to be confirmed.
- Size: refer to KXP-LD-200 rev G.
- Accessories/ Special requirements: None.
- Method of fixing: Submit proposals.

345A PROPRIETARY SCULPTURE/ LANDSCAPE ART/ BOULDERS

- Supplier: Submit proposals.
- Product reference: Submit proposals.
- Material: Natural stone boulder .
- Approximate weight: .
- Approximate size: 1.1 x 0.75m.
- Delivery/ Handling/ Storage requirements: Submit proposals.
- Method of fixing: Submit proposals.



S15 Fountains and water features

To be read with Preliminaries/ General conditions.

GENERAL

110 FABRIC TO WATER FEATURE

- Structure: As drawing KXP-LD-200 rev G & cost plan T5466 - revision B to C .
- Liner: Proprietary waterproof render, as section J10 .
- Finishes: Re-constituted stone .
- Accessories:

120 WATER SUPPLY TO WATER FEATURE

- Source: Submit proposals .
- Flow rate (minimum): Submit proposals .
- Pressure: Submit proposals .
- Pump: Submersible .
- Pipelines: Submit proposals .
- Display: Continuously overflowing .
- Controllers: Submit proposals .
- Treatment: Filter .
- Accessories: .

130 POWER SUPPLY TO WATER FEATURE

- Source: Submit proposals.
- Distribution: Submit proposals.
- Displays:
- Controllers: Submit proposals.
- Accessories: Submit proposals.

PERFORMANCE

200 GENERAL DESIGN

- Design: Complete the design of the water feature.
- Proposals: Submit drawings (showing equipment positions and pipeline routes), technical information, calculations and manufacturers' literature.
- Performance criteria: gently brimming & overflowing .

PRODUCTS

400 PUMP SELECTION

- General: Select pump at or near the most efficient part of the performance curve for required duty.

406 SUBMERSIBLE PUMP TO WATER FEATURE

- Manufacturer: Submit proposals .
- Product reference: Submit proposals .
- Type: Submit proposals .
- Housing material: Plastics .
- Flow rate: Submit proposals .
- Lift/ head of water: Submit proposals .
- Hose connection: Submit proposals .
- Anchoring: Bolted to base .
- Additional requirements: .



- 510 OVERFLOW
- Manufacturer: Submit proposals .
 - Product reference: Submit proposals .
 - Type: .
 - Outlet: To reservoir .

- 560 FILTER
- Manufacturer: Submit proposals .
 - Product reference: Submit proposals .
 - Type: Combined pressure filter and UVC clarifier .

- 585 DRAIN
- Manufacturer: Submit proposals .
 - Product reference: Submit proposals .
 - Type: Submit proposals .

EXECUTION

- 700 INSTALLATION GENERALLY
- Performance: Free from leaks and the audible effects of expansion, vibration and water hammer.
 - Concealment: Filters and Pumps .
 - Fixing of equipment, components and accessories: Fix securely to the structure of the feature using appropriate purpose made fixings.
 - Preparation: Prior to installation, clear all surfaces of debris and projections.
 - Access: Allow adequate space for inspection, servicing and maintenance.
 - Corrosion resistance: In locations where moisture is present or may occur, provide corrosion resistant fittings/ fixings and avoid contact between dissimilar metals by including suitable washers, gaskets, etc.

- 710 INSTALLATION OF PUMPS
- Pipeline connections: Prevent transmission of pipeline forces to pump casing.
 - Pipeline mounted pumps: Support on purpose made brackets lined with vibration absorbent material.
 - Alignment: Align and balance to minimize vibration.
 - Drive belts: Correctly tensioned.
 - Access: Provide adequate space for service and maintenance.
 - Identification plate: Engrave showing:
 - Manufacturer's name and address.
 - Serial number.
 - Duty and maximum head.
 - Speed.
 - Electrical loading.

COMPLETION

- 936 CLEANING
- Equipment: Clean immediately before handover.

- 940 DOCUMENTATION
- Contents:
 - Full technical description of each system installed.
 - Manufacturers' operating and maintenance instructions for equipment



and controls.

- Manufacturers' guarantees and warranties.
- System operating and maintenance instructions for the system as a whole giving optimum settings for controls and maintenance intervals for all equipment.
- Record drawings showing the location of circuits, fittings, pipes, apparatus and operating controls.
- List of normal consumable items.
- Electrical inspection and completion certificates.
- Number of copies: Two.
- Submission: Two weeks after request by contract administrator.

950 OPERATING TOOLS

- Tools: Supply tools for operation, maintenance and cleaning purposes.
- Keys: Supply keys for valves, vents and cabinets.

