

Gillespies LLP

Morgan Sindall

North Manchester General Hospital - MSCP

20200-GIL-NM110-EX-SP-L-0501

Landscape Specification

For Construction

C02

04-07-2022

Multi-storey car park and temporary surface car parks as part of enabling work for North Manchester General Hospital redevelopment.

Contents

Q10 Kerbs/ edgings/ channels/ paving accessories	1
Q23 Gravel/ hoggin/ woodchip/ resin bound roads/ pavings/ overlays	3
Q25 Slab/brick/sett/cobble pavings	5
Q28 Topsoil and soil ameliorants	9
Q30 Seeding/turfing.....	14
Q31 External planting.....	18
Q35 Landscape maintenance	25
Q41 Barriers/ guardrails.....	34
Q50 Site/street furniture/equipment.....	36

Q10

Kerbs/ edgings/ channels/ paving accessories

Types of kerbs/edgings and channels

112 Precast concrete Pin Kerb

1. Description: Flush pin kerbs
2. Standard: To BS EN 1340.
3. Designations: EF Edging, flat top
4. Size (width x height x length): 50 x 150 x 915 mm
5. Finish: As cast
6. Weathering resistance: Class 3
7. Abrasion resistance: Class 3
8. Slip/ skid resistance: PTV to BS 7976-2 of 45 (water) wet
9. Bedding:

113 Precast concrete Uprand Kerb

1. Description: Standard upstand kerbs
2. Standard: To BS EN 1340.
3. Designations: HB2 Kerb, half battered
4. Size (width x height x length): 125 x 255 x 915 mm
5. Finish: As cast
6. Weathering resistance: Class 3
7. Abrasion resistance: Class 3
8. Slip/ skid resistance: PTV to BS 7976-2 of 45 (water) wet
9. Bedding:

Roads/paving accessories/ marking/ demarcation - Not Used

Laying

510 Laying kerbs, edgings and channels

1. Cutting: Neat, accurate and without spalling. Form neat junctions.
 - 1.1. Long units (450 mm and over) minimum length after cutting: 300 mm.
 - 1.2. Short units minimum length after cutting: The lower of one third of their original length or 50 mm.
2. 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.
3. 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

1. 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

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

547 Bedding/ Backing of units on fresh concrete races

1. Standard: To BS 7533-6.

600 Radius kerbs/ channels

1. Usage: Radii of 15 m or less.

610 Angle kerbs

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

620 Accuracy

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

625 Regularity of paved surfaces

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

Ω End of Section

Q23

Gravel/ hoggin/ woodchip/ resin bound roads/ pavings/ overlays

Types of surfacing

225 Resin bound gravel surface

1. Description: Resin bound gravel surface to pedestrian footpath next to temporary car park.
2. Surface course
 - 2.1. Manufacturer: SureSet
 - 2.1.1. Product reference: Natural Aggregate paving
 - 2.2. Slip/ skid resistance: PTV to BS 7976-2 over 45 (water) wet
 - 2.3. Binder: Polyurethane resin
 - 2.4. Chippings: Natural stone aggregates
 - 2.4.1. Colour: Blue Granite
 - 2.5. Aggregate size: 6mm
3. Application: Thoroughly mixed and uniformly spread.
 - 3.1. Spreading rate: Follow manufacturer's guidance.
 - 3.2. Thickness: 18mm
 - 3.3. 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

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

320 Samples

1. Submit: Representative samples of

340 Laying generally

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

350 Cold weather working

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

360 Drainage falls

1. Sealed surfaces

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

370 Laying granular surfaces in vehicular areas

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

380 Laying granular surfaces in pedestrian areas and cycle tracks

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

390 Protection from traffic and plant

1. Paved areas: Restrict access to prevent damage.

Completion

400 Slip resistance testing

1. Surfaces to be tested:
 - 1.1. Surface condition:
2. Timing:
3. Period of notice (minimum): 3 working days.
4. Test standard:
 - 4.1. Testing authority:
 - 4.2. Witnessing/ Certification: Arrange for tests to be witnessed/ certified by:
 - 4.3. Report: Submit.
 - 4.4. Format:

Ω End of Section

Q25

Slab/brick/sett/cobble pavings

Clauses - Not Used

General

185 Gravel filled plastics paving system

1. Description: Cellweb® Tree Root Protection (TRP) to path to Limbert Link
2. Subgrade improvement layer: as per manufacturer's instructions
 - 2.1. Compacted thickness: as per manufacturer's instructions
3. Granular sub-base: as per manufacturer's instructions
 - 3.1. Compacted thickness: as per manufacturer's instructions
4. Paving units: Temporary Bitmac

System performance

285 Design – gravel filled plastics paving system

1. Design: Complete the design of the gravel filled plastics paving system in accordance with manufacturer's instructions.
2. Ground conditions:
3. Performance criteria:
4. Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

Products

320 Tactile flags and slabs

1. Description: Corduroy Hazard warning paving to top and bottom of steps around MSCP
2. Standard: To DD CEN/TS 15209.
3. Material: Precast concrete
 - 3.1. Manufacturer: Marshalls
 - 3.1.1. Product reference: Hazard warning tactile flag
4. Recycled content: As Manufactured
5. Nominal sizes: 400 x 400 x 50mm
6. Colour: Buff

320 Tactile flags and slabs (A)

1. Description: Blister Hazard warning paving to Limbert Link Uncontrolled Crossing
2. Standard: To DD CEN/TS 15209.
3. Material: Precast concrete
 - 3.1. Manufacturer: Marshalls
 - 3.1.1. Product reference: Hazard warning tactile flag
4. Recycled content: As Manufactured
5. Nominal sizes: 400 x 400 x 50mm
6. Colour: Buff

435 Primer for underside of flags and slabs

1. Description: To precast concrete flags to match existing
2. Manufacturer: Contractor's choice
 - 2.1. Product reference: Contractor's choice

440 Ready-mixed mortar

1. Description: To paving joints
2. Type: To engineer's specification
3. Standard/ Performance requirements: In accordance with BS 7533
4. Manufacturer: Instarmac
 - 4.1. Product reference: Ultrascape Flowpoint ECO
5. Consistency: Slurry

445 Ready-mixed fine concrete

1. Description: To paving laying course
2. Standard/ Performance requirements: In accordance with BS 7533-12
3. Manufacturer: Instarmac
 - 3.1. Product reference: Ultrascape ProBed HS ECO
4. Consistency: Moist mix

Execution

620 Adverse weather

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

625 Laying pavings – general

1. Appearance: Smooth and even with regular joints and accurate to line, level and profile.
2. Falls: To prevent ponding.
3. Bedding of paving units: Firm so that rocking or subsidence does not occur or develop.
 - 3.1. Bedding/ Laying course: Consistently and accurately graded, spread and compacted to produce uniform thickness and support for paving units.
4. Slopes: Lay paving units upwards from the bottom of slopes.
5. Paving units: Free of mortar and sand stains.

6. **Cutting:** Cut units cleanly and accurately, without spalling, to give neat junctions with edgings and adjoining finishes.

630 Levels of paving

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

637 Regularity of paved surfaces

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

640 Colour banding

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

645 Protection

1. **Cleanliness:** Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
2. **Materials storage:** Do not overload pavings with stacks of materials.
3. **Handling:** Do not damage paving unit corners, arrises, or previously laid paving.
4. **Mortar bedded pavings:** Keep free from traffic after laying:
 - 4.1. Pedestrian traffic (minimum): Weather Dependant - minimum 24 hrs
 - 4.2. Vehicular traffic (minimum): Weather Dependant - minimum 7 days
5. **Access:** Restrict access to paved areas to prevent damage from site traffic and plant.

655 Condition of sub-bases/ bases before spreading laying course

1. **Trenches and excavation of soft or loose spots in subgrade:** Fill and thoroughly compact.
2. **Granular surfaces:** Lay and compact so as to be sound, clean, smooth and close-textured enough to prevent migration of bedding/ laying course materials into the sub-base during compaction and use, free from movement under compaction plant and free from compaction ridges, cracks and loose material.
3. **Prepared existing and new bound bases (roadbases):** Sound, clean, free from rutting or major cracking. Remove sharp stones, projections and debris.
4. **Sub-base/ Roadbase level tolerances:** To BS 7533-7, Annex A.
5. **Levels and falls:** Accurate and within the specified tolerances.
6. **Drainage outlets:** Within 0-10 mm of the required finished level.

7. Features in sand bedded paving (including mortar bedded restraints and drainage ironwork): Complete to required levels; adequately bed and haunch in mortar.
8. Sub-bases containing cement/ hydraulic binder: Cure for minimum times specified in BS 7533-4.

700 Site mixed fine concrete

1. Description: To public realm
2. Standard: In accordance with BS 7533-7.

715 Laying flag and slab paving – mortar laying course and jointing

1. Standard generally: In accordance with BS 7533-4.
2. Flag installation and cutting: To Interpave 'Concrete flag paving'.
3. Laying course
 - 3.1. Nominal thickness: To manufacturers recommendation for intended loading. minimum 30 mm before laying paving slabs
4. Laying and jointing: As recommended by manufacturer
5. Joint width (nominal): 6 mm

Completion - Not Used

Ω End of Section

Q28

Topsoil and soil ameliorants

Clauses - Not Used

System outline

111 Topsoil system

1. **Description:** For grassed and planting areas
2. **Topsoil:** Imported blended loam topsoil to BS 3882
3. **Ameliorants:** Composted materials
4. **Accessories:** None
5. **Minimum depth:** 150mm for grass seeding areas (100mm directly adjacent to kerbs and edging only if necessary);
300mm for planting areas;
400mm for tree pits
No topsoil is required for wild flower seeding area.

Products

300 Preparation materials generally

1. **Purity:** Free of pests and disease.
2. **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.
3. **Contamination:** Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
 - 3.1. Corrosive, explosive or flammable.
 - 3.2. Hazardous to human or animal life.
 - 3.3. Detrimental to healthy plant growth.
4. **Subsoil:** In areas to receive topsoil or planting media, do not use subsoil contaminated with the above materials.
5. **Objectionable odour:** None.
6. **Give notice:** If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

310 Materials not permitted

1. **Materials:** Peat and Products containing peat

315 Imported topsoil to BS 3882

1. **Quantity:** Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
2. **Standard:** To BS 3882.
3. **Classification:** Multipurpose
 - 3.1. Grade: 0.6-2mm
 - 3.2. Soil textural class to BS 3882, Figure 1: Sandy loam
4. **Source:** Contractor's choice, locally sourced
 - 4.1. **Product reference:** Contractor's choice

345 Aggregates

1. Description:
2. Source:
 - 2.1. Product reference:
3. Reference, description and grading
 - 3.1. Sand:
 - 3.2. Grit:
 - 3.3. Crushed materials:

390 Fertilizers to be incorporated into topsoil and manufactured topsoil

1. Description: For tree pits only in permanent area
2. Type: Homogenous Slow Release - source IBDU
3. Source: Germinal or similar approved
 - 3.1. Product reference: Floranid Club twin 10-5-20 or similar approved

Execution

620 Importing topsoil

1. Give notice: Before stripping topsoil for transfer to site.
 - 1.1. Notice period: 7 days

630 Documentation for imported topsoil

1. Description: To all areas
2. Timing: Submit at handover.
3. Contents
 - 3.1. Full description of all soil components.
 - 3.2. Record of source for all soil components.
 - 3.3. Record drawings showing the location and depth of all soils by type and grade.
 - 3.4. Declaration of analysis: in accordance with BS 3882, Annex E.
4. Number of copies: 2

650 Notice

1. Give notice before
 - 1.1. Setting out.
 - 1.2. Spreading topsoil.
 - 1.3. Applying herbicide.
 - 1.4. Applying fertilizer.
 - 1.5. Visiting site during maintenance period.
2. Period of notice: One week

655 Mechanical tools

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

660 Grading subsoil for:

1. General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
2. Loosening:

- 2.1. **Light and non-cohesive subsoils:** When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
- 2.2. **Stiff clay and cohesive subsoils:** When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
- 2.3. **Rock and chalk subgrades:** Lightly scarify to promote free drainage.
3. **Areas of thicker topsoil:** Excavate locally.
4. **Avoid over compaction.**

665 Subsoil surface preparation for:

1. **General:** Excavate and/ or place fill to required profiles and levels, as section D20.
2. **Loosening**
 - 2.1. **Light and non-cohesive subsoils:** When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - 2.2. **Stiff clay and cohesive subsoils:** When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
3. **Stones:** Immediately before spreading topsoil, remove stones larger than: 50 mm
4. **Remove from site:** Arisings, contaminants and debris

670 Inspecting formations

1. **Give notice:** Before spreading topsoil for all areas.
2. **Notice period:** 7 days

690 Topsoil storage heaps

1. **Location:** Throughout the site
2. **Height (maximum):** 1.0 m
3. **Width (maximum):** 2.0 m
 - 3.1. **Formation:** Loose tip and shape from the side only, without running machinery on the heap at any time.
4. **Protection**
 - 4.1. Do not place any other material on top of storage heaps.
 - 4.2. Do not allow construction plant to pass over storage heaps.
 - 4.3. Prevent compaction and contamination, by fencing and covering as appropriate.

700 Grading of topsoil

1. **Topsoil condition:** Reasonably dry and workable.
2. **Contours:** Smooth and flowing, with falls for adequate drainage.
 - 2.1. **Hollows and ridges:** Not permitted.
3. **Finished levels after settlement:** 25 mm above adjoining paving, kerbs, manholes etc.
4. **Give notice:** If required levels cannot be achieved by movement of existing soil.

705 Handling topsoil

1. **Aggressive weeds:** Give notice and obtain instructions before moving topsoil.
2. **Plant:** Select and use plant to minimize disturbance, trafficking and compaction.
3. **Contamination:** Do not mix topsoil with:
 - 3.1. Subsoil, stone, hardcore, rubbish or material from demolition work.
 - 3.2. Other grades of topsoil.
4. **Multiple handling:** Keep to a minimum. Use or stockpile topsoil immediately after stripping.

5. 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

711 Spreading topsoil to grass seeding areas

1. Layers
 - 1.1. Depth (maximum): 150 mm.
 - 1.2. Gently firm each layer before spreading the next.
2. Depths after firming and settlement (minimum): 150 mm
3. Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

712 Spreading topsoil to planting areas

1. Layers
 - 1.1. Depth (maximum): 150 mm.
 - 1.2. Gently firm each layer before spreading the next.
2. Depths after firming and settlement (minimum): 300 mm
3. Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

713 Spreading topsoil to tree pits

1. Layers
 - 1.1. Depth (maximum): 150 mm.
 - 1.2. Gently firm each layer before spreading the next.
2. Depths after firming and settlement (minimum): 300mm
3. Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 Loose tipping of topsoil

1. 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

1. Above adjoining paving or kerbs: 30 mm unless indicated otherwise on drawings
2. Below dpc of adjoining buildings: Not less than: minimum 150 mm
3. Shrub areas: Higher than adjoining grass areas by: 25 mm
4. Within root spread of existing trees: Unchanged.
5. Adjoining soil areas: Marry in.
6. Thickness of turf or mulch: Included.

845 Applying loose mulch

1. Timing: Immediately after planting
2. Preparation: Clear all weeds, ensure that soil is thoroughly moistened, applying water where necessary
3. Coverage of mulch (minimum):
 - 3.1. Planting beds (depth): 50mm depth
 - 3.2. Trees: 50mm depth
4. Finished level of mulch: 30mm below adjacent or paved areas

Completion - Not Used

Ω End of Section

Q30

Seeding/turfing

Clauses - Not Used

General information/requirements

115 Seeded and turfed areas

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

120 Climatic conditions

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

145 Watering

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

160 Notice

1. **Give notice before**
 - 1.1. Setting out.
 - 1.2. Applying herbicide.
 - 1.3. Applying fertilizer.
 - 1.4. Preparing seed bed.
 - 1.5. Seeding or turfing.
 - 1.6. Visiting site during maintenance period.
2. **Period of notice:** 1 week

170 Setting out

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

Preparation

210 Herbicide

1. **Description:** For all seeding and planting areas
2. **Type:** Suitable for suppressing perennial weeds.
3. **Timing:** Allow fallow period before cultivation.
 - 3.1. **Duration:** As manufacturer's recommendation

212 Seed bed cleaning before sowing

1. **Description:** ALL GRASSED AREAS
2. **Operations:** Kill pernicious weeds with selective contact herbicide.

280 Final cultivation

1. Timing: After grading and fertilizing.
2. Seed bed: Reduce to fine, firm tilth with good crumb structure.
 - 2.1. Depth: 25 mm.
 - 2.2. Surface preparation: Rake to a true, even surface, friable and lightly firmed but not over compacted.
 - 2.3. Remove surface stones/earth clods exceeding:
 - 2.3.1. General areas: 30 mm
 - 2.3.2. Fine lawn areas: 10 mm.
3. Adjacent levels: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.

Seeding

310 Grass seed

1. Description: For all grassed areas
2. Mixture: Germinal A19 (All purpose Landscaping) or similar approved
3. Application rate: 50 g/m²

312 Wildflower seed mixture

1. Description: for wildflower seeds to temporary landscape areas
2. Supplier: Emorsgate Seeds or similar approved
 - 2.1. Mixture reference: EM1
3. Origin (as defined in the National Plant Specification): Native UK
4. Application rate: 4 g/m²

319 Quality of seed

1. Description: For all grassed areas
2. Freshness: Produced for the current growing season.
3. Certification: Blue label certified varieties.
 - 3.1. Standard: EC purity and germination regulations.
 - 3.2. Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
4. Samples of mixtures: Submit when requested.

322 Quality of wildflower seed

1. Description: FOR WILDFLOWER MEADOWS to temporary landscape
2. Standard: In accordance with Flora Locale's 'Code of practice for collectors, growers and suppliers of native flora'.
3. Germination testing: Not required
4. Freshness of seed: Produced for the current growing season

335 Grass sowing season

1. Grass seed generally: April to June

Turfing - Not Used

Protecting/cutting

510 Protective fencing

1. Fencing type: Chestnut pale fencing to BS 1722-4
 - 1.1. Height: 0.9 m
2. Erection: On completion of seeding/ turfing.
3. Removal: After grass is well established. Fencing will remain the property of the Contractor

530 First cut of grassed areas

1. Timing: When grass is reasonably dry.
 - 1.1. Height of initial growth: 75 mm
2. Preparation
 - 2.1. Debris and litter: Remove.
 - 2.2. Stones and earth clods larger than 25 mm in any dimension: Remove
3. Height of first cut: 40 mm
4. Mower type: Contractor's choice
5. Arisings: Remove from site

590 Cleanliness

1. Soil and arisings: Remove from hard surfaces.
2. General: Leave the works in a clean, tidy condition at Completion and after any maintenance operations.

Maintenance

610 Failures of seeding/ turfing

1. Duration: Carry out the following operations from completion of seeding/ turfing until: practical completion.
2. Defective materials or workmanship: Areas that have failed to thrive.
 - 2.1. Exclusions: Theft or malicious damage.
3. Method of making good: Recultivation and reseeding/ returfing.
4. Timing of making good: The next suitable planting season

620 Maintaining

1. Description: General grassed areas
2. Duration: Carry out the following operations from completion of seeding/ turfing until: practical completion.
3. Maximum height of growth at any time: 75 mm
4. Preparation: Before each cut remove all litter and debris.
5. Cutting: As and when necessary to a height of 50 mm.
 - 5.1. Arisings: Remove
6. Bulb planting areas: Do not cut until bulb foliage has died down.
7. Trimming: All edges.
 - 7.1. Arisings: Remove.
8. Weed control: Substantially free of broad leaved weeds.

- 8.1. Method: Application of a suitable selective herbicide.
- 9. Stones brought to the surface: Remove regularly.
 - 9.1. Size: Exceeding 25 mm in any dimension.
- 10. Areas of settlement: Make good.
- 11. Watering: Contractor's choice

Ω End of Section

Q31

External planting

Clauses - Not Used

General information/ requirements

118 Soil conditions

1. Soil for cultivating and planting: Moist, friable and (except in aquatic/ marginal planting) not waterlogged.
2. 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

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

125 Times of year for planting

1. Deciduous trees and shrubs: Late October to late March.
2. Conifers and evergreens: September/ October or April/ May.
3. Herbaceous plants (including marginal): September/ October or March/ April.
4. Container grown plants: At any time if ground and weather conditions are favourable.
 - 4.1. Watering and weed control: Provide as necessary.
5. Dried bulbs, corms and tubers: September/ October.
6. Colchicum (crocus): July/ August.
7. Green bulbs: After flowering in spring.
8. Wildflower plugs: Late August to mid November or March/ April.
9. Aquatic plants: May/ June or September/ October.

130 Mechanical tools

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

145 Watering

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

150 Water restrictions

1. 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

1. Give notice before
 - 1.1. Setting out.
 - 1.2. Applying herbicide.
 - 1.3. Applying fertilizer.
 - 1.4. Delivery of plants/ trees.

- 1.5. Planting shrubs.
- 1.6. Planting trees into previously dug pits.
- 1.7. Watering.
- 1.8. Visiting site during maintenance period.
2. Period of notice: One week

200 Plants/ Trees – general

1. **Condition:** Materially undamaged, sturdy, healthy and vigorous.
2. **Appearance:** Of good shape and without elongated shoots.
3. **Hardiness:** Grown in a suitable environment and hardened off.
4. **Health:** Free from pests, diseases, discoloration, weeds and physiological disorders.
5. **Budded or grafted plants:** Bottom worked.
6. **Root system and condition:** Balanced with branch system.
 - 6.1. **Standard:** The relevant parts of BS 3936
7. **Species:** True to name.
8. **Origin/ Provenance:** Grown in the United Kingdom for at least one growing season, unless otherwise approved
9. **Definition:** Origin and Provenance have the meaning given in the National Plant Specification.

216 Plants/ Trees – specification criteria

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

246 Labelling and information

1. **Standard:** To BS 3936.

260 Plant/ Tree substitution

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

265 Plant handling, storage transport and planting

1. **Standard:** To HTA 'Handling and establishing landscape plants'.
2. **Frost:** Protect plants from frost.
3. **Handling:** Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
4. **Plant packaging:** Black polyethylene bags
5. **Packaging of bulk quantities:** Pallets or bins sealed with polyethylene and shrink wrapped
6. **Planting:** Upright or well balanced with best side to front.

280 Treatment of tree wounds

1. **Cutting:** Keep wounds as small as possible.
 - 1.1. Cut cleanly back to sound wood using sharp, clean tools.
 - 1.2. Leave branch collars. Do not cut flush with stem or trunk.
 - 1.3. Set cuts so that water will not collect on cut area.

2. Fungicide/ Sealant: Do not apply unless instructed.

285 Protection of existing grass

1. General: Protect areas affected by planting operations using boards/ tarpaulins.
 - 1.1. Excavated or imported material: Do not place directly on grass.
 - 1.2. Duration: Minimum period.

290 Surplus material

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

Plant containers - Not Used

Preparation of planting beds/ planting materials

305 Weed control

1. Description: For invasive non-native weeds
2. Locations: All planting areas
3. General: Prevent weeds from seeding and perennial weeds from becoming established, in accordance with the Environment Agency 'Managing Japanese knotweed on development sites. The knotweed code of practice'.

375 Cultivation

1. Compacted topsoil: Break up to full depth.
2. Cultivation: Loosen, aerate and break up soil into particles of 2-8 mm.
 - 2.1. Depth: 600 mm
 - 2.2. Timing: Within a few days before planting.
 - 2.3. Weather and ground conditions: Suitably dry.
3. Surface: Leave regular and even.
4. Levels: Minimum 150 mm below dpc of adjoining buildings
5. Undesirable material brought to the surface: Remove visible weeds, roots and large stones with any dimension exceeding: 75 mm
6. Soil within root spread of trees and shrubs to be retained: Do not dig or cultivate.

387 Mulch to trees and planting beds

1. Description: 50mm layer of bark mulch to the base of proposed trees and planting beds.
2. Manufacturer: Melcourt Industires Ltd or equivalent others
 - 2.1. Product reference: Pine mini chips mulch
3. Timing: Lay after planting.

Planting shrubs/ herbaceous plants/ bulbs

400 Random plant layout

1. Description: To all beds
2. Spacing: In groups planted in staggered rows
3. Density: As plant schedule

405 Shrub planting pits

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

480 After planting

1. **Watering:** Immediately after planting, thoroughly and without damaging or displacing plants or soil.
2. **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.
3. **Top dressing:** Not required
 - 3.1. **Depth:** n/a

485 Mulching planting beds

1. **Material:** Bark mulch
 - 1.1. **Purity:** Free of pests, disease, fungus and weeds.
 - 1.2. **Recycled content:** Contractor's choice
2. **Preparation:** Clear all weeds. Water soil thoroughly.
3. **Coverage:** 50 mm depth
4. **Finished level of mulch:** 25 mm below adjacent grassed or paved areas

Planting trees

506 Tree pits

1. **Sizes:** Tree planting in soft ground - min. 1000mm deep x 1200mm wide
2. **Sloping ground:** Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
3. **Pit bottoms:** : With slightly raised centre. Break up to a depth of 200 mm
 - 3.1. **Treatment:** Soil ameliorant worked into pit bottoms
4. **Pit sides:** Scarify.
5. **Backfilling material:** Tree backfilling material as clause 587
6. **Accessories:** - Perforated plastics irrigation/ ventilation pipe;- Root barrier; and- Underground guying to BS 4043

510 Tree pit root barriers

1. **Locations:** Recommended wherever the installed rootball will be within 3.0 m of an existing underground service route
2. **Manufacturer:** Greenleaf (or similar approved)
 - 2.1. **Product reference:** ReRoot 2000
3. **Depth of top of root barrier below finished soil level:** minimum 75 mm
4. **Installation:** With sides vertical.

513 Tree pit accessories

1. **Irrigation to inground trees**

2. **Locations:** All tree pits
3. **Manufacturer:** Greenblue (or similar approved)
 - 3.1. **Product reference:** RootRain Urban irrigation system,
4. **Type:** Perforated plastics irrigation pipe, 60 mm diameter, in circle above and around sides of rootball, with plastics cap

515 Tree pit drainage

1. **Depth of excavation:** Increase from specified size to allow for aggregate layer, with base slightly falling to outlet.
2. **Aggregate layer:** Clean gravel or broken stone, with no fines, graded 40 to 20 mm.
 - 2.1. **Depth:** 200mm
3. **Completed pits:** Test for free drainage before planting.

535 Tree stakes

1. **Stakes:** Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
2. **Nails:** To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.
3. **Stake size (minimum):** Double softwood stakes 75mm dia. with crossbar and adjustable rubber ties.
4. **Stake length (minimum):** 1.8m length.

587 Tree backfilling material

1. **Composition:** 400mm deep imported topsoil, 600mm subsoil from excavation.
2. **Ameliorant/ Conditioner:** Sanitized and stabilized compost
 - 2.1. **Application rate:** To manufacturer's/ supplier's recommendations
3. **Fertilizer:** Slow release
 - 3.1. **Application rate:** To manufacturer's/ supplier's recommendations

590 Mulching trees

1. **Material:** Ornamental bark mulch
 - 1.1. **Purity:** Free of pests, disease, fungus and weeds.
 - 1.2. **Recycled content:** Contractor's choice
2. **Preparation:** Clear all weeds. Water soil thoroughly.
3. **Coverage:** 50 mm depth

Woodland/ matrix/ buffer zone planting

680 Setting out

1. **Planting density:** As Planting Plans
2. **Layout:** Random groups of no less than 3 or more than 7 of the same species, ensuring that no three plants are aligned in any one direction.

Protecting/ maintaining/ making good defects

710 Maintenance

1. **Duration:** Carry out the operations in the following clauses from completion of planting until the end of the rectification period..
2. **Frequency of maintenance visits:** Fortnightly during growing season

720 Failures of planting

1. Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
 - 1.1. Exclusions: Theft or malicious damage after completion.
 - 1.2. Rectification: Replace with equivalent plants/ trees/ shrubs.
2. Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
3. Timing of making good: In accordance with an agreed defects rectification programme. 12 months for shrub planting, and 24 months for semi-mature tree planting

730 Protective fencing

1. Fencing type: Contractor's choice
 - 1.1. Height: 900 mm
2. Erection: On completion of planting.
3. Removal: After planting is well established

740 Cleanliness

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

750 Planting maintenance generally

1. Weed control: Maintain weed free area around each tree and shrub.
 - 1.1. Diameter (minimum): The larger of 1 m or the surface of original planting pit.
 - 1.2. Keep planting beds clear of weeds: By maintaining full thickness of mulch and hoeing if necessary
2. 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.
3. Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
4. Staking: Check condition of stakes, ties, guys and guards.
 - 4.1. Broken or missing items: Replace.
 - 4.2. Rubbing: Prevent.
 - 4.3. Ties: Adjust to accommodate growth.
 - 4.4. Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
 - 4.5. Frequency of checks: At each scheduled maintenance visit
5. Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
6. Trees: Spray crown when in leaf during warm weather.
 - 6.1. Timing: After dusk.
7. Watering: As necessary to ensure the health and vigour of planting. Increased frequency during prolonged dry periods.

755 Planting maintenance - fertilizer

1. Time of year: March or April.
2. Fertilizer: Slow release
 - 2.1. Manufacturer: Contractor's choice
 - 2.2. Product reference: Contractor's choice

3. **Application:** To trees and planting beds. Evenly spread, carefully incorporating below mulch materials.
4. **Application rate:** To manufacturer's recommendations

760 Planting maintenance – pruning

1. **General:** Prune to promote healthy growth and natural shape.
 - 1.1. **Dead, dying, diseased wood and suckers:** Remove.
 - 1.2. **Timing:** In accordance with the agreed maintenance schedule
 - 1.3. **Trees:** Favour a single central leading shoot.
2. **Arisings:** Remove.

780 Maintenance instructions

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

790 Final mulching

1. **Timing:** At end of the maintenance period.
2. **Watering:** Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
3. **Planting beds:** Remulch.
4. **Depth (minimum):** 50 mm
5. **Trees:** Remulch.
6. **Depth (minimum):** 50 mm

Ω End of Section

Q35 Landscape maintenance

Clauses - Not Used

Generally

100 Maintenance generally

1. The contractor will be responsible for the maintenance of all hard landscape and soft landscape areas until practical completion.
2. During the maintenance liability period the contractor will be responsible for the maintenance of soft landscape only.
3. Excluding grass area after practical completion
4. 12 months for shrub beds
5. 24 months for semi-mature trees

110 Notice

1. Give notice before
 - 1.1. Application of herbicide.
 - 1.2. Application of fertilizer.
 - 1.3. Watering.
 - 1.4. Each site maintenance visit.
2. Period of notice: 7 days

130 Reinstatement

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

155 Watering

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

160 Water restrictions

1. 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 arisings

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

180 Chipping or shredding

1. General: Not permitted on site.

181 Mechanical equipment

1. General: Minimize.
2. Prohibited equipment: Leaf blowers
3. Timing: In accordance with the University's instruction for use of mechanical equipment

190 Litter

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

195 Protection of existing grass

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

197 Cleanliness

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

Grassed areas

210 Maintenance of grassed areas

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

211 Maintenance of grassed areas

1. Standard: To BS 7370-3. Carry out maintenance appropriate to each category of turf, as follows:
 - 1.1. Objectives: To BS 7370-3, table 6.
 - 1.2. Programme: To BS 7370-3, clause 11.
 - 1.3. Mowing methods: To BS 7370-3, table 3.

220 Grass cutting generally

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

225 Tree stems

1. **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.

226 Tree stems

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

250 Leaf removal

1. **Operations:** Collect fallen leaves.
2. **Special requirements:** Remove by hand raking
3. **Disposal:** Remove from site for recycling

255 First cut of

1. **Description:** All grassed areas
2. **Height of initial growth:** 40-75 mm
3. **Preparation**
 - 3.1. **Debris and litter:** Remove.
 - 3.2. **Stones and earth clods larger than 25 mm in any dimension:** Remove
4. **Height of first cut:** 40 mm
5. **Mower type:** Contractor's choice
6. **Arisings:** Remove

260 Mowing lawns

1. **Grass height:** Maintain between 25 and 50 mm
2. **Arisings:** Remove

309 Edges to seeded areas

1. **Location:** Planting beds and around newly planted trees.
2. **Timing:** After seeded areas are well established.
3. **Edges:** Cut to clean straight lines or smooth curves. Draw back soil to permit edging.
4. **Arisings:** Remove.

310 Re-forming grass edges

1. **Location:** To Upper Brook St
2. **Edges:** Draw back soil and re-form edges to clean straight lines or smooth flowing curves, sloping slightly back from vertical.

311 Re-forming grass edges

1. **Location:** To Upper Brook St
2. **Standard:** To BS 7370-3.
3. **Finishing:** Damaged parts of turned turf top dressed with suitable soil and seed mix matching the sward
 - 3.1. **Support:** Not required

320 Levelling hollows and bumps in turf

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

345 Control of Japanese knotweed

1. **Operations:** Spot treat in June and September during suitable weather conditions and when plants are growing vigorously.
2. **Herbicide:** In accordance with the Environment Agency 'Code of Practice for the management, destruction and disposal of Japanese knotweed'
3. **Application:** In accordance with the Environment Agency 'Code of Practice for the management, destruction and disposal of Japanese knotweed'
4. **Arisings:** In accordance with the Environment Agency 'Code of Practice for the management, destruction and disposal of Japanese knotweed'

350 Fertilizer – spring application

1. **Type:** Slow release
2. **Application rate:** 60 g/m²

360 Fertilizer – autumn application

1. **Type:** Slow release
2. **Application rate:** 60 g/m²

381 Reinstatement of worn or damaged lawns

1. **Worn or damaged areas:** Make good by returfing or reseeding:
 - 1.1. **Returfing standard:** To BS 7370-3, Clause 12.2.
 - 1.2. **Reseeding standard:** To BS 7370-3, Clause 12.6.
2. **Turf or seed:** To match existing in appearance and quality.
3. **Protection and watering:** Provide as necessary to promote successful germination and/ or establishment.

Flower beds/ seasonal beddings - Not Used

Shrubs/trees/hedges

500 Establishment of new planting

1. **Duration:** 12 months for shrub planting, 24 months for semi-mature tree planting
2. **Weed control**
 - 2.1. **Method:** Keep planting beds clear of weeds by hoeing and screefing .
 - 2.2. **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.
3. **Soil condition:** Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
4. **Watering:** Contractor's choice

502 Establishment of new planting – fertilizer

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

510 Tree stakes and ties

1. **Inspection/ Maintenance times:** As scheduled and immediately after strong winds
2. **Stakes**
 - 2.1. Replace loose, broken or decayed stakes to original specification.
 - 2.2. 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.
3. **Ties:** Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing.
 - 3.1. Where chafing has occurred, reposition or replace ties to prevent further chafing.
4. **Removal of stakes and ties:** During spring when no longer required to support the tree
 - 4.1. Fill stake holes with lightly compacted soil.

515 Tree guy wires

1. **Inspection/ Maintenance times:** Immediately after strong winds
2. **Operations**
 - 2.1. Replace or resecure loose or missing guy wires.
 - 2.2. Adjust to suit stem growth and to provide correct and uniform tension.
3. **Removal:** When instructed

520 Refirming of trees and shrubs

1. **Timing:** After strong winds, frost heave and other disturbances.
2. **Refirming:** Tread around the base until firmly bedded.
3. **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

1. **Pruning:** In accordance with good horticultural and arboricultural practice.
 - 1.1. **Removing branches:** Do not damage or tear the stem or bark.
 - 1.2. **Wounds:** Keep as small as possible and cut cleanly back to sound wood.
 - 1.3. **Cutting:** Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
 - 1.4. **Larger branches:** Prune neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.
2. **Appearance:** Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
3. **Tools:** Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
4. **Disease or infection:** Give notice if detected.
5. **Growth retardants, fungicide or pruning sealant:** Do not use unless instructed.

555 Pruning trees and shrubs

1. **Standard:** To BS 7370-4.
2. **Special requirements:** Growth retardants not permitted

570 Formative pruning of young trees

1. **Standard:** Type and timing of pruning operations to suit the plant species.
2. **Time of year:** Do not prune during the late winter/ early spring sap flow period.
3. **Young trees up to 4 m high**

- 3.1. 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.
- 3.2. Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.
4. Whips or feathered trees: Do not prune.
5. Operatives: Member of the Arboricultural Association

575 Pruning ornamental shrubs

1. General: Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
2. Suckers: Remove by cutting back level with the source stem or root.

580 Pruning flowering species of shrubs and roses

1. Time of year
 - 1.1. Winter flowering shrubs: Spring.
 - 1.2. Shrubs flowering between March and July: Immediately after the flowering period.
 - 1.3. Shrubs flowering between July and October: Back to old wood in winter.
 - 1.4. Rose bushes: Early spring to encourage basal growths and a balanced, compact habit.

620 Removal of dead plant material

1. 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

1. Removal: Within one week of notification
2. Replacement: In the next suitable planting season

642 Thinning by transplanting surplus plants

1. Plants to be thinned: As required to maintain optimum health and vigour
2. Standard: BS 7370-4.
3. Timing: As required
4. Roots
 - 4.1. Disturbance to adjacent plants: Minimise.
 - 4.2. Soil: Refill holes with topsoil to leave an even graded surface.
 - 4.3. Mulch: Maintain mulch as original specification.
 - 4.4. Adjacent plants: Make good any minor damage immediately.
5. Plants for retention: Select plants with a strong healthy habit.
6. Mature planting density: varies depending on species

645 Weed control generally

1. Weed tolerance: At all times, weed cover less than 5% and no weed to exceed 100 mm high
2. Adjacent plants, trees and grass: Do not damage.

650 Hand weeding

1. General: Remove weeds entirely, including roots.
2. Disturbance: Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.

3. **Completion:** Rake area to a neat, clean condition.
4. **Mulch:** Reinstate to original depth.

655 Weed cutting by hand or machine

1. **Undesirable grass, brambles and herbaceous growth:** Cut down cleanly to a maximum height of 25 mm.
2. **Herbicides:** Do not use

675 Digging over

1. **General:** Dig over beds. Do not damage existing plants, bulbs and roots.
 - 1.1. **Depth of dig (minimum):** 100 mm

680 Soil aeration

1. **Compacted soil surfaces**
 - 1.1. **Prick up:** To aerate the soil of root areas and break surface crust.
 - 1.2. **Size of lumps:** Reduce to crumb and level off.
 - 1.3. **Damage:** Do not damage plants and their roots.

690 Maintenance of loose mulch

1. **Thickness (minimum):** 50 mm
 - 1.1. **Top up:** Every three months or as required
2. **Mulch spill on adjacent areas:** Remove weeds and rubbish and return to planted area.
3. **Weeding:** Remove weeds growing on or in mulch by hand weeding.

700 Snow removal from shrubs/ Trees

1. **Standard:** To BS 7370-4.
2. **Plants subject to snow removal:** All evergreens
3. **Timing:** Within 24 hours of snowfall

Tree work

810 Tree work generally

1. **Identification:** Before starting work agree which trees, shrubs and hedges are to be removed or pruned.
2. **Protection:** Avoid damage to neighbouring trees, plants and property
3. **Standards:** To BS 3998 and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'.
4. **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.
5. **Appearance:** Leave trees with a well balanced natural appearance.
6. **Chain saw work:** Operatives must hold a Certificate of Competence.
7. **Tree work:** To be carried out by an approved member of the Arboricultural Association.

815 Additional work

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

820 Prevention of wound bleeding

1. **Standard:** To BS 3998, clause 8.

825 Prevention of disease transmission

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

830 Cleaning out and deadwooding

1. **Remove**
 - 1.1. Dead, dying, or diseased wood, broken branches and stubs.
 - 1.2. Fungal growths and fruiting bodies.
 - 1.3. Rubbish, windblown or accumulated in branch forks.
 - 1.4. Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.
 - 1.5. Other unwanted objects, e.g. tree houses, swings.
 - 1.6. Climbing plants up trees.

835 Cutting and pruning generally

1. **Tools:** Appropriate, well maintained and sharp.
2. **Final pruning cuts**
 - 2.1. **Chainsaws:** Do not use on branches of less than 50 mm diameter.
 - 2.2. **Hand saws:** Form a smooth cut surface.
 - 2.3. **Anvil type secateurs:** Do not use.
3. **Removing branches:** Do not damage or tear the stem.
4. **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.
5. **Cutting:** Cut at a fork or at the main stem to avoid stumps wherever possible.
6. **Large branches:** Remove only with prior approval
 - 6.1. Remove in small sections and lower to ground with ropes and slings.
7. **Dead branches and stubs:** When removing, do not cut into live wood.
8. **Unsafe branches:** Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
9. **Disease or fungus:** Give notice if detected. Do not apply fungicide or sealant unless instructed.

845 Crown lifting

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

855 Cutting tree roots

1. **Excavating:** Use hand tools only.
2. **Protected area:** Do not cut roots within an area which is the larger of:
 - 2.1. The branch spread of the tree.
 - 2.2. An area with a radius of half the tree's height, measured from the trunk.
3. **Outside protected area:** Give notice of roots exceeding 50 mm in diameter. Do not cut without approval.

4. Cutting
 - 4.1. Cutting: Make clean smooth cuts with a hand saw.
 - 4.2. Wounds: Minimize. Avoid ragged edges.
 - 4.3. Finishing: Pare cut surfaces smooth with a sharp knife.
5. Backfilling
 - 5.1. Protection: Cover cut roots with clean sharp sand.
 - 5.2. Material: Backfill with original topsoil.

865 Bark damage

1. Wounds
 - 1.1. Do not attempt to stop sap bleeding.
 - 1.2. Bark: Remove ragged edges using a sharp knife.
 - 1.3. Wood: Remove splintered wood from deep wounds.
 - 1.4. Size: Keep wounds as small as possible.
2. Liquid or flux oozing from apparently healthy bark: Give notice.

Water areas - Not Used

Hard landscape areas/fencing - Not Used

Ω End of Section

Q41

Barriers/ guardrails

Types of barriers/ guardrails

130 Protective barriers

1. Description: BX14 4204 Pedestrian Guardrail by Broxap (to be approved by Client)
2. Standard: To BS 6180.
3. Height above datum: 1050mm
4. Material/ Protection: Steel, galvanized to BS EN ISO 1461 after fabrication
5. Surface finish: Powder coated
 - 5.1. Colour/ Texture: RAL 7016 (to be confirmed)
6. Fixings/ Foundations: Refer to manufacturers' recommendation
7. Other requirements: Vertical supports at 2 m minimum centres

240 Handrail systems

1. Description: Handrail to precast step units around MSCP to BS 8300-1
2. System manufacturer: Contractor's choice
3. Material: Carbon steel
 - 3.1. Cross-section: 50mm diameter circular
 - 3.2. Finish: Galvanized and powder coated to RAL 7016

Performance/ inspection/ testing - Not Used

Installation

405 Competence

1. Operatives: Contractors must employ competent operatives.
2. Qualifications: Submit certification of training.
 - 2.1. UKAS Sector Scheme 2A sub-categories: (b)

410 Work on or adjacent to highways

1. Requirement: Comply with the Department for Transport's 'Safety at street works and road works. A code of practice'. Retain a copy of this document on site at all times during the course of the works.

420 Alignment

1. Erection: Fences/ barriers to present a flowing alignment. Tops of posts to follow ground profile.
2. Tolerance: ± 30 mm of prescribed alignment and, within any 10 m length, ± 15 mm from the straight or required radius.

430 Erection generally

1. Protection: Coat all internal and external surfaces of aluminium and steel posts below and up to 150 mm above ground level, with two coats of bituminous paint to BS 6949 type 2, unless other applied surface finish is specified.
2. Prevention of electrolytic corrosion: Isolate dissimilar metals.
3. Steel components: Do not drill, cut or weld after galvanizing.

470 Driving posts

1. **Heads of posts:** Protect to prevent damage when driving.

480 Concrete foundations for posts

1. **Excavations:** To have vertical sides. Dispose of all arisings. Blind excavation bottoms with a 50 mm layer of concrete.
2. **Concrete mix:** To BS 8500-2, Designated mix not less than GEN 4 or Standard mix not less than ST5. Do not use admixtures.
3. **Placing concrete:** Fill holes to the specified depth and fully compact. Do not backfill for at least four days.
4. **Temporary support to posts:** Provide for a at least four days after placing concrete.

490 Damage repair to galvanized surfaces

1. **Areas of repair:** Minor damage, including fixings and fittings.
 - 1.1. Total area of repair not to exceed 0.5% of total surface area.
 - 1.2. Each area not to exceed 1000 mm².
2. **Renovation:** Use low melting point zinc alloy repair rods or powders or at least two coats of zinc-rich paint to BS 4652.

510 Preparation for site painting

1. **Preparation and application:** As soon as possible after installation of barriers/ guardrails.

Completion

900 Documentation

1. **Contents**
 - 1.1. General product information.
 - 1.2. Installation information.
 - 1.3. Inspection and maintenance reports.
2. **Number of copies:** Digital copy
3. **Submission:** Two weeks prior to date when principal contractor expects work to be practically complete

Ω End of Section

Q50

Site/street furniture/equipment

Clauses

2 To be read with preliminaries/ general conditions.

Gates, barriers and parking controls

190 Bollards

1. Description: Bollards in TCP01
2. Manufacturer: Broxap or equivalent others
 - 2.1. Product reference: BX14 6501 Heavy Duty Economy Bollard (to be approved by Client)
3. Material: Steel
 - 3.1. Finish as delivered: Powder-coated,
 - 3.2. Colour: RAL 7016 (To be confirmed)
4. Height above ground: 1000 mm
5. Sectional size: 140 mm diameter
6. Top: Flat
7. Special features: Yellow reflective band, 150 mm high at top of bollard
8. Method of fixing: Root, 300 mm below ground, set in concrete base

Site and street furniture

210 Cycle stands outside MSCP

1. Manufacturer: Broxap or equivalent others
 - 1.1. Product reference: BXMW/GS/Sheffield-stand
2. Type: Single stands
3. Material: Stainless steel 304
 - 3.1. Finish: Brushed
4. Method of fixing: Base plate

210A Cycle stands outside MSCQ

1. Manufacturer: Broxap or equivalent others
 - 1.1. Product reference: BXMW/S47/Sheffield Extra Cycle -stand
2. Type: Single stands
3. Material: Stainless steel 304
 - 3.1. Finish: Brushed
4. Method of fixing: Base plate

242B DOOR BARRIER

1. Description: Door barrier to MSCP entrance
2. Manufacturer: Broxap or similar.
 - 2.1. Product reference: BX39 1120
3. Material: Aluminium
 - 3.1. Finish: Brushed

- 3.2. Colour: None
4. Accessories/ Special requirements: With Glass infill
5. Method of fixing: Root fixed to manufacturer's recommendations

Installation

510 Concrete foundations generally

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

515 Setting components in concrete

1. Holes: Refer to manufacturer's guidance.
2. Components: Accurately positioned and securely supported.
3. Concrete fill: Fully compacted as filling proceeds.
4. Concrete foundations exposed to view: Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
5. Temporary component support: Maintain undisturbed for minimum 48 hours.

550 Damage to galvanized surfaces

1. Minor damage in areas up to 40 mm² (including on fixings and fittings): Make good.
 - 1.1. 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.
 - 1.2. Thickness: Sufficient to provide a zinc coating at least equal to the original layer.

560 Site painting

1. Timing: Prepare surfaces and apply finishes as soon as possible after fixing.

Ω End of Section

Status A, No Comments (PD-CONSTRUCTION)



Specification created using NBS Chorus