

# **LD00100 Peel Park Avenue Spec**

**16 December 2019**

## Table of Contents

| Title |  | Page |
|-------|--|------|
| C     | Demolition/ Alteration/ Renovation                             | 3    |
| C20   | Demolition   | 5    |
| D     | Groundwork   | 6    |
| D20   | Excavating and filling   | 8    |
| F     | Masonry  | 13   |
| F20   | Natural stone rubble walling                                   | 15   |
| Q     | Paving/Planting/Fencing/Site furniture                         | 17   |
| Q20   | Granular sub-bases to roads/pavings                            | 19   |
| Q23   | Gravel/ Hoggins/ Woodchip/ Resin bound roads/ paving/ overlays | 22   |
| Q28   | Topsoil and soil ameliorants                                   | 25   |
| Q30   | Seeding/turfing  | 31   |
| Q31   | External planting  | 35   |
| Q41   | Barriers/ guardrails   | 40   |

**C**

**Demolition/ Alteration/ Renovation**

**C20**  
**Demolition**

## **C20 Demolition**

### **To be read with Preliminaries/ General conditions**

#### **GENERAL REQUIREMENTS**

##### **130 GROUNDWORKS**

- Old foundations, slabs and the like: Break out in locations and to the extents stated.
- Contaminated material: Remove, and carry out remediation required by the Enforcing Authority.

##### **150 FEATURES TO BE RETAINED**

- General: Keep in place and protect the following: Trees noted on drawings; protect in accordance with BS 5837.

#### **SERVICES AFFECTED BY DECONSTRUCTION/ DEMOLITION**

##### **210 SERVICES REGULATIONS**

- Work carried out to or affecting new and/ or existing services: Carry out in accordance with the byelaws and/ or regulations of the relevant Statutory Authority.

##### **220 LOCATION OF SERVICES**

- Services affected by deconstruction/ demolition work: Locate and mark positions.
- Mains services marking: Arrange with the appropriate authorities for services to be located and marked.
  - Marking standard: In accordance with National Joint Utilities Group 'Guidelines on the positioning and colour coding of underground utilities' apparatus'.

##### **250 LIVE FOUL AND SURFACE WATER DRAINS**

- Drains and associated manholes, inspection chambers, gullies, vent pipes and fittings:
  - Protect; maintain normal flow during deconstruction/ demolition.
  - Make good any damage arising from deconstruction/ demolition work.
  - Leave clean and in working order at completion of deconstruction/ demolition work.
- Other requirements: not required.

##### **270 SERVICES TO BE RETAINED**

- Damage to services: Give notice, and notify relevant service authorities and/ or owner/ occupier regarding damage arising from deconstruction/ demolition.
- Repairs to services: Complete as directed, and to the satisfaction of the service authority or owner.

#### **MATERIALS ARISING**

##### **511 EMPLOYER'S PROPERTY**

- Components and materials to remain the property of the Employer: Hyndburn BC.
- Protection: Maintain until these items are removed by the Employer or reused in the Works, or until the end of the Contract.
- Special requirements: Not required.

**D**

**Groundwork**

**D20**

**Excavating and filling**

## **D20 Excavating and filling**

To be read with Preliminaries/General conditions

### **GENERALLY/THE SITE**

#### **150 EXISTING SERVICES, FEATURES AND STRUCTURES**

- Services: See section A12 for locations.
- Site features to be retained: See section A12 for details.
- Structures: See section A34 for details of protection.

### **CLEARANCE/EXCAVATING**

#### **164 TREE ROOTS**

- Protected area: Do not cut roots within precautionary protection area.
  - Size of area: Branch spread of the tree.
- Excavation in protected area:
  - Method: Contractor's choice.
  - Backfill as soon as possible or temporarily line with polyethylene sheet to reduce evaporation.
- Outside protected area: Give notice of roots exceeding 25 mm and do not cut without approval.
- Cutting:
  - Make clean smooth cuts with no ragged edges.
  - Pare cut surfaces smooth with a sharp knife.
  - Treatment of cut roots: Not required.
- Backfill: As dug material.

#### **168 SITE CLEARANCE**

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

#### **170 REMOVING SMALL TREES, SHRUBS, HEDGES AND ROOTS**

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

#### **220 STRIPPING TOPSOIL**

- General: Before beginning general excavation or filling, strip topsoil from areas where there will be regrading, buildings, pavings/ roads and other areas shown on drawings.
- Depth:
  - Remove to an average depth of 100 mm.
  - Give notice where the depth of topsoil is difficult to determine.
- Handling: Handle topsoil for reuse or sale in accordance with clause 225.
- Around trees: Do not remove topsoil from below the spread of trees to be retained.
- Site storage: Keep separate from excavated sub-soil.

#### **221 TREATING TOPSOIL**

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



#### 225 HANDLING TOPSOIL

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

#### 270 FOUNDATIONS GENERALLY

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

#### 330 UNRECORDED FEATURES

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

#### 370 UNDERGROUND STRUCTURES IN LANDSCAPE AREAS

- Generally: Remove walls, roads, foundations, disused services, drains, manholes and the like to minimum depth.
- Minimum depth below finished levels:
  - Grass, ground cover and perennial planting: 500 mm.
  - Shrub planting: 750 mm.
  - Within 2 m of tree planting: 1000 mm.
- Walls and slabs remaining: In every 10 m<sup>2</sup> of wall or slab, make a drainage hole at least 600 mm diameter.

### **DISPOSAL OF MATERIALS**

#### 410 EXCAVATED TOPSOIL STORAGE

- Storage: Stockpile in temporary storage heaps on site .

#### 415 EXCAVATED TOPSOIL REMOVAL

- General: Remove from site.

#### 450 WATER

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

454 GROUND WATER LEVEL, SPRING OR RUNNING WATER

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

**FILLING**

500 PROPOSED FILL MATERIALS

- Details: Submit full details of proposed fill materials to demonstrate compliance with specification, including:
  - Type and source of imported fill.
  - Proposals for processing and reuse of material excavated on site.
  - Test reports as required elsewhere.
- Timing: At least 21 days before starting filling.

510 HAZARDOUS, AGGRESSIVE OR UNSTABLE MATERIALS

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

520 FROST SUSCEPTIBILITY

- General: Except as allowed below, fill must be non frost-susceptible as defined in Highways Agency 'Specification for Highway Works', clause 801.8.
- Test reports: If the following fill materials are proposed, submit a laboratory report confirming they are non frost- susceptible:
  - Fine grained soil with a plasticity index less than 20%.
  - Coarse grained soil or crushed granite with more than 10% retained on a 0.063 mm sieve.
  - Crushed chalk.
  - Crushed limestone fill with average saturation moisture content in excess of 3%.
  - Burnt colliery shale.
- Frost-susceptible fill: May only be used:
  - At depths below the finished ground surface greater than: 350 mm.
  - Within the external walls of buildings below spaces that will be heated. Protect from frost during construction.
  - Where frost heave will not affect structural elements.

530 PLACING FILL

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

535 COMPACTION GENERALLY

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

540 BENCHING IN FILL

- Adjacent areas: If, during filling the difference in level between adjacent areas of filling exceeds 600 mm, cut into edge of higher filling to form benches 600 mm minimum width and height equivalent to depth of a layer of compacted filling.
- New filling: Spread and compact to ensure maximum continuity with previous filling.

610 COMPACTED FILLING FOR LANDSCAPE AREAS

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

615 LOOSE TIP FILLING FOR LANDSCAPE AREAS

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

617 HIGHWAYS AGENCY TYPE 1 UNBOUND MIXTURE

- Fill: To Highways Agency 'Specification for highway works', clauses 801 and 803:
  - Crushed rock (other than argillaceous rock).
  - Crushed concrete.
  - Recycled aggregates.
  - Crushed non-expansive slag.
  - Well-burned non-plastic colliery shale.
- Amendments to requirements in Highways Agency 'Specification for highway works': None.
- Filling: To Highways Agency 'Specification for highway works', clause 802.

618A HIGHWAYS AGENCY TYPE 3 UNBOUND MIXTURE

- Fill: To Highways Agency 'Specification for highway works', clauses 801 and 804:
  - Crushed rock (other than argillaceous rock).
  - Crushed concrete.
  - Crushed non-expansive slag.
  - Well-burned non-plastic colliery shale.
  - Natural gravel.
  - Natural sand.
- Amendments to requirements in Highways Agency 'Specification for highway works': None.
- Filling: To Highways Agency 'Specification for highway works', clause 802.

626 COMPACTED GENERAL FILL

- Suitable material: Make up shortfall in excavated material with imported material of a similar type.
- Excavated material: Select suitable material and keep separate.
- Filling: Spread and level material in layers. As soon as possible thoroughly compact each layer.
- Required compaction: To suit use of fill as planting area and ramps.
- Proposals: Well in advance of starting work submit details of proposed:
  - Materials to be used, including quantities of each type.
  - Type of plant.
  - Maximum depth of each compacted layer.
  - Minimum number of passes per layer.

650 PROTECTION OF COMPACTED FILLING

- Temporary protective filling: Before allowing construction traffic, raise level of compacted cohesive soil filling at least 150 mm above formation level using properly compacted temporary filling.
- Removal: Remove temporary protective filling from site before permanent construction.

**F**

**Masonry**

**F20**

**Natural stone rubble walling**

## **F20 Natural stone rubble walling**

To be read with Preliminaries/ General conditions.

### **TYPES OF WALLING**

#### **110A RUBBLE WALLING - COURSED RANDOM RUBBLE**

- Stone: To BS EN 771-6.
  - Petrological family: Sandstone.
  - Colour: Buff.
  - Origin: Quarry to be confirmed.
  - Supplier: Contractor's choice.
  - Product reference: Random.
  - Size: Random.
  - Compressive strength (minimum): submit proposals.
  - Category: refer to supplier.
  - Freeze/ Thaw resistance: Not required.
  - Additional requirements: None.
  - Quality: Seasoned and free from vents, cracks, fissures or other defects deleterious to strength, durability or appearance.
- Mortar: As section Z21.
  - Standard: To BS EN 998-2.
  - Mix: - Site batched and mixed mortar: Select from:.
  - Sand: To BS EN 13139; crushed stone graded to approval.
  - Additional requirements: None.
- Joints: Flush; brushed.
- Other requirements: None.

### **LAYING AND JOINTING**

#### **300 REFERENCE PANELS**

- General: Complete areas of specified walling types and obtain approval of appearance before proceeding.
- Walling type: F20/110A.
  - Location: Ramp walls.
  - Size: not less than 3 lin m.
  - Features: coping and section.

#### **315 ADVERSE WEATHER**

- General: Do not use frozen materials or lay on frozen surfaces.
- Air temperature: Do not lay stones:
  - In cement gauged mortars: At or below 3°C and falling or below 1°C and rising.
  - In hydraulic lime:sand mortars: At or below 5°C and falling or below 3°C and rising.
- Temperature of walling during curing: Above freezing until mortar hardened.
- Newly erected walling: Protect at all times from:
  - Rain and snow.
  - Drying out too rapidly in hot conditions and in drying winds.

325 LAYING GENERALLY

- Absorbent stones: Dampen in warm weather to reduce suction. Do not soak.
- Mortar joints:
  - Laying: Full bed of mortar with all joints and voids filled.
  - Appearance: Neat and consistent.
- Orientation for natural bed of stones: Appropriate to properties of stones and positions in walling/ dressings.
- Appearance and bonding: Consistent overall appearance and good bond.
  - Random walling: Distribute different shapes, sizes and colours evenly throughout the face of the wall. Avoid long continuous vertical joints.
- Accuracy:
  - Walling generally: Plumb, unless specified otherwise.
  - Setting out: Achieve satisfactory junctions and joints with adjoining or built-in elements and components.
- Cleanliness: Keep facework clean. Rubbing and other abrasive or chemical cleaning methods to remove marks and stains, not permitted.

330 WALLING BELOW GROUND LEVEL

- Extent of facework below finished level of adjoining ground or external works (minimum): 150 mm.

360 QUOINS AND JAMBS IN RUBBLE WALLING

- Selection of stones: Large stones, dressed to a regular shape.
- Laying: In advance of main body of walling.

370 BONDERS FOR WALLS FACED BOTH SIDES

- Bonding stones:
  - Length: Two thirds the thickness of the wall.
  - Height: Not less than one third of length.
  - Distribution: One to every square metre of each side of wall and staggered.

380 COURSED WORK

- Courses: True to line and level.

390 BRUSHED FINISH TO JOINTS

- General: After the initial set has taken place, brush joints to remove laitance/ excess fines and give a coarse texture.



**Q**

**Paving/Planting/Fencing/Site furniture**

**Q20**

**Granular sub-bases to roads/pavings**

## Q20 Granular sub-bases to roads/pavings

To be read with Preliminaries/ General conditions.

### 110 THICKNESSES OF SUB-BASE/ SUBGRADE IMPROVEMENT LAYERS

- Thicknesses: See sections:
  - Q23 Gravel/hoggin/woodchip roads/pavings.

### 140 EXCAVATION OF SUBGRADES

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

### 145 PREPARATION AND COMPACTION OF SUBGRADES

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

### 170 GEOTEXTILE FILTER/ SEPARATOR MEMBRANE To paths and steps

- Manufacturer: Contractor's choice .
  - Product reference: submit proposals .
- Jointing: 300 mm overlap .
- Protect from:
  - Exposure to light, except during laying (maximum five hours).
  - Contaminants.
  - Materials listed as potentially deleterious by geotextile manufacturer.
  - Damage, until fully covered by fill.
  - Wind uplift, by laying not more than 15 m before covering with fill.
- Preparation: Remove humps and sharp projections and fill hollows before laying.

### 211 GRANULAR MATERIAL

- Quality: Of a known suitability for use in sub-bases, free from excessive dust, well graded, all pieces less than 75 mm in any direction, minimum 10% fines value of 50 kN when tested in a soaked condition to BS 812-111 or a resistance to fragmentation of LA50 for the Los Angeles test to BS EN 1097-2, and in any one layer only one of the following:
  - Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.
  - Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
  - Gravel or hoggin with not more clay content than is required to bind the material together, and with no large lumps of clay.
  - Natural gravel.
  - Natural sand.
- Filling: Spread and levelled in 150 mm maximum layers, each layer thoroughly compacted.

220 FROST SUSCEPTIBLE GRANULAR MATERIAL

- Definition (non frost susceptible material): To Highways Agency 'Specification for highway works' clause 801.8.
- Depth of frost susceptible material below final surface of paving (minimum): 350 mm.
- Testing: Test materials used if required and supply certificates.

230 PLACING GRANULAR MATERIAL GENERALLY

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

250 LAYING GRANULAR SUB-BASES FOR PEDESTRIAN AREAS

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

310 ACCURACY

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

330 COLD WEATHER WORKING

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

340 PROTECTION

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

**Q23**

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

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

To be read with Preliminaries/ General conditions.

### **TYPES OF SURFACING**

- 225 PROPRIETARY RESIN BOUND CHIPPINGS to all paths and steps
- Subgrade improvement layer: As section Q20.
    - Compacted thickness: Submit proposals.
  - Geomembrane: Geotextile membranes.
    - Manufacturer: Contractor's choice.
    - Product reference: Contractor's choice.
  - Granular sub-base: Type 3 or 4/20mm graded crushed concrete aggregate to standard En12620.
    - Compacted thickness: 150mm.
  - Water collection: Not required .
  - Geotextile: Not required.
    - Manufacturer: Not required.
    - Product reference: Not required.
  - Base course: n/a.
  - Surface course:
    - Manufacturer: Langford Direct, Sudtech.
    - Product reference: Trailflex.
    - Slip/ skid resistance: as per manufacturers spec.
    - Binder: as above.
    - Chippings: as above.
    - Colour: Amber.
    - Aggregate size: as above.
    - Mix ratio (binder:aggregate): as above.
  - Application: Thoroughly mixed and uniformly spread.
    - Spreading rate: as per manufacturers spec.
    - Thickness: 50mm.
    - 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**

- 310 TIMBER EDGING
- Softwood board:
    - Size: 150 x 38 mm.
    - Fixing: Galvanized nails into softwood pegs.
  - Softwood pegs:
    - Size: 50 x 50 x 600 mm long.
    - Fixing: Drive into ground.
    - Centres: 1200 mm.
  - Preservative treatment: pressure treated.
- 315 MATERIALS
- Compatibility: Chippings suitable for use with respective binders/ emulsions/ resin/ epoxy.

340 LAYING GENERALLY

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

350 COLD WEATHER WORKING

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

360 DRAINAGE FALLS

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

380 LAYING GRANULAR SURFACES IN PEDESTRIAN AREAS

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

**COMPLETION**

400 SLIP RESISTANCE TESTING

- Surfaces to be tested: paths steps.
  - Surface condition: Dry and wet.
- Timing: Post final clean, prior to handover.
- Period of notice (minimum): 3 working days.
- Test standard: To BS 1134.
  - Testing authority: An approved laboratory.
  - Witnessing/ Certification: Arrange for tests to be witnessed/ certified by: Contract administrator.
  - Report: Submit.
  - Format: As required under BS 1134.

**Q28**

**Topsoil and soil ameliorants**



## **Q28 Topsoil and soil ameliorants**

To be read with Preliminaries/ General conditions.

### **SYSTEM OUTLINE**

#### **115 SOIL SYSTEM FOR GRASS SWARDS FOR GRASSED BANKS**

- Composition:
  - Soil: Imported growing medium.
  - Ameliorants: None.
  - Accessories: None.

#### **145 PLANT PIT BACKFILLING SOIL SYSTEM FOR TREE PITS**

- Composition:
  - Topsoil: Imported growing medium.
  - Ameliorants: Organic materials.
  - Accessories: None.

### **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.

#### **305 PERMITTED MATERIALS**

- Materials: Composted bark.
- Give notice: before ordering or using.
- Declaration of compliance in accordance with BS EN 13650: Not required.

#### **310 MATERIALS NOT PERMITTED**

- Materials: Products containing peat.

#### **315 IMPORTED TOPSOIL TO BS 3882 FOR GRASS SEEDING**

- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
- Standard: To BS 3882.
- Classification: Multipurpose.
  - Soil textural class to BS 3882, Figure 1: Any class.
- Source: Contractor's choice.
  - Product reference: Contractor's choice.

**315A IMPORTED TOPSOIL TO BS 3882 FOR TREE PITS**

- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
- Standard: To BS 3882.
- Classification: Multipurpose.
  - Soil textural class to BS 3882, Figure 1: Any class.
- Source: Contractor's choice.
  - Product reference: Contractor's choice.

**EXECUTION**

**620 IMPORTING TOPSOIL**

- Give notice: Before stripping topsoil for transfer to site.
  - Notice period: 2 days.

**625 SAMPLE LOADS FOR IMPORTED TOPSOIL**

- Deliver to site a sample load: of not less than 5 m<sup>3</sup>.
- Give notice: Allow inspection before making further deliveries to site. Retain for comparison with subsequent loads.
  - Notice period: 5 days.

**630 DOCUMENTATION FOR IMPORTED TOPSOIL FOR TREE PITS**

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

**630A DOCUMENTATION FOR IMPORTED TOPSOIL FOR GRASS SEEDING**

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

**650 NOTICE**

- Give notice before:
  - Setting out.
  - Spreading topsoil.
  - Applying herbicide.
  - Applying fertilizer.
  - Visiting site during maintenance period.
- Period of notice: 2 working days.

- 660 GRADING SUBSOIL FOR
- GRASSED AREAS;
  - WILDFLOWER AREAS; and
  - WOODLAND PLANTING AREAS
  - Standard: In accordance with BS 8601.
  - General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
  - Areas of thicker topsoil: Excavate locally.
  - Avoid compaction.
  - Excess subsoil: Remove.
- 665 SUBSOIL SURFACE PREPARATION FOR
- GRASSED AREAS;
  - WILDFLOWER AREAS; and
  - WOODLAND PLANTING AREAS
  - Standard: In accordance with BS 3882.
  - General: Excavate and/ or place fill to required profiles and levels, as section D20.
  - Loosening:
    - When ground conditions are sufficiently dry to allow breaking up of soils, loosen thoroughly to specified depth:
      - Light and noncohesive subsoils: 150 mm.
      - Stiff clay and cohesive subsoils: 300 mm.
      - Rock and chalk subgrades: Lightly scarify to promote free drainage.
    - Wet conditions: Do not loosen subsoils.
  - Stones: Immediately before spreading topsoil, remove stones larger than 20 mm.
  - Remove from site: Arisings, contaminants and debris and Builders rubble.
- 670 INSPECTING FORMATIONS
- Give notice: Before spreading topsoil for areas to receive forestry planting and lawn areas.
  - Notice period: 7 days.
- 680 SURPLUS TOPSOIL TO BE RETAINED
- Generally: Spread and level on site:
    - Locations: Any areas where topsoil is required for new planting.
    - Protected areas: Do not raise soil level within root spread of trees that are to be retained.
- 685 SURPLUS MATERIALS TO BE REMOVED
- Topsoil removal 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.
- 690 TOPSOIL STORAGE HEAPS
- Location: Throughout the site.
  - Height (maximum): 1.5 m.
  - Width (maximum): 2.0 m.
    - Formation: Loose tip and shape from the side only, without running machinery on the heap at any time.
  - Protection:
    - Do not place any other material on top of storage heaps.
    - Do not allow construction plant to pass over storage heaps.
    - Prevent compaction and contamination, by fencing and covering as appropriate.

700 GRADING OF TOPSOIL

- Topsoil condition: Reasonably dry and workable.
- Contours: Smooth and flowing, with falls for adequate drainage.
  - Hollows and ridges: Not permitted.
- Give notice: If required levels cannot be achieved by movement of existing soil.

705 HANDLING TOPSOIL

- Standard: In accordance with BS 3882.
- Aggressive weeds: Give notice and obtain instructions before moving topsoil.
- Plant: Select and use plant to minimize disturbance, trafficking and compaction.
- Contamination: Do not mix topsoil with:
  - Subsoil, stone, hardcore, rubbish or material from demolition work.
  - Other grades of topsoil.
- Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately after stripping.
- Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than the plastic limit less 3%, to BS 1377-2.

710 SPREADING TOPSOIL ON

- GRASSED AREAS;
- WILDFLOWER AREAS; and
- WOODLAND PLANTING AREAS
- Standard: In accordance with BS 3882.
- Temporary roads/ surfacing: Remove before spreading topsoil.
- Layers:
  - Depth (maximum): 150 mm.
  - Gently firm each layer before spreading the next.
- Depth after firming and settlement: 300 mm.
- Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 LOOSE TIPPING OF TOPSOIL

- Standard: In accordance with BS 3882.
- General: Do not firm, consolidate or compact topsoil when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

718 FINAL CULTIVATION FOR GRASS SEEDING

- Compacted topsoil: Break up to full depth.
- Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
- Depth: 100 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 10 mm.

720 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT

- In relation to adjoining paving, kerbs or hard surfaces: 25 mm above .
- In relation to dpc of adjoining buildings: Not less than 150 mm below.
- In relation to adjacent grass areas: 25 mm above.
- Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
- Sportsfields: To even levels and within the following permitted deviations:
  - From levels or gradients shown on drawings:  $\pm 75$  mm.
  - From line between boning rods 30 m apart:  $\pm 25$  mm.
- Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
- Adjoining soil areas: Marry in.
- Thickness of turf or mulch: Included.

820 APPLYING GENERAL FERTILIZER TO SEEDED AREAS EXCEPT WILDFLOWER MEADOWS

- Application: Spread evenly, carefully incorporating below mulch materials.
  - Timing: Immediately before cultivation.
  - Application rate: 10 g/m<sup>2</sup>.
  - Other requirements: n/a.

845 APPLYING LOOSE MULCH FOR TREE PITS

- Timing: Immediately after planting.
- Preparation: Water soil thoroughly.
- Coverage of mulch (minimum):
  - Planting beds (depth): 1 m<sup>3</sup> per 10 m<sup>2</sup>.
  - Trees: In a circular area of 500 mm radius measured from the tree stem.
  - Container planting: n/a.
- Finished level of mulch: 30 mm below adjacent grassed or paved areas.

**Q30**

**Seeding/turfing**

## **Q30 Seeding/turfing**

To be read with Preliminaries/General conditions.

### **GENERAL INFORMATION/REQUIREMENTS**

#### **115 SEEDED AND TURFED AREAS**

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

#### **120 CLIMATIC CONDITIONS**

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

#### **145 WATERING**

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

#### **150 WATER RESTRICTIONS**

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

#### **160 NOTICE**

- Give notice before:
  - Setting out.
  - Applying herbicide.
  - Applying fertilizer.
  - Preparing seed bed.
  - Seeding or turfing.
  - Visiting site during maintenance period.
- Period of notice: 2 working days.

#### **170 SETTING OUT**

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

### **PREPARATION**

#### **250 SOIL REQUIREMENTS**

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

### **SEEDING**

#### **310 GRASS SEED FOR ALL GRASSED AREAS**

- Mixture: 35% Chewings fescue, 35% Slender red fescue, 20% Smooth stalked meadow grass, 10% Brown top bent.
- Application rate: 5-10 g/m<sup>2</sup>.

312A WILDFLOWER TURF FOR WILDFLOWER MEADOWS

- Supplier: WILDFLOWER TURF COMPANY.
  - Mixture reference: Shade tolerant wildflower turf.
- Origin of each species (as defined in Flora Locale's Code of practice for collectors, growers and suppliers of native flora): British Native.
- Application rate: as per manufacturers spec.

319 QUALITY OF SEED FOR ALL GRASSED AREAS

- Freshness: Produced for the current growing season.
- Certification: Blue label certified varieties.
  - Standard: EC purity and germination regulations.
  - Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
- Samples of mixtures: Submit when requested.

330 SOWING

- General: Establish good seed contact with the root zone.
- Method: Manually broadcast, raked and rolled.
  - Distribution: 2 equal sowings at right angles to each other.

335 GRASS SOWING SEASON

- Grass seed generally: April to October.

336 WILDFLOWER SOWING SEASON

- Wildflower seed generally: March to May.

352 EDGES TO SEEDED AREAS ADJACENT TO PLANTING BEDS AND TREE PITS

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

**TURFING**

400 CULTIVATED TURF FOR WILDFLOWER MEADOWS

- Supplier: Wildflower Turf company.
  - Product reference: Shade tolerant turf.
- Properties of soil used for turf production: Well drained sandy loam.

420 DELIVERY AND STORAGE

- Timing: Lay turf with minimum possible delay after lifting. If delay occurs, lay turf out on topsoil and keep moist.
- Frosty weather or waterlogged ground: Do not lift turf.
- Delivery: Arrange to avoid need for excessive stacking.
- Stacking height (maximum): 1 m.
- Dried out or deteriorated turf: Do not use.
- Certification:
  - Standard: To BS 3969.
  - Declaration: Species mix, including percentage of specified species.



#### 430 TURFING GENERALLY

- Time of year: Autumn or early winter.
- Timing of laying:
  - Spring and summer: Within 18 hours of delivery.
  - Autumn and winter: Within 24 hours of delivery.
- Weather conditions: Do not lay turf when persistent cold or drying winds are likely to occur or soil is frost bound, waterlogged or excessively dry.
- Working access: Planks laid on previously laid turf. Do not walk on prepared bed or newly laid turf.
- Jointing: Laid with broken joints, well butted up. Do not stretch turf.
- Edges: Whole turfs, trimmed to a true line.
- Adjusting levels: Remove high spots and fill hollows with fine soil.
- Consolidating: Lightly and evenly firm as laying proceeds to ensure full contact with substrate. Do not use rollers.
- Dressing, brushed well in to completely fill all joints: None.
- Watering: Thoroughly water completed turf immediately after laying. Check that water has penetrated into the soil below.

#### 440 TURFING ON BANKS EXCEEDING 30° SLOPE

- Turf configuration: Diagonal or horizontal.
- Securing turfs:
  - Fixings: Submit proposals.
  - Frequency of fixings: Each turf.
- Removal of fixings: When instructed. Make good any damage to grass until area is accepted.

#### 450 TRIMMING TURF

- Newly planted tree pits: Neatly cut away around individual trees.
  - Diameter: 1000 mm.
  - Tree pit surface: Respread existing mulch.

#### 590 CLEANLINESS

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

#### 610 FAILURES OF SEEDING/TURFING

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

**Q31**

**External planting**

## **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: Clear scrub to ground level by flail mowing and remove arisings; retain and protect trees indicated on drawings.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
- Additional requirements: n/a.

#### **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.

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: Two working days.

170 SOIL REQUIREMENTS

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

200 PLANTS/ TREES - GENERAL

- Condition: Materially undamaged, sturdy, healthy and vigorous.
- Appearance: Of good shape and without elongated shoots.
- Hardiness: Grown in a suitable environment and hardened off.
- Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
- Budded or grafted plants: Bottom worked.
- Root system and condition: Balanced with branch system.
  - Standard: The relevant parts of BS 3936.
- Species: True to name.
- Origin/ Provenance: British grown.  
Definition: Origin and Provenance have the meaning given in the National Plant Specification.

216 PLANTS/ TREES - SPECIFICATION CRITERIA

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

246 LABELLING AND INFORMATION

- Standard: To BS 3936.

260 PLANT/ TREE SUBSTITUTION

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

265 PLANT HANDLING, STORAGE TRANSPORT AND PLANTING

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

## 280 TREATMENT OF TREE WOUNDS

- Cutting: Keep wounds as small as possible.
  - Cut cleanly back to sound wood using sharp, clean tools.
  - Leave branch collars. Do not cut flush with stem or trunk.
  - Set cuts so that water will not collect on cut area.
- Fungicide/ Sealant: Do not apply unless instructed.

## 290 SURPLUS MATERIAL

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

## **PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS**

## 305 WEED CONTROL FOR INVASIVE NON-NATIVE WEEDS

- Locations: Whole site.
- General: Prevent weeds from seeding and perennial weeds from becoming established, by contractor's choice of herbicide.

## **PLANTING TREES**

## 500 TREE PLANTING

- Standard: Prepare trees and transplant in accordance with BS 8545.

## 505 TREE PITS

- Sizes: 75 mm deeper than root system and wide enough to accommodate roots when fully spread.
- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Excavated material: Separate topsoil and subsoil material and stockpile for backfilling.
- Pit bottoms: Excavate with slightly raised centre: Break up base to a depth of 150 mm.
  - Treatment: Soil ameliorant worked into pit bottoms.
- Pit sides: Scarify.
- Backfilling material: Proprietary tree backfilling material, as section Q28.

## 576 TREE PIT SURFACING - LOOSE FILL

- Surfacing material: Mulch, as section Q28.
- Area: 1000 mm radius circle.
- Depth: 75 mm.
- Watering: Water soil thoroughly before laying.
- Installation: Ensure the base of the tree stem is kept free from loose filled material.

## **WOODLAND/ MATRIX/ BUFFER ZONE PLANTING**

## 600 WOODLAND WORK GENERALLY

- Services: Check for below and above ground services, including land drainage, in the vicinity. Give notice if they may be affected and obtain instructions before proceeding.
- Safety: Comply with Arboriculture and Forestry Advisory Group Safety leaflets.

## 605 EXISTING VEGETATION/ WEED CLEARANCE

- Surface vegetation clearance: Screef an area one metre diameter around each planting location.
- Arisings: Remove.

617 REMOVING TREES AND HEDGES

- Identification: Clearly mark trees and hedges to be removed.
- Work near retained trees: Where canopies overlap, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
- Arisings: Remove.
- Tree stumps: Cut as close to ground as possible and kill with a suitable herbicide immediately after felling.

635 NOTCH PLANTING IN UNCULTIVATED GROUND

- Notching: Make a vertical 'I', 'L', 'T' or 'H' notch.
  - Depth: To accommodate full depth of roots.
- Planting: Plant tree, close notch with root collar at ground level and firm the soil.

665 SETTING OUT

- Distance between trees: 1.5 m.
- Distance between rows: 1.5 m.
  - Plant in staggered rows.

680 SETTING OUT

- Planting density: 1 per 1.5 m<sup>2</sup>.
- 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

- Duration: Carry out the operations in the following clauses from completion of planting until practical completion.
- Frequency of maintenance visits: not required.

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.

**Q41**

**Barriers/ guardrails**

## **Q41 Barriers/ guardrails**

To be read with Preliminaries/ General conditions.

### **TYPES OF BARRIERS/ GUARDRAILS**

#### **240 HANDRAIL SYSTEMS to steps**

- System manufacturer: Contractor's choice.
- Material: galvanised steel.
  - Cross section: 48mm tubular.
  - Finish: Not required.
- Height above ground surface (to upper surface of handrail):
  - Upper handrail: 900 mm .
  - Lower handrail: Not applicable.
- Accessories: Tubeclamp components.

### **INSTALLATION**

#### **410 WORK ON OR ADJACENT TO HIGHWAYS**

- 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**

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

#### **430 ERECTION GENERALLY**

- 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.
- Prevention of electrolytic corrosion: Isolate dissimilar metals.
- Steel components: Do not drill, cut or weld after galvanizing.

#### **470 DRIVING POSTS**

- Heads of posts: Protect to prevent damage when driving.

#### **480 CONCRETE FOUNDATIONS FOR POSTS**

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



490 DAMAGE REPAIR TO GALVANIZED SURFACES

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