

## BPD-HLM-NB-XX-SP-L-00601 NEW BUILD LANDSCAPE SPECIFICATION

**REVISION: C02**

06th Sept 2023

**his document includes:**

Code	Section	Revision	Dated
B91	Buildings in the landscape	C01	15 Jul 2020
F30	Accessories/ sundry items for brick/ block/ stone walling	C01	17 Jan 2020
Q10	Kerbs/ edgings/ channels/ paving accessories	:02	06 Sept 2023
Q20	Granular sub-bases to roads/ pavings	C01	8 Feb 2019
Q23	Gravel/ Hoggin/ Woodchip/ Resin bound roads/ pavings/ overlays	C02	22 Jun 2020
Q24	Interlocking brick/ block roads/ pavings	T01	10 Feb 2021
Q25	lab/ brick/ sett/ cobble pavings	C03	18 Aug 2023
Q26	Special surfacings/ pavings for sport/ general amenity	T01	12 Feb 2021
Q28	Topsoil and soil ameliorants	C01	6 Feb 2019
Q30	Seeding/ turfing	C01	6 Feb 2019
Q31	External planting	C01	27 Jun 2019
Q35	Landscape maintenance	C01	6 Feb 2019
Q37	Green roofs	T01	12 Feb 2021
Q40	Fencing	:01	18 Aug 2023
Q50	Site/ street furniture/ equipment	T01	12 Feb 2021
Q52	Play and sports equipment	T01	12 Feb 2021
Q55	External decks, boardwalks and bridges	T01	12 Feb 2021
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**B**  
**Complete buildings/ structures/ units**

**B91**  
**Buildings in the landscape****Section Revision History**

No.	Purpose	
C01	ISSUED FOR CO-ORDINATION	15th Jul 2020

**Clauses amended in Revision C01**

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

## B91 Buildings in the landscape

To be read with Preliminaries/ General conditions.

### SYSTEM OUTLINE

#### 110 DESIGNED/ BESPOKE SMALL BUILDINGS/ STRUCTURES PERGOLA TO LEVEL 5 TERRACE

- Dimensions: As drawing BPD-HLM-NB-XX-DR-L-30403 HARD LANDSCAPE DETAILS - SHEET 03.
- Flooring/ Decking: Not required.
- Frame: Powder Coated Aluminium.
- Panels: Not required.
- Roof: Not required.
- Method of fixing to ground or base: Root fix into concrete.
  
- Services requirements: Not required.

### PRODUCTS

#### 370 PERGOLA/ ARBOUR TO LEVEL 5 TERRACE

- Manufacturer: Harrod Horticultural or similar and approved  
- Website: [www.harrodhorticultural.com/](http://www.harrodhorticultural.com/)  
- Phone: 0333 400 6400.  
- Product reference: Bespoke Contemporary Arch & Pergola Walkway.
- Size: 2,500mm (W) x3,000mm (L) x 2x400mm (H).
- Frame: Anthracite Grey Powder Coated Aluminium .
- Panels: Not required.
- Roof covering: None.
- Accessibility: No requirement.
- Accessories/ Special requirements: None.
- Method of fixing to ground or base: As drawing BPD-HLM-NB-XX-DR-L-30403 HARD LANDSCAPE DETAILS - SHEET 03.

### EXECUTION/ ERECTION/ INSTALLATION

#### 600 ERECTION/ INSTALLATION GENERALLY

- Frameworks: Assemble and brace, including temporary members required for installation.
- Contact between dissimilar metals: Avoid.
- Fixings: Fully bolt together. Tighten bolts.
- Temporary support: Do not subject members to non-design loadings.

#### 605 JOINTING/ FIXING GENERALLY

- Generally: Where not specified precisely, select methods of jointing and fixing and types, sizes and spacings of fasteners in compliance with section Z20.

#### 610 CONCRETE FOUNDATIONS GENERALLY

- Concrete: To BS 8500-2.
- Mix: Designated concrete not less than GEN 1 or standard prescribed concrete not less than ST2.
- Admixtures: Do not use.
- Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.
- Foundation holes: Neat vertical sides.
- Components: Accurately positioned and securely supported.
- Concrete fill: Compact as filling proceeds.
- Concrete foundations exposed to view: Compact until air bubbles cease to appear on the upper surface, then weather to shed water and trowel smooth.
- Temporary component support: Maintain undisturbed for minimum 48 hours.

**630 ERECTION OF PREFABRICATED BUILDINGS/ STRUCTURES**

- Checking: Five days (minimum) before proposed erection date, check foundations, holding down bolts, etc.
- Inaccuracies or defects in prepared bases or supplied buildings/ structures: Report immediately. Obtain instructions before proceeding.

**640 SITE PAINTING AND STAINING**

- Timing: Prepare surfaces and apply finishes as soon as possible after installing components.

**645 MAKING GOOD GALVANIZED SURFACES**

- Minor damage in areas up to 40 mm<sup>2</sup> (including on fixings and fittings): Make good.
  - Material: Low melting point zinc alloy repair rods or powders made for this purpose or at least two coats of zinc-rich paint to BS 4652.
  - Thickness: Sufficient to provide a zinc coating at least equal to the original layer.

**COMPLETION****930 DOCUMENTATION**

- Contents:
  - General product information.
  - Installation information.
  - Inspection and maintenance reports.
- Number of copies: 1.
- Submission: 2 weeks after request by contract administrator.



# **F** **Masonry**

**F30**  
**Accessories/ sundry items for brick/ block/ stone walling**  
**Revision C01**

**Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	6th Feb 2019
C01	ISSUED FOR CO-ORDINATION	17th Jan 2020



## F30 Accessories/ sundry items for brick/ block/ stone walling

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

### 110 CONCRETE FILL TO BASE OF CAVITY

- Concrete generally: To BS EN 206 and BS 8500-2.
- Concrete type: Standardized prescribed ST2.
  - Workability: High.
- Extent: Maintain 75 mm between top of fill and external ground level and a minimum of 225 mm between top of fill and ground level dpc.
- Placement: Compact to eliminate voids.

### 120 CLEANLINESS

- Cavity base and faces, ties, insulation and exposed dpcs: Free from mortar and debris.

### 130 PERPEND JOINT WEEP HOLES

- Form: Open perpend joint.
- Locations: Through outer leaf immediately above base of cavity, at cavity trays, stepped dpcs and external openings. 75 mm above top of cavity fill at base of cavity.
- Provision: At not greater than 1000 mm centres and not less than two over each opening.

### 131 BED JOINT WEEP HOLES

- Form: Open 10 mm diameter hole.
- Locations: Through outer leaf immediately above base of cavity at cavity trays, stepped dpcs and external openings. 75 mm above top of cavity fill at base of cavity.
- Provision: At not greater than 1000 mm centres and not less than two over each opening.

### 160A AIR BRICKS IN EXTERNAL WALLING

" Manufacturer: Cast Iron Brick Company, Down Farm, Brayford, EX32 7QQ; or equal and approved.

- Web: <https://www.castironairbricks.co.uk>

- Email: [sales@castironairbricks.co.uk](mailto:sales@castironairbricks.co.uk)

- Product reference: Cast Iron Made to Measure Square Hole Grilles Type MTM7L in accordance with Specification Sheet – ciabMTM-2018; or equal and approved.

" Colour: three part epoxy primed matt black; finished in manufacturer's standard gloss black two part epoxy paint top coat.

" Fixing: supplied with corner drilled holes ready for fixing to duct terminations with bimetallically separated Type 316 austenitic stainless steel screws as Z20.

" Accessories:

- manufacturer's standard copper fly screen

- DPCs as clause 330B

- Pressed aluminium cill flashing; painted to match airbrick; c/w bimetallic separation; c/w Type 316 austenitic stainless steel screws as Z20.

- Black sealant as Z22 to be applied between cast iron airbrick and brick support angle and brick jambs.

" Other requirements:

- submit samples for approval by local authority planning officer and building control body.

- airbricks must achieve the free area requirements specified by the M+E Engineer.

**REINFORCING/ FIXING ACCESSORIES****220A WALL TIES W1**

- " Manufacturer: Ancon or equal and approved.
- Web: [www.ancon.co.uk](http://www.ancon.co.uk).
- Email: [info@ancon.co.uk](mailto:info@ancon.co.uk).
- Product reference: Frame cramps as required by Structural Engineer.
- " Length: as required by Structural Engineer.
- " Material: Stainless steel grade 1.4301 (304)

**241A WALL STARTERS/ CONNECTORS**

- Manufacturer: Ancon or equal and approved.
- Web: [www.ancon.co.uk](http://www.ancon.co.uk).
- Email: [info@ancon.co.uk](mailto:info@ancon.co.uk).
- Product reference: Ancon 36/8 Wall Extension System or equal and approved.
- " Length: as Structural Engineer's requirements.
- " Material: Stainless steel grade 1.4301 (304).
- " Wall ties:
- Type: SP36.
- Length: as Structural Engineer's requirements.
- Material: Stainless steel grade 1.4301 (304).
- " Wall extension kit: Required.

**242A SURFACE MOUNTED CHANNELS/ SLOTS**

- Manufacturer: Ancon or equal and approved.
- Web: [www.ancon.co.uk](http://www.ancon.co.uk).
- Email: [info@ancon.co.uk](mailto:info@ancon.co.uk).
- Product reference: SAH Sliding Anchors or equal and approved.
- " Stem:
- Type: as Structural Engineer's requirements.
- Offset: as Structural Engineer's requirements.
- Length: as Structural Engineer's requirements.
- " Wall ties: as Structural Engineer's requirements.
- " Length: as Structural Engineer's requirements.
- " Slot position: as Structural Engineer's requirements.

**255A WIND POSTS**

- Manufacturer: Ancon.
- Web: [www.ancon.co.uk](http://www.ancon.co.uk).
- Email: [info@ancon.co.uk](mailto:info@ancon.co.uk).
- Product reference: as Structural Engineer's requirements..
- Size: as Structural Engineer's requirements..
- Length: as Structural Engineer's requirements..
- Accessories: as Structural Engineer's requirements..

**260A ANGLE SUPPORTS WALL TYPE 1**

- Manufacturer: Ancon.
- Web: [www.ancon.co.uk](http://www.ancon.co.uk).
- Email: [info@ancon.co.uk](mailto:info@ancon.co.uk).
- Product reference: Ancon CFA Continuous Angle Support System (Standard System).
- " Accessories : None.

**265A SUPPORT SYSTEM WALL TYPE 1**

- Manufacturer: Ancon.
  - Web: [www.ancon.co.uk](http://www.ancon.co.uk).
  - Email: [info@ancon.co.uk](mailto:info@ancon.co.uk).
  - Product reference: as Structural Engineer's requirements.
  - " Fixing: as Structural Engineer's requirements.
  - " Accessories: Thermal break, BK03-135.

**FLEXIBLE DAMP PROOF COURSES/ CAVITY TRAYS****330A DAMP PROOF COURSE - BITUMEN POLYMER**

" Standards:

- BS 743:1970
- BS 8215:1991
- BS 6398:1983
- BS 8000-3:2001
- BS EN 1996-1-1:2005+A1:2012
- PD 6697:2010

Manufacturer:

IKO PLC or equal and approved, Appley Lane North, Appley Bridge, Wigan, Lancashire, WN6 9AB

t: 01257 256 864 [technical.uk@iko.com](mailto:technical.uk@iko.com) or equal and approved.

[www.ikogroup.co.uk](http://www.ikogroup.co.uk).

- Product reference: IKO Hyload Permabit DPC system or equal and approved.

**390 SITE FORMED DPC/ CAVITY TRAY JUNCTIONS/ STOP ENDS**

- Three dimensional changes in shape: Form to provide a free draining and watertight installation. Seal laps.
- Alternative use of preformed junction cloaks/ stop ends: Submit proposals.

**INSTALLATION OF DPCS/ CAVITY TRAYS****415 HORIZONTAL DPCS**

- Placement: In continuous lengths on full even bed of fresh mortar, with 100 mm laps at joints and full laps at angles.
- Width: At least full width of leaf unless otherwise specified. Edges of dpc not covered with mortar or projecting into cavity.
- Overlying construction: Immediately cover with full even bed of mortar to receive next masonry course.
- Overall finished joint thickness: As close to normal as practicable.

**425 GROUND LEVEL DPCS**

- Joint with damp proof membrane: Continuous and effectively sealed.

**435 STEPPED DPCS IN EXTERNAL WALLS**

- External walls on sloping ground: Install dpcs not less than 150 mm above adjoining finished ground level.

**JOINTS**

- 610A SEALANT FOR EXTERNAL BUILDING FABRIC" Manufacturer: Adshead Ratcliffe & Co Ltd.- Web: [www.arbo.co.uk](http://www.arbo.co.uk).- Email: [arbo@arbo.co.uk](mailto:arbo@arbo.co.uk).- Product reference: Arbokol 1000" Colour: submit samples." Accessories:- Joint backing: Closed cell foam polyethylene rod TO EXTERNAL WALL STARTER LOCATIONS**

**PROPRIETARY SILLS/ LINTELS/ COPINGS/ DRESSINGS****760 COPING UNITS**

- Standard: To BS 5642-2.
- Material: Natural stone.
- Manufacturer: Marshalls  
www.marshalls.co.uk  
info@marshalls.co.uk  
T: +44 (0)330 0574472.
  - Product reference: Yorkstone Coping Stone
  - Refer to Drawing BPD-BPD-HLM-00-ZZ-DR-L-25402 LANDSCAPE BOUNDARY DETAILS SHEET 2.
- Dimensions: As shown on drawings.
- Finish: Diamond Sawn.
- Mortar for bedding/ jointing: Cement gauged as section Z21.
  - Standard: To BS EN 998-2.
  - Mix: Mortar batched and mixed on site.
  - Additional requirements: None.
- Joints: Full and finished flush.
- Placement: Lay on a full bed of mortar to line and level.



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

**Q10**  
**Kerbs/ edgings/ channels/ paving accessories**  
**Revision T01**

**Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	6th Feb 2019
P02	ISSUE FOR TENDER	7th Feb 2019
P03	ISSUED FOR COORDINATION	27th Jun 2019
P04	REVISED STAGE 4 ISSUE	17th Jan 2020
C01	STAGE 4 ISSUE	23rd Jun 2020
C02	ISSUED FOR CO-ORDINATION	15th Jul 2020
C03	NORTH HOUSE AND WORKHOUSE STAGE 5 ISSUE	13th Jan 2021
T01	STAGE 4 TENDER ISSUE	12th Feb 2021

**Clauses amended in Revision T01**

No.	Clause	
120A	STONE	Deleted
150A	STEEL EDGING	Revised
150B	STEEL EDGING	Revised
150C	STEEL EDGING	Revised
150D	STEEL EDGING	Deleted
150E	STEEL EDGING	Revised
150F	STEEL EDGING	Revised
200A	SPECIAL	Deleted
215	MANHOLE COVER	Added
215A	MANHOLE COVER: RAIN WATER OUTLETS	Added

## Q10 Kerbs/ edgings/ channels/ paving accessories

**TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS.**

### TYPES OF KERBS/EDGINGS AND CHANNELS

#### **120A STONE**

(Deleted - Q10 revision T01 - 12th Feb 2021)

#### **150A STEEL EDGING EDGING TYPE E2**

- Standard: To BS EN 1338.
- Manufacturer: Logic or similar and approved  
www.logic-bespoke.com  
Tel 01642 373400.
  - Product reference: Edinburgh Edge Straight 3mm - Galvanised or similar and approved.
- Recycled content: 3% (minimum) to BS EN ISO 14021.
- Size: 3 x 70 x 70 x 2000mm.
- Finish: Galvanised Steel.
- Joints generally: to manufacturers specification.
- Sealant movement joints: to manufacturers specification  
Fixing: secure to concrete pad foundation as per manufactureres details. Concrete mix GEN 3 / C20.  
(Revised - Q10 revision T01 - 12th Feb 2021)

#### **150B STEEL EDGING EDGING TYPE E3**

- Standard: To BS EN 1338.
- Manufacturer: Logic or similar and approved  
www.logic-bespoke.com  
Tel 01642 37340.
  - Product reference: Edinburgh Edge Curved 3mm - Galvanised or similar and approved.
- Recycled content: 3% (minimum) to BS EN ISO 14021.
- Size: 3 x 100(base)mm, Height varies.
- Finish: Galvanised Steel.
- Joints generally: to manufacturers specification.
- Sealant movement joints: to manufacturers specification  
Fixing: secure to concrete pad foundation as per manufactureres details. Concrete mix GEN 3 / C20.  
(Revised - Q10 revision T01 - 12th Feb 2021)

#### **150C STEEL EDGING EDGING TYPE E1a**

- Standard: To BS EN 1338.
- Manufacturer: Logic or similar and approved  
www.logic-bespoke.com  
Tel 01642 37340.
  - Product reference: Edinburgh Module Planter System  
Detail design to be carried out by manufacturer and drawings submitted prior to fabrication.
- Recycled content: 3% (minimum) to BS EN ISO 14021.
- Size: varies.
- Special shapes: Custom lighting panel recesses.
- Finish: Corten Steel.
- Joints generally: to manufacturers specification.
- Sealant movement joints: to manufacturers specification.  
(Revised - Q10 revision T01 - 12th Feb 2021)

#### **150D STEEL EDGING**

(Deleted - Q10 revision T01 - 12th Feb 2021)

**150E STEEL EDGING EDGING TYPE E2b**

- Standard: To BS EN 1338.
- Manufacturer: Logic or similar and approved  
www.logic-bespoke.com  
Tel 01642 37340.
  - Product reference: Edinburgh Edge Straight 3mm - Galvanised powder coated or similar and approved.
- Recycled content: 3% (minimum) to BS EN ISO 14021.
- Size: 3 x 200 x 100 x 2000mm.
- Finish: Galvanised Steel and powder coated - Black RAL9005.
- Joints generally: to manufacturers specification.
- Sealant movement joints: to manufacturers specification  
Fixing: secure to concrete pad foundation as per manufactureres details. Concrete mix GEN 3 / C20.  
(Revised - Q10 revision T01 - 12th Feb 2021)

**150F STEEL EDGING EDGING TYPE E2a**

- Standard: To BS EN 1338.
- Manufacturer: Logic or similar and approved  
www.logic-bespoke.com  
Tel 01642 37340.
  - Product reference: Edinburgh Edge Straight 3mm - Galvanised or similar and approved.
- Recycled content: 3% (minimum) to BS EN ISO 14021.
- Size: 3 x 100 x 100 x 2000mm.
- Finish: Galvanised Steel.
- Joints generally: to manufacturers specification.
- Sealant movement joints: to manufacturers specification  
Fixing: secure to concrete pad foundation as per manufactureres details. Concrete mix GEN 3 / C20.  
(Revised - Q10 revision T01 - 12th Feb 2021)

**200 SPECIAL KERBS - E4 As Drawing BPD-HLM-NB-00-DR-L-00217 - L(00)17**

- Manufacturer: Marshalls  
Landscape House, Premier Way, Lowfields Business Park, Elland, West Yorkshire. HX5 9HT  
www.marshalls.co.uk  
info@marshalls.co.uk.
  - Product reference: Bespoke Yorkstone Sandstone Kerb.
- Size: 200 x 525 x 915mm As Drawing BPD-HLM-NB-00-DR-L-00217 - L(00)17.
- Type/ Material: Yorkstone Sandstone.
  - Finish: Fine picked.
  - Colour: Natural.
- Accessories: None.
- Bedding: As Q25.
- Joints: 5mm.

**200A SPECIAL**

(Deleted - Q10 revision T01 - 12th Feb 2021)



**215 MANHOLE COVER WITHIN BEDFORD PASSAGE**

- Manufacturer: Kent Stainless Steel or similar and approved  
Web: [www.kentstainless.com](http://www.kentstainless.com)  
Email: [info@kentstainless.com](mailto:info@kentstainless.com)  
Tel: +44 (0) 800 376 8377  
Fax: +353 53 914 1802  
Address: Ardcavan Works, Ardcavan Co Wexford, Ireland
- Product reference: Solo Paver KSP KSP 600/600 and KSP 450 / 450
- Load Class: To Engineer Specification  
BS EN 124 B125 / BS EN 124 D400  
Double sealed and locked.  
Size 600x600 and 450x450mm, and 950 x 450mm as per engineers specificatic
- Material: 1.444 (316L) Stainless Steel
- Tray Depth: 80mm
- Lettering (lifting corners): Not required
- Lifting Points: Circular Slotted  
(Added - Q10 revision C02 - 06th Sept 2023)

**215A MANHOLE COVER: RAIN WATER OUTLETS ROOF TERRACES L03 & L05**

- Manufacturer: Kent Stainless Steel  
Web: [www.kentstainless.com](http://www.kentstainless.com)  
Email: [info@kentstainless.com](mailto:info@kentstainless.com)  
Tel: +44 (0) 800 376 8377  
Fax: +353 53 914 1802  
Address: Ardcavan Works, Ardcavan Co Wexford, Ireland
- Product reference: Solo Paver KSP 300/300
- Load Class: BS EN 124 B125  
Locked.  
Size: 300x300  
Material: 1.444 (316L) Stainless Steel
- Tray Depth: 80mm
- Lettering (lifting corners): Not required
- Lifting Points: Circular Slotted  
(Added - Q10 revision T01 - 12th Feb 2021)

**LAYING****510 LAYING KERBS, EDGINGS AND CHANNELS**

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

**520 ADVERSE WEATHER**

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

**530 CONCRETE FOR FOUNDATIONS, RACES AND HAUNCHING**

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

**540 CEMENT MORTAR BEDDING**

- General: To section Z21.
- Mix (Portland cement:sand): 1:3.
  - Portland cement: Class CEM I 42.5 to BS EN 197-1.
  - Sand: to BS EN 12620, grade 0/4 or 0/2 (MP).
- Bed thickness: 12-40 mm.

**560 HAUNCHING DOWELS**

- Dowels: Steel bar to BS 4482.
  - Size: 12 mm diameter, 150 mm long.
- Installation of dowels: Vertically into foundation while concrete is plastic.
  - Centres: 450 mm.
  - Distance from back face of kerb: 50 mm.
  - Projection: 75 mm.
- Haunching: Rectangular cross section, cast against formwork, fully enclosing and protecting dowels.

**610 ANGLE KERBS**

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

**620 ACCURACY**

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

**625 REGULARITY OF PAVED SURFACES**

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

**650 SEALANT MOVEMENT JOINTS**

- Joint filler: Compressible cellular rubber or plastics compatible with specified sealant.
- Filler installation: Built in as work proceeds, extending through haunching and foundation. Filler positioned accurately to fully support sealant at the recommended depth below exposed faces of units.
- Joint width: 6 mm.
- Sealant: Submit proposals.
  - Colour: Natural.
- Sealant application: As section Z22.

**Q20**  
**Granular sub-bases to roads/ pavings**  
**Revision C01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	8th Feb 2019
C01	ISSUED FOR CO-ORDINATION	8th Feb 2019

## 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:
  - Q25 Slab/brick/sett/cobble 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.

### 150 SUBGRADES FOR VEHICULAR AREAS

- Preparation and treatment: To Highways Agency 'Specification for highway works', clauses 616 and 617.

### 170 GEOTEXTILE FILTER/ SEPARATOR MEMBRANE AS REQUIRED BY CIVIL ENGINEER

- Manufacturer: Submit proposals.
  - 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.

### 180 NOTICE

- Give notice: After preparation and compaction of subgrades and For inspection of granular sub-base material before spreading.
  - Period of notice: 2 working days.

### 210 HIGHWAYS AGENCY TYPE 1 UNBOUND MIXTURE FOR SUB-BASE

- Material: Type 1 unbound mixture to Highways Agency 'Specification for highway works', clauses 801 and 803.
  - Recycled aggregate: Not permitted.

**211 GRANULAR MATERIAL**

- Quality: Of a known suitability for use in sub-bases, free from excessive dust, well graded, all pieces less than 75 mm in any direction, minimum 10% fines value of 50 kN when tested in a soaked condition to BS 812-111 or a resistance to fragmentation of LA50 for the Los Angeles test to BS EN 1097-2, and in any one layer only one of the following:
  - Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.
  - Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
  - Gravel or 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.

**215 COARSE GRADED AGGREGATE FOR PERMEABLE PAVING - UNBOUND.**

- Material: Hard crushed rock.
  - Standard: To BS EN 13242 and paving manufacturers recommendations.
  - Aggregate size: 4/20.
  - Grading: Category Gc 85-15 + GTC 20/17.5.
  - Other properties: As Interpave 'Guide to the design, construction and maintenance of concrete block permeable pavements edition 6', table 13.
- Testing:
  - Materials: Provide suppliers' certificates for grading and specified properties.
  - Sub-base: Not required.
- Laying: Lay in 5 mm thick layers and lightly compact to ensure maximum density and aggregate interlock without crushing individual particles or unacceptably reducing the void ratio.
- Protection: Prevent damage by traffic and contamination by mud and soil.

**230 PLACING GRANULAR MATERIAL GENERALLY**

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

**240 LAYING GRANULAR SUB-BASES FOR VEHICULAR AREAS**

- General: Spread and levelled in layers. As soon as possible thereafter compact each layer.
- Standard: To Highways Agency 'Specification for highway works' clause 802.
- At drainage fittings, inspection covers, perimeters and where local excavation and backfilling has taken place: Take particular care to compact fully.

**241 LAYING GRANULAR SUB-BASES FOR VEHICULAR AREAS**

- Proposals: Well in advance of starting work submit details of:
  - Maximum depth of each compacted layer.
  - Type of plant.
  - Minimum number of passes per layer.
- General: Spread and levelled in layers. As soon as possible thereafter compact each layer.
- At drainage fittings, inspection covers, perimeters and where local excavation and backfilling has taken place: Take particular care to compact fully.
- Defective areas: Remove loose, segregated or otherwise defective areas to the full thickness of the layer and lay and compact new material.
- Sub-base surface after compaction and immediately before overlaying: Uniformly well closed and free from loose material, cracks, ruts or hollows.

**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 .

**315A ACCURACY FOR SUB-BASES TO SYNTHETIC GRASS SURFACING**

- Profile: Lay sub-base to levels shown on drawings and with a Crossfall in a single plane .
- Maximum gradient in any direction: 1:100 to flat areas, and as indicated in drawings to sloped areas .
- Degree of evenness: As specified by BS EN 14904 .
- Deviation from finished plane: No additional requirement .
- General accuracy: Sufficient to ensure that the surface will not cause a hazard or a ball to deflect from its true path.

**320 SURFACES TO RECEIVE SAND BEDDING FOR PAVING TO SECTION Q25.**

- Blind surface: As necessary before compaction to ensure that surface is tight and dense enough to prevent laying course sand being lost into it during construction or use.
- Material: Approved fine material.

**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/ Hoggin/ Woodchip/ Resin bound roads/ pavings/ overlays**  
**Revision C02**

**Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	11th May 2018
P02	ISSUED FOR COORDINATION	27th Jun 2019
C01	REVISED STAGE 4 ISSUE	22nd Jun 2020
C02	ISSUED FOR CO-ORDINATION	22nd Jun 2020

**Q23 Gravel/ Hoggin/ Woodchip/ Resin bound roads/ pavings/ overlays**

To be read with Preliminaries/ General conditions.

**TYPES OF SURFACING****160A LOOSE GRAVEL INFILL TO CONCRETE PAVING TYPE CP4**

- Subgrade improvement layer: Not required.
  - Compacted thickness: Not applicable.
- Geotextile: Not required.
  - Manufacturer: Contractor's choice.
  - Product reference: Not required.
- Laying course: Fine aggregate for permeable paving.
  - Compacted thickness: 40 mm.
- Blinding to sub-base: Not required.
- Gravel: Loose laid and raked to uniform thickness.
  - Type: Cotswold Chippings.
  - Source: Long Rake Spar or equal approved.
  - Colour: Buff.
  - Size: 4-10mm.
  - Thickness: 80 mm.

**160B LOOSE GRAVEL Decorative Gravel GrV**

- Gravel: Loose laid and raked to uniform thickness.
  - Type: CED Flat White Pebbles.
  - Source: CEDStone or similar and approved  
<https://www.cedstone.co.uk/>  
728 London Road  
West Thurrock  
Grays  
Essex  
RM20 3LU.
  - Colour: Buff.
  - Size: 20-40mm.
  - Thickness: Dressed to surface level.

**LAYING****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.

**390 PROTECTION FROM TRAFFIC AND PLANT**

- Paved areas: Restrict access to prevent damage.

**Q24**  
**Interlocking brick/ block roads/ pavings**  
**Revision T02****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	4th Feb 2019
C02	ISSUED FOR CO-ORDINATION	15th Jul 2020
C03	ISSUED FOR CO-ORDINATION	15th Jul 2020
T01	STAGE 4 TENDER ISSUE	10th Feb 2021
T02	REVISED ISSUED FOR TENDER	11th April 2022

**Clauses amended in Revision T01**

No.	Clause	
115	PERMEABLE CONCRETE BLOCK PAVING - TOTAL INFILTRATION	Revised
115B	PERMEABLE CONCRETE BLOCK PAVING - TOTAL INFILTRATION	Revised
115C	PERMEABLE CONCRETE BLOCK PAVING - TOTAL INFILTRATION	Revised
115D	PERMEABLE CONCRETE BLOCK PAVING - TOTAL INFILTRATION	Revised

## Q24 Interlocking brick/ block roads/ pavings

To be read with Preliminaries/ General conditions

### TYPES OF PAVING

#### 115 PERMEABLE CONCRETE BLOCK PAVING - TOTAL INFILTRATION CP1

- Geotextile below granular sub-base: As section Q20.
  - Sub-base: As drawing BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
    - Void former: Alumasc BlueRoof Void Former VF25/ 50 or similar and approved.  
Void former depth varies depend on tapered insulation levels
    - Geotextile below laying course:
    - Manufacturer: Submit proposals.  
Product reference: Submit proposals.
  - Laying course:
    - Material: 2-6mm clean crushed stone to BS EN 13242.
    - Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving.
    - Nominal thickness after compaction: 40-50 mm.
  - Blocks: To BS EN 1338.
    - Manufacturer: Marshalls plc.
      - Web: [www.marshalls.co.uk](http://www.marshalls.co.uk).
      - Email: [info@marshalls.co.uk](mailto:info@marshalls.co.uk).
    - Product reference: MODAL Priora.
    - Sizes: 200mm x 100mm x 80mm , 300mm x 200mm x 80mm, 200mm x 200mm x 80mm.
    - Special blocks: None.
    - Spacer nibs: No requirement.
    - Arrises: No requirement.
    - Colour/ Finish: Light Granite (60%), Mid Grey Granite (40%), Textured finish.
    - Recycled content: As product.
    - Requirements: N/A.  
Freeze/ thaw resistance: Durability (freeze-thaw): =1 kg/m<sup>2</sup>.  
Abrasion resistance: =23 mm.  
Slip/ Skid resistance: No requirement.
  - Jointing:
    - Material: Single size 5 mm washed aggregate.
    - Joint width: 6 mm.
    - Conventional sand jointing: Do not use.
  - Setting out:
    - Bond: As drawing BPD-HLM-NB-XX-DR-L-30411 PAVING PATTERN DETAILS.
    - Features: None.
  - Accessories: None.
- (Revised - Q24 revision T02 - 11th April 2022)

#### 115A PERMEABLE PAVING FLAGS CP3

- Manufacturer: Marshalls plc.
  - Web: [www.marshalls.co.uk](http://www.marshalls.co.uk).
  - Email: [info@marshalls.co.uk](mailto:info@marshalls.co.uk).
  - Product reference: Conservation Priora
- Size: 400 x 400 x 65mm.
- Colour: Silver Grey.

**115B PERMEABLE CONCRETE BLOCK PAVING - TOTAL INFILTRATION CP2**

- Sub-base: As drawing BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Void former: Alumasc BlueRoof Void Former VF25/ 50 or similar and approved.  
Void former depth varies depend on tapered insulation levels
  - Geotextile below laying course:
  - Manufacturer: Submit proposals.  
Product reference: Submit proposals.
- Laying course:
  - Material: 2-6mm clean crushed stone to BS EN 13242.
  - Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving.
  - Nominal thickness after compaction: 40 mm.
- Blocks: To BS EN 1338.
  - Manufacturer: Marshalls plc.
    - Web: [www.marshalls.co.uk](http://www.marshalls.co.uk).
    - Email: [info@marshalls.co.uk](mailto:info@marshalls.co.uk).
  - Product reference: MODAL Priora.
  - Sizes: 200mm x 100mm x 80mm.
  - Special blocks: None.
  - Spacer nibs: No requirement.
  - Arrises: No requirement.
  - Colour/ Finish: Mid Grey Granite Textured finish.
  - Recycled content: As product.
  - Requirements: N/A.  
Freeze/ thaw resistance: Durability (freeze-thaw): =1 kg/m<sup>2</sup>.  
Abrasion resistance: =23 mm.  
Slip/ Skid resistance: No requirement.
- Jointing:
  - Material: Single size 5 mm washed aggregate.
  - Joint width: 6 mm.
  - Conventional sand jointing: Do not use.
- Setting out:
  - Bond: As drawing BPD-HLM-NB-XX-DR-L-30411 PAVING PATTERN DETAILS.
  - Features: None.
- Accessories: None.  
(Added - Q24 revision T02 - 11th April 2022)

**115C PERMEABLE CONCRETE BLOCK PAVING - TOTAL INFILTRATION CP4**

- Sub-base: As drawing BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Void former: Alumasc BlueRoof Void Former VF25/ 50 or similar and approved.  
Void former depth varies depend on tapered insulation levels
  - Geotextile below laying course:
  - Manufacturer: Submit proposals.  
Product reference: Submit proposals.
- Laying course:
  - Material: 2-6mm clean crushed stone to BS EN 13242.
  - Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving.
  - Nominal thickness after compaction: 40 mm.
- Blocks: To BS EN 1338.
  - Manufacturer: Marshalls plc.
    - Web: [www.marshalls.co.uk](http://www.marshalls.co.uk).
    - Email: [info@marshalls.co.uk](mailto:info@marshalls.co.uk).
  - Product reference: MODAL Priora.
  - Sizes: 300mm x 200mm x 80mm.
  - Special blocks: None.
  - Spacer nibs: No requirement.
  - Arrises: No requirement.
  - Colour/ Finish: Mid Grey Granite Textured finish.
  - Recycled content: As product.
  - Requirements: N/A.  
Freeze/ thaw resistance: Durability (freeze-thaw): =1 kg/m<sup>2</sup>.  
Abrasion resistance: =23 mm.  
Slip/ Skid resistance: No requirement.
- Jointing:
  - Material: Single size 5 mm washed aggregate.
  - Joint width: 6 mm.
  - Conventional sand jointing: Do not use.
- Setting out:
  - Bond: As drawing BPD-HLM-NB-XX-DR-L-30411 PAVING PATTERN DETAILS.
  - Features: None.
- Accessories: None.  
(Added - Q24 revision T02 - 11th April 2022)

**115D PERMEABLE CONCRETE BLOCK PAVING - TOTAL INFILTRATION STEPPING STONE SS**

- Geotextile below laying course:
  - Manufacturer: Submit proposals.
  - Product reference: Submit proposals.
- Laying course:
  - Material: 2-6mm clean crushed stone to BS EN 13242.
  - Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving.
  - Nominal thickness after compaction: 40 mm.
- Blocks: To BS EN 1338.
  - Manufacturer: Marshalls plc.
  - Web: [www.marshalls.co.uk](http://www.marshalls.co.uk).
  - Email: [info@marshalls.co.uk](mailto:info@marshalls.co.uk).
  - Product reference: MODAL Priora.
  - Sizes: 300mm x 300mm x 80mm.
  - Special blocks: None.
  - Spacer nibs: No requirement.
  - Arrises: No requirement.
  - Colour/ Finish: Mid Grey Granite Textured finish.
  - Recycled content: As product.
  - Requirements: N/A.
  - Freeze/ thaw resistance: Durability (freeze-thaw): =1 kg/m<sup>2</sup>.
  - Abrasion resistance: =23 mm.
  - Slip/ Skid resistance: No requirement.
- Jointing:
  - Material: Single size 5 mm washed aggregate.
  - Joint width: 6 mm.
  - Conventional sand jointing: Do not use.
- Setting out:
  - Bond: As drawing BPD-HLM-NB-XX-DR-L-30411 PAVING PATTERN DETAILS.
  - Features: None.
- Accessories: None.

(Added - Q24 revision T02 - 11th April 2022)

**EXECUTION****200 EXECUTION GENERALLY - CONCRETE BLOCK AND CLAY PAVER PAVING**

- Standard: In accordance with BS 7533-3.

**211 COLOUR BANDING**

- General: Unless pre-mixed by manufacturer, select blocks/ pavers/ setts from at least 3 separate packs in rotation, to avoid colour banding.

**240 ADVERSE WEATHER**

- General: Do not use frozen materials or lay bedding on frozen or frost covered sub-bases.

**451 LAYING GEOTEXTILE SHEET FOR PERMEABLE PAVING**

- Jointing: Refer to specialist suppliers details.

**490 LAYING PERMEABLE PAVING**

- General: Setting out: Start from an edge restraint.  
Cutting: Cleanly, accurately and vertically, without spalling. Do not mark or damage visible surfaces.  
Cut edges: Turn inwards where possible; do not position against edge restraints or other features.  
In situ mortar or concrete infill: Do not use.  
Compaction: Vibrate to produce thoroughly interlocked paving of even overall appearance with regular joints and accurate to line, level and profile. Do not mark or damage paving units, kerbs and adjacent work.
  - Concrete blocks and clay pavers: In accordance with BS 7533-3, Annex F, to site category required for laying course material..

**505 REGULARITY OF PAVED SURFACES**

- 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.
- Joints between paving units or utility access covers:
  - 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).
  - 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.
  - Unfilled joints: difference in level between adjacent units to be no greater than 2 mm.
- Sudden irregularities: Not permitted.

**COMPLETION****605 CLEANING/ SEALER/ STABILIZER FOR EXISTING BLOCKS AND SETTS**

- Surface preparation:
  - Fill joints;
  - Sweep clear of loose sand before sealing; and
  - Thoroughly remove all contaminants and top up sand joints.
- Cleaner:
  - Manufacturer: Contractor's choice.  
Product reference: Contractor's choice.
- Sealer/ Stabilizer:
  - Manufacturer: Contractor's choice.  
Product reference: Contractor's choice.
  - Application: After thorough cleaning, apply to dry paving.  
Method: To manufacturer's recommendations.  
Number of coats: To manufacturer's recommendations.  
Coverage: To manufacturer's recommendations.

**615 COMPLETION OF PAVING**

- Final compaction of the surface course: In accordance with BS 7533-3.
- Vacuum cleaning machines: Not allowed.

**Q25**  
**Slab/ brick/ sett/ cobble pavings**  
**Revision C03****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	6th Feb 2019
P02	ISSUE FOR TENDER	7th Feb 2019
P03	ISSUED FOR COORDINATION	27th Jun 2019
C01	REVISED STAGE 4 ISSUE	22nd Jun 2020
C02	ISSUED FOR CO-ORDINATION	15th Jul 2020
T01	STAGE 4 TENDER ISSUE	8th Feb 2021
C03	FOR CONSTRUCTION	18 Aug 2023

**Clauses amended in Revision C03**

No.	Clause
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L50A

CONCRETE SETT PAVING SYSTEM

Dele



## Q25 Slab/ brick/ sett/ cobble pavings

To be read with Preliminaries/ General conditions.

### GENERAL

#### 110 NATURAL STONE SLAB PAVING SYSTEM BEDDING SYSTEM

- Subgrade improvement layer: Not required.
  - Compacted thickness: As drawing BPD-HLM-NB-XX-DR-L-30401.
- Granular sub-base: As drawing BPD-HLM-NB-XX-DR-L-30401.
  - Compacted thickness: As Engineers Details.
- Base: Parex Fine Bedding Concrete .
  - Thickness: As Engineers Details.
- Laying course: Ready mixed mortar.
  - Accessories: Primer for underside of flags or slabs.
- Paving units: Natural stone slabs.
- Jointing: Parex Granatech.
  - Bond: As drawings BPD-HLM-NB-XX-DR-L-30411.
- Accessories: None.  
(Revised - Q25 revision T01 - 8th Feb 2021)

#### ~~127 PEDESTAL SUPPORTED PAVING SLAB/ FLAG SYSTEM~~

~~(Deleted - Q25 revision T01 - 8th Feb 2021)~~

#### 127A PAVING SLAB/ FLAG SYSTEM TO PODIUM.

- Waterproofing to slab: Refer to Structural Engineers design and specification.
- Thermal insulation: Refer to Architects design and specification.
  - Protection: Permavoid Geomembrane Liner or similar and approved.
- Moisture control layers: Permavoid 150 Drainage layer. Refer to drawing BPD-HLM-NB-XX-DR-L-30401 HARC LANDSCAPE DETAILS Sheet 1 for detail.
- Permeable layer: No
- Supplier: Polypipe Civils,  
Charnwood Business Park, Loughborough, Leicestershire LE11 1LE  
Tel: +44 (0)1509 615100 Fax: +44(0)1509 610215 Email: [civils@polypipe.com](mailto:civils@polypipe.com) or similar and approved.
  - Product Reference: Permavoid Cell System or similar and approved.  
(Revised - Q25 revision T01 - 8th Feb 2021)

#### 127B PAVING SLAB/ FLAG SYSTEM TO TERRACES.

- Waterproofing to slab: Refer to Structural Engineers design and specification.
- Thermal insulation: Refer to Architects design and specification.
  - Protection: To Architect Design and specification
- Moisture control layers: BluRoof VF Pre-formed Geocellular Unit Refer to drawing BPD-HLM-NB-XX-DR-L-30405 HARD LANDSCAPE DETAILS - SHEET 05 for detail.
- Permeable layer: Yes  
Supplier: Alumasc Exterior Building Product Ltd or similar and approved  
Web: [www.alumascwms.co.uk/](http://www.alumascwms.co.uk/)
  - Product Reference: BlueRoof VF Pre-formed Geocellular Unit.
  - Material: Interlocking polypropylene  
(Revised - Q25 revision T01 - 8th Feb 2021)

#### ~~140 NATURAL STONE SETT PAVING SYSTEM~~

~~(Deleted - Q25 revision T01 - 8th Feb 2021)~~

**140A NATURAL STONE SETT PAVING SYSTEM**

(Deleted - Q25 revision T01 - 8th Feb 2021)

**140B NATURAL STONE SETT PAVING SYSTEM STONE PAVING TYPE SP3 - TACTILE**

- Subgrade improvement layer: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Compacted thickness: n/a.
- Granular sub-base: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Compacted thickness: n/a.
- Base: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Thickness: n/a.
- Laying course: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Accessories: n/a.
- Paving units: Marshalls Vietnamese Granite Tactile slabs 400 x 400 x 50mm, colour Malasana.
- Jointing: Site mixed fine concrete.
  - Bond: Stack.
- Accessories: None.

(Revised - Q25 revision T01 - 8th Feb 2021)

**140C NATURAL STONE SLAB PAVING SYSTEM RELAYING OF STONE PAVING TYPE SP4**

- Subgrade improvement layer: As section Q20.
  - Compacted thickness: Submit proposals.
- Granular sub-base: Highways Agency Type 1 unbound mixture, as section Q20.
  - Compacted thickness: MIN 150 mm or as shown on Landscape drawings.
- Base: Not required unless specified on engineers drawings.
  - Thickness: Not required.
- Laying course: 3:1 sand:cement mortar or as shown on engineers drawings .
  - Accessories: None.
- Paving units: Existing setts.
- Jointing: Site mixed fine concrete.
  - Bond: As existing.
- Accessories: None.

**140D NATURAL STONE SLAB PAVING SYSTEM RELAYING OF STONE PAVING TYPE SP5**

- Subgrade improvement layer: As section Q20.
  - Compacted thickness: Submit proposals.
- Granular sub-base: Highways Agency Type 1 unbound mixture, as section Q20.
  - Compacted thickness: MIN 150 mm or as shown on Landscape drawings.
- Base: Not required unless specified on engineers drawings.
  - Thickness: Not required.
- Laying course: 3:1 sand:cement mortar or as shown on engineers drawings .
  - Accessories: None.
- Paving units: Existing slabs.
- Jointing: Site mixed fine concrete.
  - Bond: As existing.
- Accessories: None.

**140E NATURAL STONE SLAB PAVING SYSTEM STONE PAVING TYPE SP6A / SP6B/ SP6C & SP6D**

- Subgrade improvement layer: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Compacted thickness: n/a.
- Granular sub-base: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Compacted thickness: n/a.
- Base: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Thickness: n/a.
- Laying course: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Accessories: n/a.
- Paving units: Marshalls Scoutmoor Yorkstone Paving 300 x 50 x random length 300-600mm  
Refer to Q25/330C.
- Jointing: Site mixed fine concrete.
  - Bond: Refer to BPD-HLM-NB-XX-DR-L-30411 PAVING PATTERN DETAILS.
- Accessories: Permavoid to SP6C.  
(Revised - Q25 revision T01 - 8th Feb 2021)

**140F NATURAL STONE SLAB PAVING SYSTEM STONE PAVING TYPE SP7**

- Subgrade improvement layer: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Compacted thickness: n/a.
- Granular sub-base: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Compacted thickness: n/a.
- Base: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Thickness: n/a.
- Laying course: as shown on engineers drawings .
  - Accessories: None.
- Paving units: Marshalls Scoutmoor Yorkstone Paving 200 x 200 x 50mm  
Refer to Q25/330D.
- Jointing: Site mixed fine concrete.
  - Bond: Refer to BPD-HLM-NB-XX-DR-L-30411 PAVING PATTERN DETAILS.
- Accessories: Permavoid to SP7C.  
(Revised - Q25 revision T01 - 8th Feb 2021)

**140G NATURAL STONE SLAB PAVING SYSTEM STONE PAVING TYPE SP8**

- Subgrade improvement layer: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Compacted thickness: n/a.
- Granular sub-base: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Compacted thickness: n/a.
- Base: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Thickness: n/a.
- Laying course: Refer to BPD-HLM-NB-XX-DR-L-30401 HARD LANDSCAPE DETAILS - SHEET 01.
  - Accessories: n/a.
- Paving units: Marshalls Scoutmoor Yorkstone Paving 200 x 50 x random length 200-400mm  
Refer to Q25/330E.
- Jointing: Site mixed fine concrete.
  - Bond: Refer to BPD-HLM-NB-XX-DR-L-30411 PAVING PATTERN DETAILS.
- Accessories: Permavoid.  
(Revised - Q25 revision T01 - 8th Feb 2021)

**~~140H NATURAL STONE SLAB PAVING SYSTEM~~**

(Deleted - Q25 revision T01 - 8th Feb 2021)

**150 CONCRETE SETT PAVING SYSTEM CONCRETE PAVING TYPE CP1, CP2 & CP4**

- Subgrade improvement layer: As section Q20.
  - Compacted thickness: Submit proposals.
- Granular sub-base: Coarse graded aggregate for permeable paving, as section Q20.
  - Compacted thickness: As specified on landscape and engineers drawings.
- Base: Not required.
  - Thickness: Not required.
- Laying course: Fine aggregate.
  - Accessories: None.
- Paving units: Concrete setts.
- Jointing: Fine aggregate.
  - Bond: As drawings.
- Accessories: None.

~~**150A CONCRETE FLAG PAVING SYSTEM CONCRETE PAVING TYPE CP1A**~~

- Product removed from scheme

(Revised - Q25 revision C01 - 18 Aug 2023)

**150B CONCRETE SETT PAVING SYSTEM CONCRETE PAVING TYPE CP3**

- Subgrade improvement layer: As section Q20.
  - Compacted thickness: Submit proposals.
- Granular sub-base: Coarse graded aggregate for permeable paving, as section Q20.
  - Compacted thickness: As specified on landscape and engineers drawings.
- Base: Not required.
  - Thickness: Not required.
- Laying course: Fine aggregate.
  - Accessories: Geotextile sheet below laying course.
- Paving units: Concrete setts.
- Jointing: Fine aggregate.
  - Bond: As drawings.
- Accessories: None.

(Revised - Q25 revision T01 - 8th Feb 2021)

**PRODUCTS****320 TACTILE FLAGS AND SLABS STONE PAVING TYPE SP3**

- Standard: To DD CEN/TS 15209.
- Material: Granite.
  - Manufacturer: Marshalls or similar and approved.
    - Product reference: Marshalls Vietnamese Granite Malasana or similar and approved.
- Recycled content: Contractor's choice.
- Nominal sizes: 400 x 400 x 50mm.
- Colour: Malasana - Fine Picked.
- Type of surface: Rib – type R1.

**330 NATURAL STONE SETTS**

(Deleted - Q25 revision T01 - 8th Feb 2021)

**330B NATURAL STONE SETTS**

(Deleted - Q25 revision T01 - 8th Feb 2021)

**330C NATURAL STONE SETTS STONE PAVING TYPE SP6A / SP6B/ SP6C & SP6D**

- Standard: To BS EN 1342.
  - Supplier: Marshalls or similar and approved.
    - Product reference: Scoutmoor Yorkstone Paving or similar and approved.
    - Quarry: No requirement.
 Petrographical description/ stone type: Sandstone.
  - Finish: Diamond Sawn.
  - Sizes: 300 x 50 x random length 300-600 mm.
    - Plan dimension and thickness deviation: Class 2.
  - Special setts: NA.
    - Tolerances on undercut of sides: Class 2.
    - Tolerances on hewn and coarse textured face irregularities: Class 2.
    - Breaking strength: No requirement.
  - Slip resistance: SRV to BS EN 14231 of 80.
  - Skid resistance: No requirement.
  - Surface treatment: None.
- (Revised - Q25 revision T01 - 8th Feb 2021)

**330D NATURAL STONE SETTS STONE PAVING TYPE SP7A / SP7B & SP7C**

- Standard: To BS EN 1342.
- Supplier: Marshalls or similar and approved.
  - Product reference: Scoutmoor Yorkstone Paving or similar and approved.
  - Quarry: No requirement.
 Petrographical description/ stone type: Sandstone.
- Finish: Diamond Sawn.
- Sizes: 200 x 200 x 50mm.
  - Plan dimension and thickness deviation: Class 2.
- Special setts: NA.
  - Tolerances on undercut of sides: Class 2.
  - Tolerances on hewn and coarse textured face irregularities: Class 2.
  - Breaking strength: No requirement.
- Slip resistance: No requirement.
- Skid resistance: No requirement.
- Surface treatment: None.

**330E NATURAL STONE SETTS STONE PAVING TYPE SP8**

- Standard: To BS EN 1342.
- Supplier: Marshalls or similar and approved.
  - Product reference: Scoutmoor Yorkstone Paving or similar and approved.
  - Quarry: No requirement.
 Petrographical description/ stone type: Sandstone.
- Finish: Diamond Sawn.
- Sizes: 200 x 50 x random length 200 - 400 mm.
  - Plan dimension and thickness deviation: Class 2.
- Special setts: NA.
  - Tolerances on undercut of sides: Class 2.
  - Tolerances on hewn and coarse textured face irregularities: Class 2.
  - Breaking strength: No requirement.
- Slip resistance: No requirement.
- Skid resistance: No requirement.
- Surface treatment: None.

**335A CONCRETE FLAG CONCRETE PAVING TYPE CP1A**

- Manufacturer: Marshalls or similar and approved.
  - Product reference: Marshalls ORGANA concrete paving (50mm)  
Textured finish; .
- Recycled content: 5% (minimum) to BS EN ISO 14021.
- Colour: Buff - Organa Linen
- Finish: Textured finish.
- Sizes: 450x450x50mm
- Slip/ Skid resistance: No requirement.
- Integral accessories: None.  
(Revised - Q25 revision T02 - 1st Apr 2022)

**335E CONCRETE SETTS CONCRETE PAVING TYPE CP4**

- Manufacturer: Marshalls or similar and approved.
  - Product reference: Marshalls MODAL or similar and approved.
- Recycled content: 5% (minimum) to BS EN ISO 14021.
- Colour: Mid Grey.
- Sizes: 300 x 200 x 80mm.
- Slip/ Skid resistance: No requirement.
- Integral accessories: None.

**335I CONCRETE SETTS STEPPING STONE SS**

- Manufacturer: Marshalls or similar and approved.
  - Product reference: Marshalls MODAL or similar and approved.
- Recycled content: 5% (minimum) to BS EN ISO 14021.
- Colour: Mid Grey.
- Sizes: 300 x 300 x 80mm.
- Slip/ Skid resistance: No requirement.
- Integral accessories: None.

**335J CONCRETE SETTS BALCONY PAVING TYPE BP**

- Manufacturer: Marshalls or similar and approved.
  - Product reference: To Architect's specification.
- Recycled content: 5% (minimum) to BS EN ISO 14021.
- Colour: Silver.
- Sizes: 208 x 173 x 60mm, 173 x 173 x 60mm.
- Slip/ Skid resistance: No requirement.
- Integral accessories: None.

**420 FINE AGGREGATE FOR LAYING COURSE OF CONCRETE SETT PAVING**

- Material: Laying course sand to BS 7533-4.

**425 FINE AGGREGATE FOR JOINTING CONCRETE SETT PAVING**

- Material: Limestone dust, 3-4 mm down.

**435 PRIMER FOR UNDERSIDE OF FLAGS AND SLABS NATURAL STONE PAVING TYPE SP1, SP2, SP3, SP4, SP5, SP6A & SP7A**

- Manufacturer: Parex Ltd,  
Holly Lane Industrial Estate,  
Atherstone,  
Warwickshire,  
CV9 2QZ  
Tel: 01827 711755,  
Email: enquiries@parex.co.uk.
  - Product reference: PAREX Bond Plus Priming Mortar.

**445 READY MIXED FINE CONCRETE JOINTING MORTAR**

- Standard/ Performance requirements: In accordance with BS 7533-7.
- Manufacturer: Parex Ltd,  
Holly Lane Industrial Estate,  
Atherstone,  
Warwickshire,  
CV9 2QZ  
Tel: 01827 711755,  
Email: enquiries@parex.co.uk.
  - Product reference: Parex Granatech .
  - Consistency: Slurry.

**480 SUPPORT PEDESTALS TO CONCRETE PAVING TYPE CP3 - LEVEL 08**

- Manufacturer: Alumasc or similar and approved.
  - Product reference: Alumasc Modulock Mon-combustible Pedestal Support System or similar and approved
  - Web: www.alumascwms.co.uk.
- Type: Adjustable.
- Material: Steel as manufactured.
- Dimensions: As drawing BPD-HLM-NB-XX-DR-L-30405.
- Additional pedestals: To manufacturers recommendations.
- Accessories: Not required.

**480A SUPPORT PEDESTALS TO CONCRETE PAVING TYPE CP3 - LEVEL 04**

- Manufacturer: Alumasc or similar and approved.
  - Product reference: Alumasc Modulock Mon-combustible Pedestal System or similar and approved
  - Web: www.alumascwms.co.uk .
- Type: Adjustable.
- Material: Steel as manufactured.
- Dimensions: As drawing BPD-HLM-NB-XX-DR-L-30405.
- Additional pedestals: To manufacturers recommendations.
- Accessories: Not required.

**480C ~~SUPPORT PEDESTALS~~**

(Deleted - Q25 revision T01 - 8th Feb 2021)

**EXECUTION****610 MATERIAL SAMPLES**

- Samples representative of colour and appearance of designated materials: Submit before placing orders.
  - Designated materials: Natural stone slab paving; reference sample to BS EN 1341.

**620 ADVERSE WEATHER**

- General:
  - 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.
  - Frozen materials: Do not use. Do not lay bedding on frozen or frost covered bases.
- Paving with mortar joints and/ or bedding:
  - Protect from frost damage, rapid drying out and saturation until mortar has hardened.
- Paving laid and jointed in sand:
  - Stockpiled bedding sand: Protect from saturation.
  - Exposed areas of sand bedding and uncompacted areas of sand bedded paving: Protect from heavy rainfall.
  - Saturated sand bedding: Remove and replace, or allow to dry before proceeding.
  - 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**

- Appearance: Smooth and even with regular joints and accurate to line, level and profile.
- Falls: To prevent ponding.
- Bedding of paving units: Firm so that rocking or subsidence does not occur or develop.
  - Bedding/ Laying course: Consistently and accurately graded, spread and compacted to produce uniform thickness and support for paving units.
- Slopes: Lay paving units upwards from the bottom of slopes.
- Paving units: Free of mortar and sand stains.
- Cutting: Cut units cleanly and accurately, without spalling, to give neat junctions with edgings and adjoining finishes.

**630 LEVELS OF PAVING**

- Permissible deviation from specified levels:
  - Generally:  $\pm 6$  mm.
- Height of finished paving above features:
  - At gullies: +6 to +10 mm.
  - At drainage channels and kerbs: +3 to +6 mm.

**635 REGULARITY OF PAVED SURFACES**

- Maximum variation in gap under a 3 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface):
  - Precast concrete paving blocks and clay pavers for flexible pavements: 10 mm.
  - Precast concrete flags or natural stone slabs: 3 mm.
- Difference in level between adjacent paving units (maximum): 2 mm.
- Sudden irregularities: Not permitted.

**645 PROTECTION**

- Cleanliness: Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
- Materials storage: Do not overload pavings with stacks of materials.
- Handling: Do not damage paving unit corners, arrises, or previously laid paving.
- Mortar bedded pavings: Keep free from traffic after laying:
  - Pedestrian traffic (minimum): 4 days.
  - Vehicular traffic (minimum): 10 days.
- Access: Restrict access to paved areas to prevent damage from site traffic and plant.

**655 CONDITION OF SUB-BASES/ BASES BEFORE SPREADING LAYING COURSE**

- Trenches and excavation of soft or loose spots in subgrade: Fill and thoroughly compact.
- 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.
- Prepared existing and new bound bases (roadbases): Sound, clean, free from rutting or major cracking. Remove sharp stones, projections and debris.
- Sub-base/ Roadbase level tolerances: To BS 7533-7, Annex A.
- Levels and falls: Accurate and within the specified tolerances.
- Drainage outlets: Within 0-10 mm of the required finished level.
- Features in sand bedded paving (including mortar bedded restraints and drainage ironwork): Complete to required levels; adequately bed and haunch in mortar.
- Sub-bases containing cement/ hydraulic binder: Cure for minimum times specified in BS 7533-4.

**665 PLANING AND REPAIRS TO EXISTING BASES**

- Existing macadam/ asphalt surfaces: Plane to required levels.
- Repairs: Cut out to remove ruts and cracks over 25 mm wide and Cut out depressions, fill to match existing surface and compact.
- Building up existing surfaces to required levels: Regulate using asphalt concrete to BS EN 13108-1.



**730 LAYING NATURAL STONE SETT PAVING**

- Standard generally: In accordance with BS 7533-7.
- Laying type: Rigid.
  - Laying and jointing method: Moist mix fine concrete with vibratory compaction.
- Laying course:
  - Target thickness after compaction: 40 mm.
- Joint width (nominal): 5 mm.

**735 LAYING CONCRETE SETT PAVING - MORTAR BEDDED**

- Laying: Spread and level a bed of mortar. Individually lay and hammer down the setts so that tops are level, leaving joints open.
- Laying course:
  - Nominal thickness after compaction: 35 mm.
- Jointing: Fill joints and finish neatly. Clean mortar from face of setts before it sets.
- Joint width (nominal): 5 mm.
  - Recess mortar joints below sett surface by: 2 mm.

**740 LAYING CONCRETE SETT PAVING - FINE AGGREGATE BEDDING AND JOINTING**

- Laying: 35mm.
- Jointing: 5mm.

**805 CLEANING EXISTING BLOCKS AND SETTS**

- Area: STONE PAVING TYPE SP4 & SP5.
- Application:
  - Method: Contractor's choice.
  - Dosage: Contractor's choice.
- Sand jointed paving: Do not displace jointing sand during cleaning process.

**810 PEDESTAL INSTALLATION**

- Surface to accept pedestals: Clean and free of debris.
- Setting out: Mark centre-point of pedestal on substrate surface, with perpendicular guidelines to ensure square layout.
  - Orientation: Align parallel with adjacent features.
  - Spacing: To suit paving material and dimensions.
- Movement tolerance at perimeter of paver system (maximum): 5 mm.

**COMPLETION****915 COMPLETION OF PAVING WITH DRY SAND OR FINE AGGREGATE FILLED JOINTS**

- Sand dressing: Leave a thin layer of dry jointing sand over the paving, sweep clean before practical completion.
- Final compaction of the surface course: In accordance with BS 7533-3.
- Vacuum cleaning machines: Not allowed.

**930 SLIP RESISTANCE TESTING**

- Surfaces to be tested: ALL.
  - Surface condition: Dry and wet.
- Timing: As agreed with contract administrator.
- Period of notice (minimum): 3 working days.
- Test standard: To BS 7976.
  - Testing authority: A UKAS accredited laboratory.
  - Witnessing/ Certification: Arrange for tests to be witnessed/ certified by: Project manager.
  - Report: Submit.
    - Format: As required under BS 7976.

**Q26**  
**Special surfacings/ pavings for sport/ general amenity**  
**Revision T01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	1st May 2018
C02	ISSUED FOR CO-ORDINATION	15th Jul 2020
T01	STAGE 4 TENDER ISSUE	12th Feb 2021

**Clauses amended in Revision T01**

No.	Clause	
350A	SYNTHETIC GRASS SURFACING	Revised

## Q26 Special surfacings/ pavings for sport/ general amenity

To be read with Preliminaries/ General conditions.

### IMPACT ABSORBING SURFACINGS FOR PLAY AREAS

#### 301 EXTENT OF IMPACT ABSORBING SURFACING

- General: Lay impact absorbing surfacing as indicated on drawings.

#### 350A SYNTHETIC GRASS SURFACING TO ROOF TERRACE L05

- Impact absorbing layer: EPDM rubber mats and/ or tiles.
  - Standard: To BS 7188.
  - Manufacturer: Everroof or similar and approved  
Website: [www.everroof.co](http://www.everroof.co)  
Tel: 01572 766 912 .  
Product reference: 30mm Forcefield Foam or similar and approved.
  - Critical fall height when tested to BS EN 1177: 1.0 m.
  - Submit: Resistance to indentation and ease of ignition: Evidence of testing to BS 7188.
- Surface course: Synthetic grass surface.
  - Standard: To BS 7044-4.
  - Manufacturer: Everroof or similar and approved.
  - Product reference: Wonder Yardn 36mm or similar and approved.
  - Health and safety:  
Substance known to be toxic or carcinogenic on skin contact or released as vapour or dust during normal use: Not permitted.
  - Ignitability:  
Radius of ignition to BS 4790 (maximum): 35 mm.
  - Uniformity:  
Level difference (maximum): 2 mm.  
Separation at joints (maximum): 2 mm.
- Drainage: Lazy Drain (25mm) Protection Matting for horizontal flow.  
Base sub-structure: GRP Grating, 38mm mesh composites  
Rasied deck support: 107mm height, as per manufacturers specification for the system to acheive fire resistance compliants
- Submit:
  - Critical fall height: Evidence of testing to BS EN 1177.
- Fire rating requirement: A1 Fire Class Rating  
(Revised - Q26 revision T01 - 12th Feb 2021)

### ASSOCIATED ACCESSORIES

### EXECUTION

#### 710A SYNTHETIC GRASS INSTALLATION

- Installation: Lay in continuous lengths across the width of the indicated area with no cross joints.
- Joints:
  - Level differences (maximum): 2 mm.
  - Separation at joints and seams (maximum): 2 mm.
- Uniformity: No seams or textural variations which might cause a ball to be deflected from its true path.

**COMPLETION****920 PLAY SURFACE TESTING**

- Standard: To BS EN 1177 and BS 7188, where applicable.
- Testing body: A United Kingdom Accreditation Service (UKAS) independent laboratory.
- Timing: Within ten days of completing the surfacing works.
- Test results: Submit.

**930 DOCUMENTATION**

- General: For all types of surfacing, provide the following:
  - Name and contact details of installer.
  - Date of installation.
  - Name and contact details of manufacturer.
  - Type/ description/ reference of products used.
  - Manufacturer's recommended inspection and maintenance procedures to maintain safety and impact absorbing performance.
  - Manufacturer's recommended cleaning and maintenance methods, where relevant.

**940 LABELLING**

- Signs: Provide permanent labelling in approved locations on all types of surfacing stating: Critical fall height and Date of installation.

**Q28**  
**Topsoil and soil ameliorants**  
**Revision C01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	15th May 2018
C01	ISSUED FOR CO-ORDINATION	6th Feb 2019

## Q28 Topsoil and soil ameliorants

To be read with Preliminaries/ General conditions.

### SYSTEM OUTLINE

#### 115A SOIL SYSTEM FOR GRASS TO GRASSED/ SEDUM AREAS BETWEEN PAVING TYPE 6A/6B

- Composition:
  - Soil: Imported topsoil to BS 3882 and Submit design and cost proposals.
  - Ameliorants: Fertilizer to be incorporated into topsoil.
  - Accessories: None.

#### 125 GREEN ROOF GROWING MEDIA SYSTEM TO GREEN ROOF SYSTEM

- Composition:
  - Topsoil: Alumasc Blackdown Extensive substrate or similar and approved.
  - Ameliorants: None.
  - Accessories: None.

#### 135A PLANTING BED SOIL SYSTEM TO RAISED PLANTING AREAS

- Composition:
  - Topsoil: Imported topsoil to BS 3882 and Submit design and cost proposals.
  - Ameliorants:
    - Organic materials;
    - Fertilizer; and
    - Submit design and cost proposals.
- Topsoil depth: 150 - 300mm
- Subsoil depth: to achieve minimum depth of 500mm of top soil and subsoil combined.

#### 135B PLANTING BED SOIL SYSTEM TO FLUSH PLANTING AREAS - TO LEVEL 00

- Composition:
  - Topsoil: Imported topsoil to BS 3882 and Submit design and cost proposals.
  - Ameliorants:
    - Organic materials;
    - Fertilizer; and
    - Submit design and cost proposals.
- Topsoil depth: 150 - 300mm
- Subsoil depth: to achieve minimum depth of 500mm of top soil and subsoil combined.

#### 135C PLANTING BED SOIL SYSTEM TO FLUSH PLANTING AREAS - TO TERRACES

- Composition:
  - Topsoil: Imported topsoil to BS 3882 and Submit design and cost proposals.
  - Ameliorants:
    - Organic materials;
    - Fertilizer; and
    - Submit design and cost proposals.
- Topsoil depth: 100mm min

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

- Composition:
  - Topsoil: Imported topsoil to BS 3882 and Submit design and cost proposals.
  - Ameliorants:
    - Organic materials;
    - Fertilizer; and
    - Submit design and cost proposals.
- Topsoil depth: 300mm or to base of root ball.
- Subsoil depth: to depth of root cell or to achieve minimum depth of 1000mm of top soil and subsoil combined

**155 MULCHING AND TOP DRESSING SYSTEM FOR EXTERNAL PLANTING AREAS AND TREE PITS**

- Composition:
  - Material: Organic materials and PAS 100 compost and Submit design and cost proposals.

**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 green/ food waste certified to PAS 100.
- Give notice: before ordering or using.
- Declaration of compliance in accordance with BS EN 13650: Required.

**310 MATERIALS NOT PERMITTED**

- Materials:
  - Peat;
  - Products containing peat; and
  - River and canal dredgings.

**315 IMPORTED TOPSOIL TO BS 3882 FOR EXTERNAL PLANTING AREAS AND 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: Sandy loam.
- Source: Submit proposals.
  - Product reference: Submit proposals.

**315A IMPORTED SUBSOIL TO BS 3882 FOR EXTERNAL PLANTING AREAS AND 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: Sandy loam.
- Source: Submit proposals.
  - Product reference: Submit proposals.

**355 ORGANIC MATERIALS FOR PLANTING AREAS AND TREE PITS**

- Type: Wood chips.
- Source: Submit proposals.
  - Product reference: Submit proposals.

**360 SANITIZED AND STABILIZED COMPOSTED MATERIALS CERTIFIED TO PAS 100 FOR PLANTING AREAS AND TREE PITS**

- Standard: In accordance with PAS 100.
- Source: Submit proposals.
  - Product reference: Submit proposals.
- Horticultural parameters:
  - pH (1:5 water extract): 7.0-8.7.
  - Electrical conductivity (maximum, 1:5 water extract): 200 mS/m.
  - Moisture content (m/m of fresh weight): 35-55%.
  - Organic matter content (minimum): 25%.
  - Grading (air dried samples): 99% passing 25 mm screen, and 90% passing: 10 mm screen mesh aperture.
  - Carbon:Nitrogen ratio (maximum): 20:1.
- Texture: Friable.
- Objectionable odour: None.
- Compost Certification Scheme certification: Required.
- Declaration of analysis: Submit.
- Additional analyses: Phytotoxic elements.
- Samples: Supply 5 kg sample before ordering.

**380 MYCORRHIZAL INOCULANT FOR TREE PITS**

- Manufacturer: Submit proposals.
  - Product reference: Submit proposals.

**EXECUTION**

**620 IMPORTING TOPSOIL**

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

**625 SAMPLE LOADS FOR IMPORTED TOPSOIL**

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

**630 DOCUMENTATION FOR IMPORTED TOPSOIL FOR PLANTING AREAS AND 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.

**640 DOCUMENTATION FOR PREPARATION MATERIALS FOR ORGANIC MATERIALS**

- Timing: Submit at handover.
- Contents:
  - Full description of all components.
  - Record of source for all components.
  - Analyst's report for each test carried out.
  - Supplier's declaration of compliance with BSI PD CR 13456.
- 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.

**655 MECHANICAL TOOLS**

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

**660 GRADING SUBSOIL FOR ALL 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 PLANTING AREAS AND TREE PITS**

- 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: 600 mm.
    - Stiff clay and cohesive subsoils: 600 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 tree pits and planting beds.
- Notice period: 7 days.

**675 PREPARATION OF UNDISTURBED TOPSOIL**

- Standard: In accordance with BS 4428.
  - Grading and cultivation: Category C.
- Hard ground: Break up thoroughly.
- Clearing: Remove visible roots and large stones with a diameter greater than 50 mm.
- Areas covered with turf or thick sward: Plough or dig over to full depth of topsoil.
- Fallow period (minimum): One month.
  - Weed control: At appropriate times treat with a suitable translocated nonresidual herbicide.

**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 PLANTING AREAS AND TREE PITS**

- 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.

**720 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT**

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

**730 GREEN ROOF GROWING MEDIUM INSTALLATION**

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

**840 APPLYING MYCORRHIZAL INOCULANT TO PLANTING AREAS AND TREE PITS**

- Depth: To manufacturer's/ supplier's recommendations.

**845 APPLYING LOOSE MULCH FOR PLANTING AREAS AND TREE PITS**

- Timing: Immediately after planting.
- Preparation: Ensure that soil is thoroughly moistened, applying water where necessary.
- Coverage of mulch (minimum):
  - Planting beds (depth): 50 mm depth.
  - Trees: 75 mm depth.
  - Container planting: 50 mm depth.
- Finished level of mulch: 25 mm below adjacent grassed or paved areas.

**COMPLETION****920 APPLYING MULCH**

- Timing: At end of the rectification period.
- Watering: Ensure that soil is thoroughly moistened prior to mulching, applying water where necessary.
- Planting beds: Re-mulch.
  - Depth (minimum): 50 mm.
- Trees: Remulch.
  - Depth (minimum): 75 mm.
- Container planting: Remulch.
  - Depth (minimum): 50 mm.

**Q30**  
**Seeding/ turfing**  
**Revision C01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	1st May 2018
C01	ISSUED FOR CO-ORDINATION	6th Feb 2019

## 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: 1 week.

### PREPARATION

#### 212 SEED BED CLEANING BEFORE SOWING TO MIX00G

- Operations: As seed supplier's recommendations..

#### 250 SOIL REQUIREMENTS

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

### SEEDING

#### 312A SEED MIXTURE TO MIX00G

- Supplier: Seedaholic or similar and approved.
  - Mixture reference: Seedum, ' Mixed Varieties' or similar and approved.
- Origin of each species (as defined in Flora Locale's Code of practice for collectors, growers and suppliers of native flora): as manufactured.
- Application rate: 4 g/m<sup>2</sup>.

**319 QUALITY OF SEED MIX00G**

- 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: To suit soil type, proposed usage, location and weather conditions during and after sowing.
  - Distribution: 2 equal sowings at right angles to each other.

**336A SEED SOWING SEASON**

- Wildflower seed generally: March to May or August to October.

**PROTECTING/CUTTING****550 AREAS NOT TO BE CUT**

- Do not cut:  
MIX00G.

**590 CLEANLINESS**

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

**MAINTENANCE****610 FAILURES OF SEEDING/TURFING**

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

**620 MAINTAINING MIX00G**

- Duration: Carry out the following operations from completion of seeding/ turfing until: practical completion.
- Maximum height of growth at any time: 100 mm.
- Preparation: Before each cut remove all litter and debris.
- Cutting: As and when necessary to a height of 50 mm.
  - Arisings: Spread evenly over cut areas.
- Bulb planting areas: Do not cut until bulb foliage has died down.
- Trimming: All edges.
  - Arisings: Remove.
- Weed control: Substantially free of broad leaved weeds.
  - Method: Application of a suitable selective herbicide.
- Stones brought to the surface: Remove regularly.
  - Size: Exceeding 25 mm in any dimension.
- Areas of settlement: Make good.
- Watering: Contractor's choice.

**Q31**  
**External planting**  
**Revision C01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	15th May 2018
P02	ISSUED FOR COORDINATION	17th Apr 2019
C01	ISSUED FOR CO-ORDINATION	27th Jun 2019

## 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 surface vegetation in areas shown on drawings using suitable nonresidual herbicide.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
- Additional requirements: None.

#### 118 SOIL CONDITIONS

- Soil for cultivating and planting: Moist, friable and (except in aquatic/ marginal planting) not waterlogged.
- Frozen or snow covered soil: Give notice before planting. Provide additional root protection. Prevent planting pit sides and bases and backfill materials from freezing.

#### 120 CLIMATIC CONDITIONS

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

#### 125 TIMES OF YEAR FOR PLANTING

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

#### 130 MECHANICAL TOOLS

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

#### 145 WATERING

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

#### 150 WATER RESTRICTIONS

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



**160 NOTICE**

- Give notice before:
  - Setting out.
  - Applying herbicide.
  - Applying fertilizer.
  - Delivery of plants/ trees.
  - Planting shrubs.
  - Planting trees into previously dug pits.
  - Watering.
  - Visiting site during maintenance period.
- Period of notice: One week.

**170 SOIL REQUIREMENTS**

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

**200 PLANTS/ TREES - GENERAL**

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

**215 PLANTS/ TREES - SPECIFICATION CRITERIA**

- Name, forms, dimensions, provenance and other criteria: As scheduled and defined in the National Plant Specification (available on CS Design Software Limited's website).

**225 BULBS/ CORMS/ TUBERS**

- Condition: Firm, entire, not dried out or shrivelled.
- Health: Free from pests, diseases and fungus.
- Handling: Remove from packaging immediately.
- Storage: Permitted only when necessary.
  - Location: Well ventilated, dark, covered, rodent proof container, away from exhausts and fruit.
  - Duration: Minimum period.
  - Temperature: 18-21°C.

**235 CONTAINER GROWN PLANTS/ TREES**

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

**246 LABELLING AND INFORMATION**

- Standard: To BS 3936.

**260 PLANT/ TREE SUBSTITUTION**

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

**265 PLANT HANDLING, STORAGE TRANSPORT AND PLANTING**

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

**280 TREATMENT OF TREE WOUNDS**

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

**285 PROTECTION OF EXISTING GRASS**

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

**290 SURPLUS MATERIAL**

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

**PLANT CONTAINERS****PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS****305 WEED CONTROL FOR INVASIVE NON-NATIVE WEEDS**

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

**PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS****400 RANDOM PLANT LAYOUT TO ALL BEDS**

- Spacing: Refer to planting schedule.
- Density: Refer to planting schedule.

**401 REGULAR PLANT LAYOUT TO HEDGE PLANTING**

- Spacing: In regular, double staggered rows.
- Density: Refer to planting schedule.

**405 SHRUB PLANTING PITS**

- Timing: Excavate 1-2 days (maximum) before planting.
- Sizes: Wide enough to accommodate roots when fully spread and 75 mm deeper than root system.
- Pit bottom improvement Break up to a depth of 150 mm, incorporating soil ameliorant/ conditioner at 50 g/m<sup>2</sup>.

#### 420A CLIMBING PLANTS

- Planting: 150 mm clear of supporting structure (e.g. wall/ fence) with roots spread outward.
  - Branches: Lightly secured to supports.
- Climber support supplier: S3i or similar and approved.
  - Product: Wire Trellis Kit or similar and approved
- Climber Support: Sainless steel wire
  - Distance from wall: 50 mm.
- Fixings: Stainless steel screw eyes.
  - Centres: 0.5 m.

#### 445 PLANTING BULBS/ CORMS/ TUBERS

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

#### 455 PLANTING WILDFLOWER PLUGS

- Handling: Keep plants watered and in shade until planted. Do not allow to dry out.
- Preparation: Remove brambles, coarse and invasive weeds from planting sites.
- Planting in grass: Close mow to approximately 50 mm. Remove arisings.
- Planting sites: Refer to planting schedule - MIX00G.
- Planting: Into a hole to suit plug size and shape. Create a cleft at bottom of hole to improve rooting. Gently firm plant into hole.

#### 470 FORMAL HEDGES

- Shrubs for hedges: Consistent in species, cultivar and clone to ensure a uniform hedge.
- Planting: In trenches large enough to take full spread of roots. Set out plants evenly.

#### 471 NATURALIZED HEDGES

- Planting: In trenches large enough to take full spread of roots. Set out plants evenly.

#### 480 AFTER PLANTING

- Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
- Firming: Lightly firm soil around plants and fork and/ or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.
- Top dressing: Mulching and top dressing system, as section Q28.
  - Depth: 50 mm.

#### PLANTING TREES

#### 500 TREE PLANTING

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

#### 502 ANTIDESICCANT FOR CONIFERS/ EVERGREENS

- Manufacturer: Submit proposals.
  - Product reference: Submit proposals.
- Application: Dip or thoroughly spray before delivering to site. Spray again soon after planting.
  - Do not apply in wet or frosty weather.
  - Ensure full coverage of underside of foliage.

**505A TREE PITS IN GROUND**

- Sizes: 1200 mm diameter x 750 mm deep.
- 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: Submit proposals.
- Pit sides: Scarify.
- Backfilling material: Topsoil, as section Q28.

**505B TREE PITS ON PODIUM & TERRACES**

- Sizes: 1000 mm diameter, Depth to top of drainage layer.
- 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: Do not disturb base.
  - Treatment: Not required.
- Pit sides: Scarify.
- Backfilling material: Topsoil, as section Q28.

**510 TREE PIT ROOT BARRIERS**

- Locations: To all tree pits on podium and in ground.
- Manufacturer: Green Blue Urban or similar and approved.
  - Product reference: ReRoot300 or similar and approved.
- Thickness: 1.0 mm.
- Barrier depth: 300 mm.
- Foil liner: Not required .
- Top of root barrier in relation to finished topsoil level: 75 mm below ground level.
- Installation: With sides vertical. Remove all sharp objects adjacent to barrier.

**512A TREE PIT IRRIGATION AND VENTILATION ACCESSORIES**

- Locations: To all tree pits in soft landscape and planters.
- Manufacturer: Gren Blue Urban or similar and approved.
  - Product reference: RootRain Hydrogrille or similar and approved.
- Type: As manufactured - length to suit root ball.
- Installation: To manufacturers specifications
  - Membrane: Lay in loop around root ball with slight fall away from inlet pipe. Trim length to ensure a close fit in the tree pit. Connect both ends of pipe securely into plastics tee junction on inlet.
  - Top cap of inlet: Protruding slightly above finished surround level.
  - Backfill material: Carefully compact in layers.

**512B TREE PIT IRRIGATION AND VENTILATION ACCESSORIES**

- Locations: To all tree pits in hard landscape.
- Manufacturer: Gren Blue Urban or similar and approved.
  - Product reference: Castle tray inbuilt ventilation or similar and approved.
- Type: As manufactured - length to suit root ball.
- Installation: To manufacturers specifications
  - Top cap of inlet: Protruding slightly above finished surround level.
  - Backfill material: Carefully compact in layers.

**520A CELLULAR STRUCTURAL SOIL SYSTEM** To connect soft landscape areas beneath hard landscape ON podium

- Locations: as indicated on drawing MAS-HLM-00-00-DR-L-45101 & MAS-HLM-00-00-DR-L-00021.
- Manufacturer: Permavoid or similar and approved.
  - Product reference: Permavoid 150 & 85mm Cell System or similar and approved.
- Geotextile membrane: Install on top of structural soil system prior to installation of hard surfacing, as section D20.
- Installation: Ensure all void spaces are filled with lightly compacted growing medium prior to installation of further layers or sub-bases.

**520C CELLULAR STRUCTURAL SOIL SYSTEM** To tree pit in hard landscape ON podium

- Locations: As indicated on drawing MAS-HLM-00-00-DR-L-45101 & MAS-HLM-00-00-DR-L-00021.
- Manufacturer: Gren Blue Urban or similar and approved.
  - Product reference: Strata Soil Cell or similar and approved.
- Geotextile membrane: Install on top of structural soil system prior to installation of hard surfacing, as section D20.
- Installation: Ensure all void spaces are filled with lightly compacted growing medium prior to installation of further layers or sub-bases.

**526 UNDERGROUND GUYING FOR ALL TREES.**

- Manufacturer: Platipus or similar and approved.
  - Product reference: D-MAN Structural Sytem or similar and approved.
- Anchoring system: 3 no specialist dead-man anchors.
- Installation: Ensure tree is positioned correctly and vertically prior to tightening guy line tensioners.

**526A UNDERGROUND GUYING FOR TO TREE LOCATED ON PODIUM IN NORTH HOUSE.**

- Manufacturer: Platipus or similar and approved.
  - Product reference: Expanding Eyebolt System or similar and approved.
- Anchoring system: 3 no drive-in anchors.
- Installation: Ensure tree is positioned correctly and vertically prior to tightening guy line tensioners.

**576 TREE PIT SURFACING - LOOSE FILL**

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

**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: As neccessary to ensure health adn establishment of plants.

**720 FAILURES OF PLANTING**

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

**740 CLEANLINESS**

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

**750 PLANTING MAINTENANCE GENERALLY**

- Weed control: Maintain weed free area around each tree and shrub.
  - Diameter (minimum): The larger of 1 m or the surface of original planting pit.
  - Keep planting beds clear of weeds: By use of approved non-residual herbicides.
- Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
- Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
- Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
- Trees: Spray crown when in leaf during warm weather.
  - Timing: After dusk.
- Tree accessories: Check condition of stakes, ties, guys, guards and irrigation and ventilation systems.
  - Broken or missing items: Replace.
  - Loose stakes: Re-firm in the ground or replace as necessary to provide support to the tree.
  - Loose guys: Re-firm anchor points and adjust as necessary to provide support to the tree.
  - Ties: Adjust to accommodate growth and prevent constriction or abrasion.
  - Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
  - Frequency of checks: As schedule.
- Watering: As required for healthy establishment, depending on weather conditions.

**780 MAINTENANCE INSTRUCTIONS**

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

**790 FINAL MULCHING**

- Timing: At end of the maintenance period.
- Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
- Planting beds: Remulch.  
Depth (minimum): 50 mm.
- Trees: Remulch.  
Depth (minimum): 75 mm.

**Q35**  
**Landscape maintenance**  
**Revision C01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	1st May 2018
C01	ISSUED FOR CO-ORDINATION	6th Feb 2019

## Q35 Landscape maintenance

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

### GENERALLY

#### 105 MAINTENANCE OBJECTIVES

- Location: All planting areas and tree pits.
  - Duration: 5 years or as specified in Management and Maintenance Document.
- Aims: Enhanced landscape quality and Improved landscape visual amenity.
- Restrictions: As described in the landscape maintenance manual.
- Results: As scheduled.

#### 110 NOTICE

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

#### 130 REINSTATEMENT

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

#### 140 CONTROL OF MAMMALIAN PESTS

- Specialist firms: Submit proposals.
  - Method: Submit proposals.

#### 145 CONTROL OF INVASIVE ANIMAL SPECIES

- Specialist firms: Submit proposals.
- Species: as relevant to site.
- Location: Whole site.
- Method: Submit proposals.

#### 155 WATERING

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

#### 160 WATER RESTRICTIONS

- General: If water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.

#### 170 DISPOSAL OF ARISING

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



**180 CHIPPING OR SHREDDING**

- General: Not permitted on site.

**181 MECHANICAL EQUIPMENT**

- General: Minimize.
- Prohibited equipment: Chippers.
- Timing: Use of mechanical equipment allowed between the hours of 10:00 am and 4:00 pm only.

**190 LITTER**

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

**195 PROTECTION OF EXISTING GRASS**

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

**197 CLEANLINESS**

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

**FLOWER BEDS/ SEASONAL BEDDINGS****450 PLANTING BEDS OF ANNUALS**

- Clearance: Remove previous season's bedding, including all bulbs, litter and debris.
- Preparation: Dig over beds using a spade or hand held mechanical cultivator:
  - Annual weeds: Bury.
  - Perennial weeds: Carefully dig out.
- Fertilizer: Either in autumn or spring spread and incorporate Organic fertilizer .
  - Application rate: As manufacturer's recommended rate.
- Annual bedding plants:
  - Standard: To BS 3936-7.
  - Setting out: Plant out As planting plan and schedule, including edging plants, main layer, specimen or pot plants, corms, bulbs or tubers.
- Watering: Keep plants watered as necessary before planting out and water in after planting.
- Failed planting: Replant as necessary any plants, or areas of plants, that have failed to thrive.

**470 FLOWER BEDS GENERALLY**

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

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

- Duration: Five full growing seasons from the date of planting.
- Weed control:
  - Method: Keep planting beds clear of weeds by maintaining full thickness of mulch.
  - Area: Maintain a weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of the original planting pit.
- Soil condition: Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
- Watering: As schedule and when instructed.

**502 ESTABLISHMENT OF NEW PLANTING - FERTILIZER**

- Time of year: March or April.
- Type: Organic.
- Spreading: Spread evenly. Carefully lift and replace any mulch materials.
  - Application rate: As manufacturer's recommendations.

**515 TREE GUY WIRES**

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

**520 REFIRMING OF TREES AND SHRUBS**

- Timing: After strong winds, frost heave and other disturbances.
- Refirming: Tread around the base until firmly bedded.
- Collars in soil at base of tree stems, created by tree movement: Break up by fork, avoiding damage to roots. Backfill with topsoil and refirm.

**525 TREE GUARDS**

- Loose or defective guards: Adjust, refix or replace to original specification and to prevent chafing.

**535 TREE GRILLES**

- Operations: Lift grilles, remove weeds, adjust levels as necessary and lightly compact. Refit grilles, refill interstices and lightly compact to correct level.
- - Material for making up levels and refilling: 6 mm to dust granite aggregate.

**537 NESTING WILD BIRDS**

- Survey: Before starting hedge or tree work during the period of February to August (inclusive), carry out a survey by a qualified ecologist and submit report.
- Accidental disturbance: Report immediately.

**540 PRUNING GENERALLY**

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

**545 PRUNING OF EXCESSIVE OVERHANG**

- Timing: Annually.
- Operations: Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.
- Special requirements: Allow ground cover plants to partially overlap paths and lawns.

**550 PRUNING OF EXCESSIVE HEIGHT**

- Timing: Annually.  
Operations: Remove excessive height As instructed.

**555 PRUNING TREES AND SHRUBS**

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

**570 FORMATIVE PRUNING OF YOUNG TREES**

- Standard: Type and timing of pruning operations to suit the plant species.
- Time of year: Do not prune during the late winter/ early spring sap flow period.
- Young trees up to 4 m high:
  - Crown prune by removing dead branches and reducing selected side branches by one third to preserve a well balanced head and ensure the development of a single strong leader.
  - Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.
- Whips or feathered trees: Do not prune.
- Operatives: Approved specialist contractor.

**575 PRUNING ORNAMENTAL SHRUBS**

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

**580 PRUNING FLOWERING SPECIES OF SHRUBS AND ROSES**

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

**600 TRIMMING RAPIDLY ESTABLISHING HEDGES**

- General: Allow to reach planned height as rapidly as possible.
  - Form: Trim back lateral branches moderately.

**611 TRIMMING NONTAPERING ESTABLISHED HEDGES**

- Time of year: Regular trimming from June to September.
- Operations:
  - Form: Trim carefully and neatly to regular line and shape with vertical sides.
  - Trim: Remove current growth rather than old wood.
- Tools/ Cutting: Shears.

**620 REMOVAL OF DEAD PLANT MATERIAL**

- Operations: At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.

**625 CLIMBING PLANTS**

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

**630 DEAD AND DISEASED PLANTS**

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

**640 THINNING BY REMOVAL OF SURPLUS PLANTS**

- Plants to be thinned: Herbaceous beds.
- Standard: BS 7370-4.
- Timing: When foliage of adjacent plants has begun to touch.
- Roots:
  - Disturbance to adjacent plants: Minimise.
  - Soil: Refill holes with topsoil to leave an even graded surface.
  - Mulch: Maintain mulch as original specification.
  - Adjacent plants: Make good any minor damage immediately.
- Plants for retention: Select plants with a strong healthy habit.
- Mature planting density: Refer to planting schedule.

**645 WEED CONTROL GENERALLY**

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

**650 HAND WEEDING**

- General: Remove weeds entirely, including roots.
- Disturbance: Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
- Completion: Rake area to a neat, clean condition.
- Mulch: Reinstatate to original depth.

**675 DIGGING OVER**

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

**680 SOIL AERATION**

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

**685 SOIL LEVEL ADJUSTMENT**

- Level of soil/mulch at edges of beds: Reduce to 50 mm below adjacent grass or hard surface.
  - Arisings (if any): Spread evenly over the bed.

**690 MAINTENANCE OF LOOSE MULCH**

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

**695 FERTILIZING ESTABLISHED TREES AND SHRUBS**

- Time of year: April through July.
- Type of fertilizer: Organic.
- Application: Spread evenly.
  - Rate: As manufacturer's recommendations.

**705 WINTER LEAF REMOVAL**

- Operations: Take down temporary leaf fences. Collect accumulations of drifted leaves from the vicinity and from planting beds.
- Arisings: Distribute evenly over all planting beds.

**TREE WORK****810 TREE WORK GENERALLY**

- Identification: Before starting work agree which trees, shrubs and hedges are to be removed or pruned.
- Protection: Avoid damage to neighbouring trees, plants and property.
- Standards: To BS 3998 and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'.
- Removing branches: Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
- Appearance: Leave trees with a well balanced natural appearance.
- Chain saw work: Operatives must hold a Certificate of Competence.
- Tree work: To be carried out by an approved member of the Arboricultural Association.

**815 ADDITIONAL WORK**

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

**820 PREVENTION OF WOUND BLEEDING**

- Standard: To BS 3998.

**825 PREVENTION OF DISEASE TRANSMISSION**

- Standard: To BS 3998.

**830 CLEANING OUT AND DEADWOODING**

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

**835 CUTTING AND PRUNING GENERALLY**

- Tools: Appropriate, well maintained and sharp.
- Final pruning cuts:
  - Chainsaws: Do not use on branches of less than 50 mm diameter.
  - Hand saws: Form a smooth cut surface.
  - Anvil type secateurs: Do not use.
- Removing branches: Do not damage or tear the stem.
- Wounds: Keep as small as possible, cut cleanly back to sound wood leaving a smooth surface, and angled so that water will not collect on the cut area.
- Cutting: Cut at a fork or at the main stem to avoid stumps wherever possible.  
Large branches: Remove only with prior approval.
  - Remove in small sections and lower to ground with ropes and slings.
- Dead branches and stubs: When removing, do not cut into live wood.
- Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
- Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.

**840 CROWN REDUCTION/ SHAPING**

- General: Cut back selectively to lateral or sublateral buds or branches to retain flowing branch lines without leaving stumps.
- Operations: Reduce crown from 15 m height and 4 m radius to 13 m height and 3.2 m radius.

**845 CROWN LIFTING**

- Clearances: Remove branch systems to give clearance.
  - Height: As recommended by BS 7370-4, clause 3.7.2.3.
- Removing branches: Remove whole branches back to the stem, or cut lower portions of branches back to lateral or sublateral buds or branches. Do not leave stumps.

**850 CROWN THINNING**

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

**855 CUTTING TREE ROOTS**

- Excavating: Use hand tools only.
- Protected area: Do not cut roots within an area which is the larger of:
  - The branch spread of the tree.
  - An area with a radius of half the tree's height, measured from the trunk.
- Outside protected area: Give notice of roots exceeding 50 mm in diameter. Do not cut without approval.
- Cutting:
  - Cutting: Make clean smooth cuts with a hand saw.
  - Wounds: Minimize. Avoid ragged edges.
  - Finishing: Pare cut surfaces smooth with a sharp knife.
- Backfilling:
  - Protection: Cover cut roots with clean sharp sand.
  - Material: Backfill with original topsoil.

**865 BARK DAMAGE**

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

**870 CAVITIES IN TREES**

- Investigation: Remove rubbish and rotten wood. Probe the cavity to find the extent of any decay, and give notice.
- Water filled cavities: Do not drain.
- Sound wood inside cavities: Do not remove.
- Cavity openings: Cover, as scheduled, with galvanized wire mesh, lightly secured.

**HARD LANDSCAPE AREAS/FENCING****900 SNOW CLEARANCE**

- Clearance: When instructed.
- Deicing: To roads and footpaths.
  - Material: Rock salt to BS 3247.
  - Timing: When instructed.
  - Application rate: Spread evenly at a rate of As manufacturer's recommendations.

**910 HARD SURFACES AND GRAVEL AREAS**

- Herbicide: Apply a suitable foliar acting or residual herbicide. Allow recommended period for herbicide to take effect before clearing arisings.
- Hard surfaces: Remove litter, leaves and other debris.
- Surface gutters and channels: Remove mud, silt and debris.
- Drainage gullies: Empty traps and flush clean.
- Gravel areas: Rake over. Remove weeds, litter, leaves and debris, and level off
- Repairs to flexible bituminous pavings: In accordance with the original paving specification or BS 7370-2, clause 4.12.
- Stain removal: In accordance with BS 7370-2, table 4.

**930 GRAFFITI REMOVAL**

- Method: As appropriate.
- Subsequent treatment: Not required.
  - Finish: Matt.

**Q37**  
**Green roofs**  
**Revision T01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	15th May 2018
C01	ISSUED FOR CO-ORDINATION	15th Jul 2020
T01	STAGE 4 TENDER ISSUE	12th Feb 2021

**Clauses amended in Revision T01**

No.	Clause	
110A	INTENSIVE GREEN ROOF	Revised
130A	EXTENSIVE GREEN ROOF	Revised
130B	EXTENSIVE GREEN ROOF	Revised
130C	EXTENSIVE GREEN ROOF	Revised
130D	PODIUM PLANTING	Revised

NOTE:  
REFER TO DOCUMENT  
BPD-HLM-NB-XX-SP-L-00602 FOR GREEN ROOF  
SPECIFICATION



**Q40**  
**Fencing**  
**Revision C01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	6th Feb 2019
P02	ISSUE FOR TENDER	7th Feb 2019
P03	ISSUED FOR COORDINATION	16th Apr 2019
P04	REVISED STAGE 4 ISSUE	17th Jan 2020
C01	ISSUED FOR CO-ORDINATION	15th Jul 2020
T01	STAGE 4 TENDER ISSUE	12th Feb 2021
C01	For Construction	18th Aug 202

**Clauses amended in Revision T01**

No.	Clause
30A	PROPRIETARY SCREEN

## Q40 Fencing

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

### FENCING SYSTEMS

#### **220 STEEL FENCING CONTINUOUS BAR**

- Manufacturer: Jackson's fencing.
  - Product reference: Barbican.
- Standard: To BS 1722-8, type CB/100/4.
- Height: 2.4m.
- Posts and bars:
  - Corner/ End posts: Square hollow section.
  - Intermediate bars/ Joiner posts: Flat.
  - Finish: Powder coated to BS 1722-16.  
Colour: As supplied .
  - Centres of posts (maximum):
  - Joiner posts: 6 m.
  - Intermediate posts: 1 m.
- Method of setting posts:
  - Intermediate/ Joiner posts: Driven.
  - End and corner posts: Set in rammed earth to a minimum depth of 600 mm.
- Accessories: None.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-8.  
(Added - Q40 revision T01 - 12th Feb 2021)

#### **220A STEEL FENCING**

(Deleted - Q40 revision T01 - 12th Feb 2021)

**220B STEEL FENCING BOUNDARY TYPE BD1A - PROPOSED**

- Manufacturer: Campbell Design and Engineering or similar and approved.
  - Product reference: Submit proposals.
- Height: 800mm.
- Posts, Rails and Pales: Style to match Boundary Type BD1.  
Refer to Detail D19 BPD-HLM-NB-ZZ-DR-L-25401 LANDSCAPE BOUNDARY DETAILS
  - Corner/ End posts: Square hollow section, 50 x 30mm.  
Finish: [Polyester powder coated, as section Z31].  
Colour: [black RAL9005].
  - Horizontal Rails: Flat, 50 x 30mm.  
Finish: Prepared and primed, as section M60.  
Colour: black RAL9005.
  - Pales: Pale 1 - Square, 12 x 12 x 580mm, Pale 2 - 12 x 12 x 680mm.  
Finish: Primed and painted.  
Colour: black.
  - Method of setting posts: Base plate surface fixed into wall. To Engineers specification.
  - End and corner posts: Set into wall to a minimum depth of 450 mm.
- Accessories: Finial Detail - 10/13 130X12mm 12mm base  
Finial Detail - 8b/10 120x35mm 30mm base  
As drawing DXX BPD-HLM-NB-ZZ-DR-L-25401 LANDSCAPE BOUNDARY DETAILS - SHEET 02  
Supplier:  
Brooks Forging Limited  
Doulton Road  
Cradley Heath  
B64 5QJ  
United Kingdom  
Tel: +44(0)1384 563356.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-8.

**220C STEEL FENCING BOUNDARY TYPE BD1B - PROPOSED**

- Manufacturer: Campbell Design and Engineering or similar and approved.
  - Product reference: Submit proposals.
- Height: 1800mm.
- Posts, Rails and Pales: Style to match Boundary Type BD1.  
Refer to Detail D25 BPD-HLM-NB-ZZ-DR-L-25401 LANDSCAPE BOUNDARY DETAILS
  - Corner/ End posts: Square hollow section, 50 x 30mm.  
Finish: [Polyester powder coated, as section Z31].  
Colour: [black RAL9005].
  - Horizontal Rails: Flat, 50 x 30mm.  
Finish: Prepared and primed, as section M60.  
Colour: black RAL9005.
  - Pales: Pale 1 - Square, 12 x 12 x 2797mm, Pale 2 - 12 x 12 x 2697mm.  
Finish: Primed and painted.  
Colour: black.
  - Method of setting posts: 250 x 250 x 10mm base plate surface fixed into ground. To Engineers specification.
  - End and corner posts: Set into wall to a minimum depth of 400 mm.
- Accessories: Finial Detail - 10/13 130X12mm 12mm base  
Finial Detail - 8b/10 120x35mm 30mm base  
As drawing D25 BPD-HLM-NB-ZZ-DR-L-25401 LANDSCAPE BOUNDARY DETAILS - SHEET 02  
Supplier:  
Brooks Forging Limited  
Doulton Road  
Cradley Heath  
B64 5QJ  
United Kingdom  
Tel: +44(0)1384 563356 .
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-8.  
(Revised - Q40 revision T01 - 12th Feb 2021)

**220D STEEL FENCING BOUNDARY TYPE BD3 - PROPOSED**

- Manufacturer: Campbell Design and Engineering or similar and approved.
  - Product reference: Submit proposals.
- Height: 1800mm.
- Posts, Rails and Pales: Style to match Boundary Type BD1.  
Refer to Detail D22 BPD-HLM-NB-ZZ-DR-L-25401 LANDSCAPE BOUNDARY DETAILS - SHEET 01
  - Corner/ End posts: Square hollow section, 100mm.  
Finish: [Polyester powder coated, as section Z31].  
Colour: [black].
  - Horizontal Rails: Flat, 50 x 30mm.  
Finish: Prepared and primed, as section M60.  
Colour: black RAL9005.
  - Pales: Pale 1 - Square, 20 x 20 x 1530mm, Pale 2 - 20 x 20 x 1700mm.  
Finish: Primed and painted.  
Colour: black.
  - Method of setting posts: 250 x 250 x 10mm base plate surface fixed into ground. To Engineers specification.
  - End and corner posts: Set into wall to a minimum depth of 400 mm.
- Accessories: None.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-8.  
(Added - Q40 revision T01 - 12th Feb 2021)

**220E STEEL FENCING - F01 STEEL GRATE / TRELLIS .**

- Manufacturer: Lang + Fulton or similar and approved  
Newbridge Industrial Estate  
Newbridge  
Edinburgh  
EH28 8PJ  
+44 (0)131 441 1255.  
[www.langandfulton.co.uk](http://www.langandfulton.co.uk).
  - Product reference: Novara-34 Fencing.
- Standard: To BS 1722-8, type ..
- Height: 1500 mm  
Width 1620mm plus reduced widths to suit site setting out.
- Posts and bars:
  - Straight section: 50 x 30 mm RHS
  - Corner/ End posts: 60 x 60 mm RAn.
  - Finish: Hot dip galvanized and Powder coated to BS 1722-16.  
Colour: Black RAL 9005.
  - Centres of posts (maximum): 1620mm
- Method of setting posts:
  - With base plates for fixing to a concrete foundation.  
Accessories: None.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-8.  
(Added - Q40 revision T01 - 12th Feb 2021)

~~430A PROPRIETARY SCREEN to Level 3 Terrace~~

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**PIERS, POSTS AND STILES****560A STEEL**

(Deleted - Q40 revision T01 - 12th Feb 2021)

**560B STEEL**

(Deleted - Q40 revision T01 - 12th Feb 2021)

**560C STEEL GATE TYPE G3**

- Refer to drawing BPD-HLM-NB-00-DR-L-25401 for design intent
- Manufacturer: Campbell Design and Engineering or similar and approved  
The Workshops, Larkfield, Retford Road, Mattersey,  
Doncaster, DN10 5HG  
01777 818 212  
[www.campbelldesign.org](http://www.campbelldesign.org).
  - Product reference: Submit proposals - manufacturer to submit shop drawings for approval prior to fabrication.
- Materials and workmanship: As section Z11.
- Size: Double leaf, 2500mm clear opening
- Finish: Prepared and primed, as section M60 and Primed ready for site painting.
  - Colour: black.
- Jointing: Welded.
- Fittings: Locking system with push bar for emergency escape from the internal side.  
Product: Locinox LPKQ U2 Industrial anti-panic gate lock with push pad SKU: LPKQ U2 or similar and approved  
Supplier TFS Direct [www.tfsdirect.co.uk](http://www.tfsdirect.co.uk)  
Self closing hing set - Gatemaster Hydraulic Gate Closer Screw fixed  
Product Code : APSW or similar and approved  
Supplier: Signet [www.signetlocks.co.uk](http://www.signetlocks.co.uk) .
- Finish: Primed and painted black.
- Method of fixing: Concrete foundation as detail D22, BPD-HLM-NB-00-DR-L-25401, engineer to confirm size and specification. 3mm Base plate cover to concrete foundation and bolted with counter sunk M8 / 150 stainless steel screws, minimum 4no per post .
- Accessories: Integrated access control and intercom system, refer to MEP drawings for proposals.  
(Revised - Q40 revision T01 - 12th Feb 2021)

**560D STEEL**

(Deleted - Q40 revision T01 - 12th Feb 2021)

## ACCESSORIES

### 635 GATE OPENERS TO GATE TYPE G1, G2 & G3

- Manufacturer: Submit proposals.
  - Product reference: Submit proposals.
- Type: Submit proposals.
- Mechanism: Submit proposals.
- Number of transmitters: Two.
- Accessories:
  - Access control panel as section W90;
  - Battery back-up; and
  - Manual release.

## EXECUTION

### 710 INSTALLATION GENERALLY

- Set out and erect:
  - Alignment: Straight lines or smoothly flowing curves.
  - Tops of posts: Following profile of the ground.
  - Setting posts: Rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.
  - Fixings: All components securely fixed.

### 715 COMPETENCE

- Operatives: Contractors must employ competent operatives.
- Qualifications: Submit certification of training.
  - NHSS Sector Scheme 2A sub categories: (a) and (b).
  - NHSS Sector Scheme 2C sub categories: Not required.

### 720 SETTING POSTS IN CONCRETE

- Standard: To BS 8500-2.
- Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
- Alternative mix for small quantities: 50 kg Portland cement to 150 kg fine aggregate to 250 kg 20 mm nominal maximum size coarse aggregate, medium workability.
- Admixtures: Do not use.
- Holes: Excavate neatly and with vertical sides.
- Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
- Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

### 730 EXPOSED CONCRETE FOUNDATIONS

- Filling: Compact until air bubbles cease to appear on the upper surface.
- Finishing: Weathered to shed water and trowelled smooth.

### 740 SETTING POSTS IN EARTH

- Holes: Excavated neatly, with vertical sides and as small as practicable to allow refilling.
- Filling: Position posts/ struts and replace excavated material, well rammed as filling proceeds.

### 760 NAILED WOOD RAILS

- Length (minimum): Two bays, with joints in adjacent rails staggered.
- Fixing: Nail each length of rail to each post with two 100 mm galvanized nails.
- Rails with split ends: Replace.

### 780 MAKING GOOD GALVANIZED SURFACES

- Treatment of minor damage (including on fasteners and fittings): Low melting point zinc alloy repair rods or powders made for this purpose, or at least two coats of zinc-rich paint to BS 4652.
- Thickness: Apply sufficient material to provide a zinc coating at least equal in thickness to the original layer.

**790 SITE PAINTING**

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

**COMPLETION****910 CLEANING**

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

**920 FIXINGS**

- All components: Tighten.
  - Timing: Before handover.

**930 GATES**

- Hinges, latches and closers: Adjust to provide smooth operation. Lubricate where necessary.
  - Timing: Before handover.

**Q50**  
**Site/ street furniture/ equipment**  
**Revision T01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	6th Feb 2019
P02	ISSUE FOR TENDER	7th Feb 2019
P03	ISSUED FOR COORDINATION	27th Jun 2019
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T01	STAGE 4 TENDER ISSUE	12th Feb 2021

**Clauses amended in Revision T01**

No.	Clause	
190	BOLLARDS	Added
220B	BENCHES	Revised
342	BESPOKE VEGETABLE PLANTER	Revised



## Q50 Site/ street furniture/ equipment

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

### GATES, BARRIERS AND PARKING CONTROLS

#### 190 BOLLARDS UTILITY BOLLARD FOR EXTERNAL TAP ENCLOSURE

- Manufacturer: Kent Stainless or similar and approved
  - Web: [www.kentstainless.com](http://www.kentstainless.com)
  - Email: [info@kentstainless.com](mailto:info@kentstainless.com)
  - Tel: +353 53 914 3216
  - Fax: +353 53 914 1802
  - Address: Ardavan Works, Ardavan Co Wexford, Ireland.
- Product reference: Kent Power Bollard – KPWB900 - adapted for tap installation.
- Material: Stainless Steel.
  - Finish as delivered: Satin 320 grit polish .
  - Colour: n/a.
- Height above ground: 900 mm.
- Sectional size: as supplied by manufacturer.
- Top: Flat.
- Special features: Quarter turn lock on the door of the power bollard is openable with a 8mm Triangular Key Installed with a 22mm connection BIB External TAP. Contractor to submit proposals for approval.
- Method of fixing: Base plate bolted to concrete base 100 mm below paving surface.  
(Added - Q50 revision T01 - 12th Feb 2021)

#### 196 REMOVABLE BOLLARDS BOLLARD BL1

- Manufacturer: Streetlife or similar and approved.
  - Product reference: Rough and Ready or similar and approved.
- Material: Hardwood timber with steel frame.
  - Finish as delivered: As manufactured.
  - Colour: None.
- Height above ground: 750 mm.
- Sectional size: 150mm square.
- Top: Flat.
- Special features: Removable.
- Method of fixing: Concrete base with manufacturer's standard lockable socket.

#### 196A FIXED BOLLARDS BOLLARD BL2

- Manufacturer: Streetlife or similar and approved.
  - Product reference: Rough and Ready or similar and approved.
- Material: Hardwood timber with steel frame.
  - Finish as delivered: As manufactured.
  - Colour: None.
- Height above ground: 750 mm.
- Sectional size: 150mm square.
- Top: Flat.
- Special features: NA.
- Method of fixing: Concrete base with manufacturer's standard lockable socket.

## SITE AND STREET FURNITURE

### 210 CYCLE STANDS

- Manufacturer: Marshalls or similar and approved.
  - Product reference: Ollerton Sheffield Cycle Stand or similar and approved.
- Type: Single stands.
- Material: Galvanised steel.
  - Finish: Polyester powder coated.
  - Colour: Black RAL9005.
- Accessories: None.
- Method of fixing: Root, 300 mm below ground, set in concrete base.

### 220 BENCHES BENCH TYPE B1a/b/c/d/e/f/g

- Manufacturer: Marshalls or similar and approved.
  - Product reference: Escofet
    - B1a Box 200 (white) with Universe Bench
    - B1b Box 200 (grey) with Universe Bench
    - B1c Box 200 (white) with Universe Backless Bench
    - B1d Box 200 (grey) with Universe Backless Bench
    - B1e Box 50 (white)
    - B1f Box 200 (grey)
    - B1g Box 100 (grey)
    - B1h Box Nexus (grey)
  - or similar and approved.
- Material: Hardwood timber seat, concrete base.
  - Finish: As manufactured.
  - Colour: White / Grey.
- Size: Refer to Detail D25, BPD-HLM-00-XX-DR-L-30402 - SHEET 04.
- Accessories/ Special requirements: None.
- Method of fixing: Benches fixed at slope of ground.

### 220A BENCHES BENCH TYPE B2

- Manufacturer: Logic or similar and approved.
  - Product reference: Ambleside or similar and approved.
- Material: Hardwood timber top, 2 x steel bases.
  - Finish: Corten Steel.
  - Colour: None.
- Size: Refer to Detail D26, BPD-HLM-NB-XX-DR-L-30402 - SHEET 04 480(W) x 450(H) x 2000(L)mm.
- Accessories/ Special requirements: With backrest and armrest.
- Method of fixing: Steel bases bolted to in situ concrete paving/ decking.

### 220B BENCHES BENCH TYPE B3

- Manufacturer: Logic or similar and approved.
  - Product reference: Edinburgh Integral Planter/Seating Module or similar and approved.
- Material: Hardwood timber top treated Fire Resistant Solution .
  - Finish: Corten Steel.
  - Colour: None.
- Size: Refer to Detail D27, BPD-HLM-NB-XX-DR-L-30402 - SHEET 04 450(W) x 450(H) x 2000(L)mm.
- Accessories/ Special requirements: None.
- Method of fixing: Refer to specialist supplier detail..  
(Revised - Q50 revision T01 - 12th Feb 2021)

**240 LITTER BINS LB**

- Manufacturer: Logic or similar and approved  
Supplier: Logic Street & Park Furniture  
sales@logic-sf.co.uk  
P: 01642 373400.
  - Product reference: Helsinki Litter Bin  
Product Code: 3.22530 - 755mm (L) x 570mm (W) x 1230mm (H) or similar and approved.
- Material: FSC / EUTR Very Durable Hardwood Timber,  
Mild Steel Galvanised,  
160L Capacity, Lockable Removeable Liner.
  - Finish: Polyester powder coated - Black RAL9005.
  - Colour: None.
- Accessories/ Special requirements: None.
- Method of fixing: Surface Fixed.

**342 BESPOKE VEGETABLE PLANTER TO LEVEL 5 TERRACE**

- Standard: To BS EN 1338.
- Manufacturer: [Logic or similar and approved].
  - Product reference: [Bespoke Vegetable Planter ].
- Recycled content: [3% (minimum) to BS EN ISO 14021].  
Size: 1,800mm Length x 1,000mm Width as drawing BPD-HLM-NB-XX-DR-L-30403 .
- Special shapes: as drawing BPD-HLM-NB-XX-DR-L-30403 .
- Finish: Galvanised Mild Steel Base, Powder Coated Finish as drawing BPD-HLM-NB-XX-DR-L-30403
- Joints generally: [to manufacturers specification].
- Sealant movement joints: [to manufacturers specification].  
(Revised - Q50 revision T01 - 12th Feb 2021)

**INSTALLATION****510 CONCRETE FOUNDATIONS GENERALLY**

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

**515 SETTING COMPONENTS IN CONCRETE**

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

**520 SETTING IN EARTH**

- Holes: As small as practicable.
- Components being fixed: Accurately positioned and securely supported.
- Buried depth (minimum): 200 mm.
- Earth refill: Well rammed as filling proceeds.

**540 BUILDING IN TO MASONRY WALLS**

- Components being built in: Accurately positioned and securely supported. Set in mortar and pointed neatly to match adjacent walling.
- Temporary support: Maintain for 48 hours (minimum) and prevent disturbance.

**545 ERECTION OF TIMBER AND PREFABRICATED STRUCTURES**

- Checking: 5 days (minimum) before proposed erection date, check foundations, holding down bolts, etc.
- Inaccuracies or defects in prepared bases or supplied structures: Report immediately. Obtain instructions before proceeding.

**550 DAMAGE TO GALVANIZED SURFACES**

- Minor damage in areas up to 40 mm<sup>2</sup> (including on fixings and fittings): Make good.
  - Material: Low melting point zinc alloy repair rods or powders made for this purpose or at least two coats of zinc-rich paint to BS 4652.
  - Thickness: Sufficient to provide a zinc coating at least equal to the original layer.

**560 SITE PAINTING**

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

**Q52**  
**Play and sports equipment**  
**Revision T01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	6th Feb 2019
C01	ISSUED FOR CO-ORDINATION	15th Jul 2020
T01	STAGE 4 TENDER ISSUE	12th Feb 2021

**Clauses amended in Revision T01**

No.	Clause	
360A	NON-STANDARD PLAY STRUCTURE	Revised

## Q52 Play and sports equipment

To be read with Preliminaries/ General conditions.

### PRODUCTS

#### 360A NON-STANDARD PLAY STRUCTURE PE - CLIMBING BOULDER TO PLAYGROUND

- Standard: To BS EN 1176-1.
- Manufacturer: Artificial rocks or similar and approved
  - Web: [www.artificialrocks.co.uk](http://www.artificialrocks.co.uk)
  - Phone: 01992 464066 .
  - Product reference:
    - 5mm thickness GRP Artificial Boulders - Rounded Rocks
    - Types:
      - R1 L 520 x W 760 x H 660
      - R2 L 630 x W 660 x H 360
      - R3 L 750 x W 530 x H 230
    - Fixed to a 5mm thickness GRP Board 1x1m size, fixing as per manufactureres details
  
    - R4 L 450 x W 510 x H 250
    - Fixed to a 5mm thickness GRP Board 800mmx1m size, fixing as per manufacturers details.
  - Colour finish: Grey
  
  - Finished with a fire retardant fibreglass coating:
    - products: Fire retardent fiberglass roofing topcoat and catalyst.
    - Supplier: FibreGlass Direct or similar and approved.
- Method of fixing: Set in artifical grass, on a concrete screed (Fibreglass re-reinforced) and secure with a waterproof sealant, such as G4 Sealer or similar and approved by GRP supplier Supplier FiberGlassDirect or similar and approved. Refer to detail D40 Drawing Refer BPD-HLM-NB-XX-DR-L-30405.  
(Revised - Q52 revision T01 - 12th Feb 2021)

### EXECUTION

#### 710 PLAY EQUIPMENT INSTALLATION GENERALLY

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

#### 730 SETTING COMPONENTS IN EARTH

- Holes: As small as practicable.
- Components being fixed: Accurately positioned and securely supported.
- Buried depth (minimum): 200 mm.
- Earth refilling: Well rammed as filling proceeds.

#### 750 DAMAGE TO GALVANIZED SURFACES

- Minor damage in areas up to 40 mm<sup>2</sup> (including on fixings and fittings): Make good.
  - Materials: Low melting point zinc alloy repair rods or powders made for this purpose or at least two coats of zinc-rich paint to BS 4652.
  - Thickness: Sufficient to provide a zinc coating at least equal to the original layer.

#### 760 SITE PAINTING

- Timing: Prepare surfaces and apply finishes as soon as possible after installing components.

**COMPLETION****910 INSPECTION**

- Standard: In accordance with equipment manufacturer's maintenance and inspection instructions.
- Timing: 2 weeks after request by contract administrator.
- Period of notice (minimum): 3 working days.

**920 CLEANING**

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

**930 TESTING**

- Standard: To BS EN 1176-1.

**950 DOCUMENTATION**

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

**970 OPERATING TOOLS**

- Tools: Supply tools required for operation, maintenance and cleaning purposes.

**Q55**  
**External decks, boardwalks and bridges**  
**Revision T01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	5th Feb 2019
C01	ISSUED FOR CO-ORDINATION	15th Jul 2020
C02	NORTH HOUSE AND WORKHOUSE STAGE 5 ISSUE	15th Jul 2020
T01	STAGE 4 TENDER ISSUE	12th Feb 2021

**Clauses amended in Revision T01**

No.	Clause	
380A	DECK BOARDS	Revised
380B	DECK BOARDS	Revised



## Q55 External decks, boardwalks and bridges

To be read with Preliminaries/ General conditions.

### TENDERING

#### 10 INFORMATION TO BE PROVIDED WITH TENDER

- General structural requirements in accordance with clause B51/15.

### PRODUCTS

#### 380A DECK BOARDS TO DECK - D1

- Manufacturer: Enviro Build or similar and approved.
  - Product reference: Frontier Iroko Decking or similar and approved.
- Material: Composite.
- Treatment: Not required.
- Profile: Plain.
- Finished size: 143 x 22mm.
  - Length: 4m.
- Finish: None required.
- Support structure: Aluminium Profile Bearer - 50 x 80mm, Steel support pedestals.
- Accessories: Protective Membrane, Frontier Starter Fasteners, Frontier 6mm Fasteners, Frontier Edge Boards.  
All accessories material to match Frontier Iroko Decking or similar and approved .  
(Revised - Q55 revision T01 - 12th Feb 2021)

#### 380B DECK BOARDS TO DECK - D2

- Manufacturer: Enviro Build or similar and approved  
Web: [www.envirobuild.com](http://www.envirobuild.com)  
Tel: 020 8031 6906 .
  - Product reference: Arboreo Non-combustible Porcelain Decking or similar and approved.
- Material: Porcelain.
- Treatment: Not required.
- Profile: Maple Finish.
- Finished size: 400 x 20mm.
  - Length: 1200m.
- Finish: None required.
- Support structure: Steel Pedestals. A1 fire rated class
- Accessories: Protective Membrane, Paving Gasket, 2mm fixing, Paving Edge Bar  
Stainless Steel Circular lifting eyes, required fixing to tiles for access to rain water outlets on roof terrace L05. As per manhole lifting eyes.  
Manufacturer: Kent Stainless or simialr and approved  
Web: [www.kentstainless.com](http://www.kentstainless.com)  
Email: [info@kentstainless.com](mailto:info@kentstainless.com)  
Tel: +44 (0) 800 376 8377  
Fax: +353 53 914 1802  
Address: Ardavan Works, Ardavan Co Wexford, Ireland .  
(Revised - Q55 revision T01 - 12th Feb 2021)

**395 SUPPORT PEDESTALS TO DECKING D1**

- Manufacturer: Enviro Build or similar and approved.
  - Product reference: Adjustable Joist support or similar and approved.
- Type: Adjustable.
- Material: Recycled polypropylene.
- Dimensions: As drawing BPD-HLM-NB-XX-DR-L-30401.
- Accessories: Not required.

**395A SUPPORT PEDESTALS TO DECKING D2**

- Manufacturer: Enviro Build or similar and approved.
  - Product reference: Adjustable Steel support or similar and approved.
- Type: Adjustable.
- Material: A1 Class Fired Rated Steel Support.
- Dimensions: As drawing BPD-HLM-NB-XX-DR-L-30405.
  
- Accessories: Not required.

**FABRICATION****510 FABRICATION GENERALLY**

- Design: Complete the detailed design and obtain approval prior to commencing fabrication.
- Shop drawings: Submit.
- Structural calculations: Submit.
- Frameworks: Assemble and brace, including temporary members required for installation.
- Contact between dissimilar metals: Avoid.
- Fixings: Fully bolt together. Tighten bolts.
- Temporary support: Do not subject members to non-design loadings.

**EXECUTION****610 LOADING**

- Site activities: Restrict, to ensure that design loads are not exceeded, or submit proposals for temporary supports.

**657 INSTALLATION OF PEDESTALS**

- Ensure that surface to accept pedestals is clean and free of debris.
- Setting out: Mark centre-point of pedestal on substrate surface, with guidelines to ensure square layout.
  - Orientation: Align parallel with adjacent features.
  - Spacing: To suit decking material and dimensions.
  - Additional pedestals: Submit proposals.
- Overall movement tolerance (maximum): 3 mm.

**665 INSTALLATION GENERALLY**

- Fasteners and methods of fixing: As section Z20.
- Structural members: Do not modify, cut, notch or make holes in structural members, except as indicated on drawings
- Temporary support: Do not use stairs, walkways or balustrades as temporary support or strutting for other work.

**670 INSTALLATION OF SURFACING**

- Heading joints: Kept to a minimum, and formed only as butt joints situated over joists.
- Length: Each board must span not less than two bays between joists with joints in adjacent boards staggered.
- Gaps between boards: To manufacturers specification.

**COMPLETION****950 DOCUMENTATION**

- Contents:
  - General product information.
  - Installation information.
  - Inspection and maintenance reports.
- Number of copies: 1.
- Submission: 2 weeks after request by contract administrator.

## **Building fabric reference specification**

**Z21**  
**Mortars**  
**Revision C01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	6th Feb 2019
C01	ISSUED FOR CO-ORDINATION	6th Feb 2019

## Z21 Mortars

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

### CEMENT GAUGED MORTARS

#### 110 CEMENT GAUGED MORTAR MIXES

- Specification: Proportions and additional requirements for mortar materials are specified elsewhere.

#### 120 SAND FOR SITE MADE CEMENT GAUGED MASONRY MORTARS

- Standard: To BS EN 13139.
- Grading: 0/2 (FP or MP).
  - Fines content where the proportion of sand in a mortar mix is specified as a range (e.g. 1:1: 5-6):  
Lower proportion of sand: Use category 3 fines.  
Higher proportion of sand: Use category 2 fines.
- Sand for facework mortar: Maintain consistent colour and texture. Obtain from one source.

#### 160 CEMENTS FOR MORTARS

- Cement: To BS EN 197-1 and CE marked.
  - Types: Portland cement, CEM I.  
Portland limestone cement, CEM II/A-L or CEM II/A-LL.  
Portland slag cement, CEM II/B-S.  
Portland fly ash cement, CEM II/B-V.
  - Strength class: 32.5, 42.5 or 52.5.
- White cement: To BS EN 197-1 and CE marked.
  - Type: Portland cement, CEM I.
  - Strength class: 52.5.
- Sulfate resisting Portland cement:
  - Type: To BS EN 197-1 Sulfate resisting Portland cement, CEM I/SR and CE marked.  
To BS EN 197-1 fly ash cement, CEM II/B-V and CE marked.
  - Strength class: 32.5, 42.5 or 52.5.
- Masonry cement: To BS EN 413-1 and CE marked.
  - Class: MC 12.5.

#### 180 ADMIXTURES FOR SITE MADE CEMENT GAUGED MORTARS

- Air entraining (plasticizing) admixtures: To BS EN 934-3 and compatible with other mortar constituents.
- Other admixtures: Submit proposals.
- Prohibited admixtures: Calcium chloride, ethylene glycol and any admixture containing calcium chloride.

#### 190 RETARDED READY TO USE CEMENT GAUGED MORTAR

- Standard: To BS EN 998-2.
- Lime for cement:lime:sand mortars: Nonhydraulic to BS EN 459-1.
  - Type: CL 90S.
- Pigments for coloured mortars: To BS EN 12878.
- Time and temperature limitations: Use within limits prescribed by mortar manufacturer.
  - Retempering: Restore workability with water only within prescribed time limits.

#### 200 STORAGE OF CEMENT GAUGED MORTAR MATERIALS

- Sands and aggregates: Keep different types/ grades in separate stockpiles on hard, clean, free-draining bases.
- Factory made ready-mixed lime:sand/ ready to use retarded mortars: Keep in covered containers to prevent drying out or wetting.
- Bagged cement/ hydrated lime: Store off the ground in dry conditions.

**210 MAKING CEMENT GAUGED MORTARS**

- Batching: By volume. Use clean and accurate gauge boxes or buckets.
  - Mix proportions: Based on dry sand. Allow for bulking of damp sand.
- Mixing: Mix materials thoroughly to uniform consistency, free from lumps.
  - Mortars containing air entraining admixtures: Mix mechanically. Do not overmix.
- Working time (maximum): Two hours at normal temperatures.
- Contamination: Prevent intermixing with other materials.

**Z22**  
**Sealants**  
**Revision C01****Section Revision History**

No.	Purpose	
P01	ISSUE FOR TENDER	6th Feb 2019
C01	ISSUED FOR CO-ORDINATION	6th Feb 2019



## Z22 Sealants

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

### PRODUCTS

### EXECUTION

#### 610 SUITABILITY OF JOINTS

- Presealing checks:
  - Joint dimensions: Within limits specified for the sealant.
  - Substrate quality: Surfaces regular, undamaged and stable.
- Joints not fit to receive sealant: Submit proposals for rectification.

#### 620 PREPARING JOINTS

- Surfaces to which sealant must adhere:
  - Remove temporary coatings, tapes, loosely adhering material, dust, oil, grease, surface water and contaminants that may affect bond.
  - Clean using materials and methods recommended by sealant manufacturer.
- Vulnerable surfaces adjacent to joints: Mask to prevent staining or smearing with primer or sealant.
- Backing strip and/ or bond breaker installation: Insert into joint to correct depth, without stretching or twisting, leaving no gaps.
- Protection: Keep joints clean and protect from damage until sealant is applied.

#### 630 APPLYING SEALANTS

- Substrate: Dry (unless recommended otherwise) and unaffected by frost, ice or snow.
- Environmental conditions: Do not dry or raise temperature of joints by heating.
- Sealant application: Fill joints completely and neatly, ensuring firm adhesion to substrates.
- Sealant profiles:
  - Butt and lap joints: Slightly concave.
  - Fillet joints: Flat or slightly convex.
- Protection: Protect finished joints from contamination or damage until sealant has cured.