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Port Street, Manchester

NBS Landscape Specification

Stage 5. Rev C02

Revisions

Date	Author	Description of revision	Revision	Approved
12.08.22	MS	Stage 4 Tender	P01	DL
16.08.22	MS	Stage 4. Drawing cross referencing updated	P02	DL
23.09.22	MS	Stage 4 Tender	P03	DL
20.10.22	MS	Stage 4. Drawing cross referencing updated. References to weathered steel / corten replaced with PPC steel. Boundary and handrail spec updates	P04	DL
10.11.22	MS	Clause Q40-221 updated	P05	MS
22.08.23	MS	Clauses added for roof terrace items	P06	MS
28.09.24	MS	Q50-320 Finger Post Added. Ral colour added to all metal work in Q50. Q25 updates to paving thickness to align with WSP S278 drawings	C01	MS
09.01.25	MS	Clause added for balustrade to garden wall	C02	MS

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L37

External stair, ramps, handrail and balustrades systems

General

150 Handrail systems

1. System manufacturer: Contractor's choice
2. Design:: Technical design and fabrication details to be carried out by specialist metal work fabricator. Fabrication drawings to be approved by landscape architect prior to fabrication. Refer to drawings Z0-REF-G710-DE-GRD-0894-8012 and Z0-REF-G710-DE-GRD-0894-8013
 - 2.1. Material::
 - Tubular stainless steel handrail
 - Flat bar galvanised and PPC steel posts
 - 2.2. Finish:: Stainless steel elements to be brushed
 - 2.3. Handrail profile: : Refer to drawings
 - 2.4. Post profile:: 50mm dia handrail.
15mm flat bar galvanised and PPC steel. RAL 8019 to match building balcony finish
3. Height (to upper surface of handrail)
 - 3.1. Above pitch line: 900 mm
 - 3.2. Above landing: 1000mm

151 Balustrade systems to Port Street

1. System manufacturer: Contractor's choice
2. Design:: Technical design and fabrication details to be carried out by specialist metal work fabricator. Fabrication drawings to be approved by landscape architect prior to fabrication. Refer to drawing Z0-REF-G710-DE-GRD-0894-8012. Details for design intent.
 - 2.1. Material:: Mild steel
 - 2.2. Finish:: Galvanised and powder coated. RAL 8019 to match building balcony finish
 - 2.3. Handrail : 25 x 50mm
 - 2.4. Post and horizontal rail profile:: 15 x 50mm
3. Height (to upper surface of handrail)
 - 3.1. Height : 925mm
4. Accessories: Base plate to conceal root fixing

System performance - Not Used

Products

311 Precast concrete step units

1. Description: Precast concrete step and riser units with textured finish and integrate contrast strips to Wharf Gardens

Refer to drawings Z0-REF-G710-DE-GRD-0894-8013
2. Manufacturer: Hardscape (or similar approved)
Ben Bevan
Hardscape Products Ltd
01204 590 666
 - 2.1. Product reference: Traptrede 20 Repeteer
3. Size

- 3.1. Going: 300mm
- 3.2. Rise: 200mm
4. Colour: Levaro Grijs 712
5. Finish: Textured
6. Nosing : Integrated Crystal Black flamed granite contrast strip to top of nosing

313 Stone step units

1. **Description:** Stone step and riser units with textured finish and integrate contrast strips to Port Street / Great Ancoats Street Corner
2. **Manufacturer:** Hardscape or similar approved
Ben Bevan
Hardscape Products Ltd
01204 590 666
 - 2.1. **Product reference:** Silva Vilar Granite with a black granite constrast strip insert
 - 2.2. **Finish:** Flamed
3. **Size :** Refer to drawing Z0-REF-G710-DE-GRD-0894-8012

Standard steps:

- H 300mm
- W 400mm
- L 1000mm

25mm bullnose to top front face

4. Colour: Light-grey
5. Finish: Flamed
6. **Bedding and foundations :** To engineers (WSP) details and specification
7. **Nosing::** Integrated Crystal Black flamed granite contrast strip to top of nosing

Fabrication

510 Fabrication generally

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

Execution

610 Loading

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

620 Concrete foundations generally

1. **Standard:** To BS 8500-2.

2. **Concrete:** To Engineers specification.
3. **Depth of foundations, bedding, haunching:** Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

662 Adverse weather

1. **General:** Do not use frozen materials and do not lay on frozen surfaces.
2. **Working limits** Do not lay blocks/ dressings:
 - 2.1. **Cement gauged mortars:** When the air temperature is at or below 3°C and falling or below 1°C and rising (unless mortar has a temperature of not less than 4°C when laid and work is thoroughly protected).
 - 2.2. **Hydraulic lime:sand mortars:** When the air temperature is at or below 5°C and falling or below 3°C and rising.
3. **Temperature of the work:** Maintain above freezing until mortar has fully set.
4. **Newly erected work:** Protect from precipitation; Prevent rapid drying in hot conditions.
5. **Remedial work:** Rake out and replace mortar damaged by frost.
 - 5.1. **Damaged work:** Rebuild.

Completion

910 Inspection

1. **Timing:** Two weeks prior to date when principal contractor expects work to be practically complete
2. **Period of notice (minimum):** 3 working days.

Ω End of Section

Q10

Kerbs/ edgings/ channels/ paving accessories

Types of kerbs/edgings and channels

100 Kerbs and Edging Generally

1. This section specifies kerb and edge products and is indicative of the quality to be achieved. Any variation to the specification is to be approved by Landscape Architect prior to procurement
2. All Highway Kerbs as part of S278 works and all bedding to WSP specification. Z0-WSP-G700-PL-XX-11 and Z0-WSP-G700-DE-XX-070
3. All drainage channels to WSP specification

110 Precast Concrete Road Kerb

1. Description: To Port Street and Great Ancoats Street
2. Standard: To BS EN 1340.
3. Manufacturer: Contractor's choice
4. Product reference: Contractor's choice
5. Designations: Z0-WSP-G700-PL-XX-11
6. Size (width x height x length): Z0-WSP-G700-PL-XX-11
7. Special shapes: Z0-WSP-G700-PL-XX-11
8. Finish: As cast
9. Colour: Z0-WSP-G700-PL-XX-11
10. Bedding: Z0-WSP-G700-DE-XX-070

112 Natural Stone Edge To Port Street

1. Description: To Port Street
2. Manufacturer: Hardscape or similar approved
Ben Bevan
Hardscape Products Ltd
01204 590 666
3. Material : Silva Vilar granite
4. Finish: Flamed
5. Colour: Grey
6. Bedding: Concrete foundations To WSP details and specification
7. Jointing : 8-10mm grey mastic joint. Contractor to provide samples to to be approved by landscape architect

113 Metal Edging to paths

1. Description: To edge of pedestrian footpaths
2. Manufacturer: Kinley
3. Product reference: AluExcel 120mm Edging
4. Size (width x height x length): Profile height :120mm. Length 2.5m/ Thickness 4mm
5. Special shapes: Rigid profiles
6. Finish: Milled aluminium
7. Bedding: Installed onto compacted MOT sub-base (to engineers details) and secured in position using proprietary concrete screws through edging into sub-base. Sub-base extended beyond

paving extent by 50mm to enable secure base for fixing. Additional sharp sand and cement base used to raise profile of edging where necessary to sit level with top of adjacent paved surfaces.

117 Metal Edging to soft landscape

1. Description: Edging within soft landscape to provide separation between lawn and planting area
2. Manufacturer: Kinley
3. Product reference: AllEdge 100mm
4. Size (width x height x length): Profile height :100mm. Length 2m/ Thickness 5mm
5. Finish: Milled aluminium
6. Bedding: Installed using supplied earth spikes (3nr per unit) driven into soil.

Roads/paving accessories/ marking/ demarcation

305 Tree grilles

1. Manufacturer: [GreenBlue Urban Ltd](#)
 - 1.1. Contact details
 - 1.1.1. Address: Northpoint
Compass Park
Junction Road
Bodiam
East Sussex
TN32 5BS
 - 1.1.2. Telephone: +44 (0)1580 830800
 - 1.1.3. Web: www.greenblue.com
 - 1.1.4. Email: hello@greenblueurban.com
 - 1.2. Product reference: [Precast Tree Grilles \(ARBPC12B - Precast Arboresin\)](#)
2. Material: Galvanized steel frame and stone surfacing infill
3. Finish: Galvanized.
4. Colour: Dorset gold
5. Shape: Square.
6. Size: 1500 x 1500 x 71 mm
7. Internal aperture: 500
8. Accessories: None
9. Load capacity: 1.5 tonne (maximum) slow moving vehicle load.
10. Options: None
11. Permeability: SuDS compliant 65 L/m² per hour.
12. Bedding/ fixing: Refer to drawing Z0-REF-G710-DE-GRD-0894-8014

415 Demarcation units

1. Description: Brass tactile stud
2. Manufacturer: Studmarc (or similar approved)
 - 2.1. Product reference:

Brass Tactile Stud BK1 25mm
3. Material/ Standard: Brass
4. Shape: Circular
5. Size (width x height x length): 25mm diameter
5mm height

6. **Method of fixing::** Drill into the paving and apply epoxy resin into the hole. Set the stud into the epoxy resin.

Laying

510 Laying kerbs, edgings and channels

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

520 Adverse weather

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

620 Accuracy

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

625 Regularity of paved surfaces

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

Ω End of Section

Q23

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

Types of surfacing

150 Loose laid chippings

1. Description: to maintenance strips adjacent to building
2. Geotextile or geomembrane: Installed between sub-base and surface gravel
 - 2.1. Manufacturer: Contractor's choice
3. Granular sub-base: Compacted MOT Type 1
 - 3.1. Compacted thickness: 150mm
4. Surface course: Loose laid chippings.
 - 4.1. Type: Ornamental gravel. 14mm grade. Black limestone. (to match mulch to planting areas)
 - 4.2. Source: Contractors Choice
 - 4.3. Colour: Black limestone
 - 4.4. Size: 14mm gravel
 - 4.5. Compacted thickness: 100mm
5. Completion: Compact to produce a firm, regular surface, stable in use.

Laying

315 Materials

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

320 Samples

1. Submit: Representative samples of resin bound gravel if different from specification.

325 Blinding to sub-base

1. Type:
2. Laying: Compact. Seal interstices. Provide free drainage.
3. Compacted thickness:

340 Laying generally

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

350 Cold weather working

1. Frozen materials: Do not use.
2. Freezing conditions: Do not lay pavings.
3. Cold bituminous surface dressings: Do not apply when ambient temperature is below 10°C.

4. Other dressings or overlays: As manufacturers' recommendations.

380 Laying granular surfaces in pedestrian areas and cycle tracks

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

Completion - Not Used

Ω End of Section

Q25

Slab/ brick/ sett/ cobble pavings

General

100 General Note

1. This chapter provides specification information for the surface course of paved areas
2. Bedding, base and sub-base design to WSP drawings specification (unless otherwise detailed below). Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-SE-XX-001

150 Concrete block paving system

1. **Description:** Concrete Block Paving.
Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 an 0010 for location.
2. **Subgrade improvement layer:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-SE-XX-001
 - 2.1. **Compacted thickness:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-SE-XX-001
3. **Granular sub-base:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-SE-XX-001
 - 3.1. **Compacted thickness:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-SE-XX-001 .
4. **Base:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-SE-XX-001
 - 4.1. **Thickness:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-SE-XX-001
5. **Laying course:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-SE-XX-001
6. **Paving units:** Refer to Clause 334 and 335
7. **Jointing:** Permeable 'Drain Joint' by Hardscape (refer to Clause 468) and broken sand In accordance with BS 7533-3 2-5mm.
 - 7.1. **Bond:** Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 an 0010 for location and Z0-REF-G710-DE-GRD-0894-8006.

160 Natural stone paving system

1. **Description:** Scoutmoor paving
Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 an 0010 for location.
2. **Subgrade improvement layer:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-PL-XX-0700
 - 2.1. **Compacted thickness:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-PL-XX-0700
3. **Granular sub-base:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-PL-XX-0700
 - 3.1. **Compacted thickness:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-PL-XX-0700
4. **Base:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-PL-XX-0700
 - 4.1. **Thickness:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-PL-XX-0700
5. **Paving units:** Natural Stone. Refer to clause 337 and 338
6. **Laying course and jointing:** Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-PL-XX-0700

Also refer to Refer to re-form drawings Z0-REF-G710-DE-GRD-0894-0008, 0009 an 0010 for location and Z0-REF-G710-DE-GRD-0894-8006 for laying pattern

System performance - Not Used

Products

320 Tactile flags and slabs to crossings

1. **Description:** Tactile Blister paving to pedestrian crossings
2. **Standard:** BS EN 1339: 2003
3. **Material:** Precast concrete
 - 3.1. **Manufacturer:** Hardscape (or similar approved)
Ben Bevan
Hardscape Products Ltd
01204 590 666
 - 3.1.1. **Product reference:** Tactile Blister
4. **Nominal sizes:** Refer to WSP drawing Z0-WSP-G700-DE-XX-0701
5. **Colour:** Buff to uncontrolled crossings, red to controlled crossings

321 Tactile flags and slabs to steps

1. **Description:** Tactile Corduroy paving to steps
2. **Standard:** BS EN 1339: 2003
3. **Material:** Precast concrete
 - 3.1. **Manufacturer:** Marshalls (or similar approved)
 - 3.1.1. **Product reference:** Tactile Corduroy
4. **Nominal sizes:** 400 x 400 x 50 mm
5. **Colour:** Natural (grey)

334 Concrete Paving Block Paving Type 01

1. **Description:** Concrete Block Paving.
Refer to Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 an 0010 for location
Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-SE-XX-001 for build-up.
2. **Manufacturer:** Hardscape (or similar approved)
Ben Bevan
Hardscape Products Ltd
01204 590 666
 - 2.1. **Product reference:** Kellen Levaro
3. **Colour:** Lavarro Grijs 012
4. **Finish:** Textured
5. **Sizes:** Refer to Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 an 0010 for location and detail drawing Z0-REF-G710-DE-GRD-0894-8006 for laying patterns.

All units are 80mm depth.

- 150x400 (70%)
- 200x400 (20%)
- 400x400 (10%)

Mix ratio subject to review and comment by supplier and subject to minor change

335 Concrete Paving Block Paving Type 02

1. **Description:** Concrete Block Paving.
Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 and 0010 for location
Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-SE-XX-001 for build-up.
2. **Manufacturer:** Hardscape (or similar approved)
Ben Bevan
Hardscape Products Ltd
01204 590 666
2.1. **Product reference:** Kellen Breccia
3. **Colour:** Magma
4. **Finish:** Textured
5. **Sizes:** Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 and 0010 for location and detail drawing Z0-REF-G710-DE-GRD-0894-8006 for laying patterns.

All units are 80mm depth.

T2A - Mix A 'Pathways'

- 150x200 (33.3%)
- 200x200 (33.3%)
- 200x300 (33.3%)
- 100x200 (edge course)

T2A - Mix B 'Spaces'

- 150x200 (25%)
- 150x400 (75%)
- 100x200 (edge course)

Mix ratios subject to review and comment by supplier and subject to minor change.

Sign off of ratio to be agreed in writing between supplier and landscape architect prior to procurement.

336 Concrete Paving Block Paving Type 03

1. **Description:** Concrete Block Paving.
Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 and 0010 for location
Refer to WSP drawing Z0-WSP-G700-PL-XX-001 and Z0-WSP-G700-SE-XX-001 for build-up.
2. **Manufacturer:** Hardscape (or similar approved)
Ben Bevan
Hardscape Products Ltd
01204 590 666
2.1. **Product reference:** Kellen Breccia
3. **Colour:** Magma
4. **Finish:** Textured
5. **Sizes:** Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 and 0010 for location and detail drawing Z0-REF-G710-DE-GRD-0894-8006 for laying patterns.

- 200x600mm
- 100mm depth.

337 Natural Stone Paving Type 01 Flag Paving

1. **Description:** Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 an 0010 for location
2. **Manufacturer:** Marshalls or similar approved
 - 2.1. **Product reference:** Scoutmoor
3. **Finish:** Sawn
4. **Sizes:** Footpath paving to MCC adoptable standards:
 - 600mm x random lengths
 - 75mm depth to WSP drawing Z0-WSP-G700-DE-XX-07

338 Natural Stone Paving Type 02 Block Paving

1. **Description:** Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 an 0010 for location
2. **Manufacturer:** Marshalls or similar approved
 - 2.1. **Product reference:** Scoutmoor
3. **Finish:** Sawn
4. **Sizes:** Footpath paving to MCC adoptable standards:
 - 200x250mm
 - 75mm refer to WSP drawings and specification

339 Natural Stone Paving Type 03 Block Paving

1. **Description:** Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 an 0010 for location
2. **Manufacturer:** Marshalls or similar approved
 - 2.1. **Product reference:** Scoutmoor
3. **Finish:** Sawn
4. **Sizes:** Footpath paving to MCC adoptable standards:
 - 200x300mm
 - 75mm depth

340 Natural Stone Paving Type 04 Block Paving

1. **Description:** Refer to re-form drawings Z0-REF-G710-PL-GRD-0894-0008, 0009 an 0010 for location
2. **Manufacturer:** Marshalls or similar approved
 - 2.1. **Product reference:** Scoutmoor
3. **Finish:** Sawn
4. **Sizes:** Footpath paving to MCC adoptable standards:
 - 600x200mm
 - 100mm depth

465 Sealant for movement joints

1. **Description:** To Natural Stone Paving to Port Street and Great Ancoats Street
2. **Sealant**
 - 2.1. **Type:** Silicone to BS EN 14188-2

2.2. **Manufacturer:** To contractors choice

2.2.1. **Product reference:** To contractors choice

2.3. **Colour:** Light grey (To be approved by Landscape architect prior to procurement)

468 Permeable Joint System to concrete block paving

1. **Description:** Flexible permeable jointing system laid in strips
2. **Manufacturer:** Hardscape
3. **Product:** Drain Joint
4. **Size:** 4mm width 80mm depth
8mm width 80mm depth
Refer to drawing Z0-REF-G710-DE-GRD-0894-8006 for locations.
5. **Installation:** Installed between paving units along 'long joint' to manufacturers guidance

Execution

610 Material samples

1. **Samples representative of colour and appearance of designated materials:** Submit before placing orders if different to proposed specification for approval by landscape architect.
 - 1.1. **Designated materials:** All paving

620 Adverse weather

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

625 Laying pavings – general

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

630 Levels of paving

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

635 Regularity of paved surfaces

1. 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)
 - 1.1. Precast concrete paving blocks and clay pavers for flexible pavements: 10 mm.
 - 1.2. Precast concrete flags or natural stone slabs: 3 mm.
2. Difference in level between adjacent paving units (maximum): 2 mm.
3. Sudden irregularities: Not permitted.

637 Regularity of paved surfaces

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

640 Colour banding

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

645 Protection

1. Cleanliness: Keep paving clean and free from mortar droppings, oil and other materials likely to cause staining.
2. Materials storage: Do not overload pavings with stacks of materials.
3. Handling: Do not damage paving unit corners, arrises, or previously laid paving.
4. Access: Restrict access to paved areas to prevent damage from site traffic and plant.

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

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

6. Drainage outlets: Within 0-10 mm of the required finished level.
7. Features in unbound paving (including mortar bedded restraints and drainage ironwork): Complete to required levels; adequately bed and haunch in mortar.
8. Sub-bases containing cement/ hydraulic binder: Cure for minimum times specified in BS 7533-4.

Completion

915 Completion of paving with dry sand or fine aggregate filled joints

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

Ω End of Section

Q26

Special surfacings/ pavings for sport/ general amenity

Sports surfacing

120 Surfacing for

1. Description: For climbing frame Q50-330
2. Type: Grass matting safety surface
3. Performance: Tested in General Accordance with BS EN 1177: 2008
4. Supplier : Timberplay Ltd
Michelle Ruther
Aizlewoods Mill,
Nursery Street,
Sheffield,
S3 8GG
0114 282 1284
5. Product ref.: Grass Matting Safety Surfacing
6. Installation: Grass matting laid directly onto existing lawn with good quality sward. Grass to grown through the mesh.
Refer to manufacturers drawings, specification and guidance.
7. Area: To be installed to extent of climbing frame safety distance. Refer to Q50-330
8. Priority of activities: Climbing

150 Suitability of base/ sub-base

1. Preparation: Before starting work ensure the following:
 - 1.1. Accuracy: Base/ sub-base will permit specified flatness/ regularity of finished surfacing.
 - 1.2. Falls/ camber: Accurately incorporated in the base/ sub-base.

Impact attenuating surfacings for play areas - Not Used

Associated accessories

430 Edges

1. Finish: Flush
2. Edge detail: Grass matt pegs. Refer to Timber Play drawings, specification and guidance.

Execution - Not Used

Completion

920 Play surface testing

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

930 Documentation

1. Standard: To BS EN 1176-1.
2. Submission requirements

- 2.1. Name and contact details of installer.
 - 2.2. Date of installation.
 - 2.3. Name and contact details of manufacturer.
 - 2.4. Type/ description/ reference of products used.
 - 2.5. Manufacturer's recommended inspection and maintenance procedures to maintain safety and impact attenuating performance.
 3. Manufacturer's recommended cleaning and maintenance methods, where relevant.
- Ω End of Section

Q28

Topsoil and soil ameliorants

System outline

155 Mulching and top dressing system

1. Description: Black limestone 14mm
2. Composition
 - 2.1. Material: Aggregates

Products

300 Preparation materials generally

1. Purity: Free of pests and disease.
2. Foreign matter: On visual inspection, free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, and the like.
3. Contamination Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
 - 3.1. Corrosive, explosive or flammable.
 - 3.2. Hazardous to human or animal life.
 - 3.3. Detrimental to healthy plant growth.
4. Subsoil: In areas to receive topsoil or planting media, do not use subsoil contaminated with the above materials.
5. Objectionable odour: None.
6. Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

310 Materials not permitted

1. Materials: Products containing peat River and canal dredgings

315 Imported topsoil to BS 3882

1. Location : To all planting areas and tree pits (excluding trees within hard landscape to Port Street only)
2. Standard: To BS 3882.
3. Classification: Multipurpose
 - 3.1. Soil textural class to BS 3882, Figure 1: Loam soil
4. Source: Contractor's choice
 - 4.1. Product reference: Submit proposals

316 Imported sub-soil BS 8601

1. Location: To all planting areas and tree pits (excluding trees within hard landscape to Port Street only)
2. Standard: To BS 8601:2013
3. Classification: Multipurpose
 - 3.1. Texture:: Free draining and contain no more than 70% sand and no more than 60% clay
4. Source: Contractor's choice
 - 4.1. Product reference: Submit proposals

317 Imported intensive green roof growing medium

1. **Standard:** The GRO Green Roof Code: 3.1.5 Growing medium
2. **Source:** Sky Garden or similar approved
 - 2.1. **Product reference:** Intensive Topsoil Green Roof Substrate and Intensive Subsoil Green Roof Substrate

318 Imported soil To tree pits in paving

1. **Location:** To tree pits with soil cells (Refer to drawing Z0-REF-G710-DE-GRD-0894-8014)
2. **Specification :** Also refer to DeepRoot detailed specification SECTION 32 94 56 PLANTING SOIL for SILVA CELLS.
3. **Standard:** To BS 8601:2013
4. **Source:** DeepRoot
 - 4.1. **Product reference:** Topsoil for Silva Cell System

Execution

610 Topsoil and subsoil analysis

1. **Soil to be analysed:** Imported topsoil and imported sub-soil
Intensive substrate to planting areas within courtyard above podium
2. **Soil analyst:**
3. **Samples:** Collect in accordance with BS 3882 and BS 8601
4. **Submit**
 - 4.1. **Declaration of analysis:** In accordance with relevant BS standards for topsoil and sub-soil
 - 4.2. **Report detailing soil analyst's recommendations.**

630 Documentation for imported topsoil and subsoil

1. **Description:** FOR ALL PLANTING BEDS
2. **Timing:** Submit fore review and comment by landscape architect prior to installation
3. **Contents**
 - 3.1. Full description of all soil components.
 - 3.2. **Summary conclusions and recommendations:**
 - 3.3. Record of source for all soil components.
 - 3.4. Record drawings showing the location and depth of all soils by type and grade.
 - 3.5. **Declaration of analysis:** in accordance with BS 3882, clause 6 and Table 1.
4. **Number of copies:** Three

650 Notice

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

655 Mechanical tools

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

660 Grading subsoil for

1. **Description:** All planting areas
2. **Standard:** In accordance with BS 8601.
3. **General:** Grade to smooth flowing contours to achieve specified finished levels of topsoil.
4. **Areas of thicker topsoil:** Excavate locally.
5. **Avoid compaction.**
6. **Excess subsoil:** Remove.

685 Surplus materials to be removed

1. **Topsoil removal from site:** Topsoil and sub-soil remaining after completion of all landscaping work
2. **Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings:** Remove.

690 Topsoil storage heaps

1. **Location:** Throughout the site Contractor's choice
2. **Height (maximum):** 1-1.5m
3. **Width (maximum):** 3.0 m
 - 3.1. **Formation:** Loose tip and shape from the side only, without running machinery on the heap at any time.
4. **Protection**
 - 4.1. Do not place any other material on top of storage heaps.
 - 4.2. Do not allow construction plant to pass over storage heaps.
 - 4.3. Prevent compaction and contamination, by fencing and covering as appropriate.

700 Grading of topsoil

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

705 Handling topsoil

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

710 Spreading topsoil on

1. **Description:**

2. **Standard:** In accordance with BS 3882.
3. **Temporary roads/ surfacing:** Remove before spreading topsoil.
4. **Layers**
 - 4.1. **Depth (maximum):** 150 mm.
 - 4.2. **Gently firm** each layer before spreading the next.
5. **Depth after firming and settlement:**
6. **Crumb structure:** Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 Loose tipping of topsoil

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

718 Final cultivation

1. **Description:** For all planting beds
2. **Compacted topsoil:** Break up to full depth.
3. **Tilth:** Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
4. **Timing:** Within a few days before planting
5. **Weather and ground conditions:** Suitably dry.
6. **Surface:** Leave regular and even.
7. **Levels:** As per drawing. Allow sufficient depth for 50mm mulch.
8. **Undesirable material brought to the surface**
 - 8.1. **Remove visible weeds.**
 - 8.2. **Remove roots and large stones** with any dimension exceeding 50 mm.

845 Applying loose mulch

1. **Description:** To all planting areas
2. **Timing:** Immediately after planting
3. **Preparation:** Ensure that soil is thoroughly moistened, applying water where necessary Clear all weeds Water soil thoroughly
4. **Type::** Ornamental gravel mulch as clause 155.
5. **Coverage of mulch (minimum)**
 - 5.1. **Planting beds (depth):** 50 mm depth
 - 5.2. **Trees:** 50 mm depth
6. **Finished level of mulch:** 25mm below adjacent edge

Completion

920 Applying mulch

1. **Timing:** At end of the rectification period
2. **Watering:** Ensure that soil is thoroughly moistened prior to mulching, applying water where necessary.
3. **Planting beds:** Re-mulch.
 - 3.1. **Depth (minimum):** 50mm
4. **Trees:** Remulch.
 - 4.1. **Depth (minimum):** 50mm

Ω End of Section

Q31

External planting

General information/ requirements

110 Site clearance generally

1. **General:** Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
2. **Stones:** Remove those with any dimension exceeding 100mm.
3. **Contamination:** Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
4. **Vegetation:** Clear surface vegetation in areas shown on drawings using suitable nonresidual herbicide as above
5. **Large roots:** Grub up and dispose of without undue disturbance of soil and adjacent areas.

120 Climatic conditions

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

125 Times of year for planting

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

130 Mechanical tools

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

145 Watering

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

150 Water restrictions

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

160 Notice

1. **Give notice before**
 - 1.1. **Setting out.**
 - 1.2. **Applying herbicide.**

- 1.3. Applying fertilizer.
- 1.4. Delivery of plants/ trees.
- 1.5. Planting shrubs.
- 1.6. Planting trees into previously dug pits.
- 1.7. Watering.
- 1.8. Visiting site during maintenance period.

2. Period of notice: One week

170 Soil requirements

1. Type
 - 1.1. Planted beds: Planting bed soil system, as section Q28
 - 1.2. Tree pits, shrub pits and other backfilling: Plant pit backfilling soil system, as section Q28
 - 1.3. Mulch applied after planting: Mulching and top dressing system, as section Q28

200 Plants/ Trees – general

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

215 Plants/ Trees – specification criteria

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

216 Plants/ Trees – specification criteria

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

231 Amenity Lawn

1. Description: Hard wearing amenity lawn
2. Supplier: Rowlawn or similar approved
3. Product: Medallion Turf or similar approved
4. Soil requirements as Q28

235 Container grown plants/ Trees

1. Growing medium: With adequate nutrients for plants to thrive until permanently planted.
2. Plants: Centred in containers, firmed and well watered.
3. Root growth: Substantially filling containers, but not root bound, and in a condition conducive to successful transplanting.
4. Hardiness: Grown in the open for at least two months before being supplied.

5. **Containers:** With holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

245 Labelling and information

1. **General:** Provide each plant/ tree or group of plants/ trees of a single species or cultivar with supplier's labelling for delivery to site, showing:
 - 1.1. Full botanical name.
 - 1.2. Total number.
 - 1.3. Number of bundles.
 - 1.4. Part bundles.
 - 1.5. Supplier's name.
 - 1.6. Employer's name and project reference.
 - 1.7. Plant specification, in accordance with scheduled National Plant Specification categories.

246 Labelling and information

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

260 Plant/ Tree substitution

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

265 Plant handling, storage transport and planting

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

280 Treatment of tree wounds

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

Plant containers - Not Used

Preparation of planting beds/ planting materials

300 Herbicide

1. **Description:** TO CLEAR EXISTING VEGETATION
2. **Locations:** All planting areas. Refer to Clause 112 above for specific requirements of wildflower areas.

3. **Type:** Suitable for suppressing perennial weeds.
4. **Timing:** Allow fallow period before cultivation.
 - 4.1. **Duration (minimum):** Two weeks

Planting shrubs/ herbaceous plants/ bulbs

401 Regular plant layout

1. **Description:** TO ALL BEDS
2. **Spacing:** Refer to drawing Z0-REF-G710-PL-GRD-0894-0015 for densities and schedules. Also refer to planting plans

405 Shrub planting pits

1. **Timing:** Excavate 1-2 days (maximum) before planting.
2. **Sizes:** 150 mm wider than roots when fully spread and 200-250 mm deep
3. **Pit bottom improvement** Break up to a depth of 150 mm, incorporating 10 kg compost.

463 Extensive green roof systems

1. **Manufacturer:** [Bauder Ltd](#)
 - 1.1. **Contact details**
 - 1.1.1. **Address:** 70 Landseer Road
Ipswich
Suffolk
IP3 0DH
 - 1.1.2. **Telephone:** +44 (0)1473 257671
 - 1.1.3. **Web:** www.bauder.co.uk
 - 1.1.4. **Email:** info@bauder.co.uk
 - 1.2. **Product reference:** [Bauder SB Sedum Blanket Extensive Green Roof System, Flat Roof](#)
2. **Protection**
 - 2.1. **Protection layer:**
 - 2.2. **Root barrier:**
3. **Moisture control**
 - 3.1. **Drainage layer:**
 - 3.2. **Filter membrane:** Bauder Filter Fleece.
4. **Planting systems**
 - 4.1. **Planting medium:** BauderGREEN SUB-EM UK extensive substrate.
 - 4.2. **Planting requirements:** BauderGREEN SB Sedum Blanket System with Bauder Xero Flor Organic Fertilizer.
5. **Waterproofing:**
6. **Roof Slope Range:**
7. **Accessories:**

480 After planting

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

Planting trees

500 Tree planting

1. **Standard:** Prepare trees and transplant in accordance with BS 8545 and 4428

505 Tree pits

1. **Sizes:** Refer to drawings Z0-REF-G710-PL-GRD-0894-0015 for schedules and and typical tree pit design. Also refer to drawings Z0-REF-G710-DE-GRD-0894-8010 and Z0-REF-G710-DE-GRD-0894-8014 for non-typical details
2. **Sloping ground:** Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
3. **Pit bottom :** Minimum 150mm depth of 6-10mm washed gravel wrapped in geotextile membrane.

Also refer to WSP drainage design

4. **Pit sides:** Scarify.
5. **Backfilling material:** Topsoil and sub-soil, as section Q28
6. **Completed pits:** Check for free drainage before planting

512 Tree pit irrigation and ventilation accessories to trees in soft landscape

1. **Locations:** All trees in soft landscape
2. **Manufacturer:** GreenBlue Urban or similar approved
 - 2.1. **Product reference:** RootRain Urban
RRURB2A 1530 mm diameter; pipe length: 5000 mm
3. **Inlet:** 80 mm diameter heavy duty high-density polyethylene (HDPE) moulded grid top.
4. **Installation**
 - 4.1. **Pipe:** Lay in loop above 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.
 - 4.2. **Top cap of inlet:** Protruding slightly above finished surround level.
 - 4.3. **Backfill material:** Carefully compact in layers.

514 Tree pit irrigation and ventilation accessories to trees pits with with soil cells

1. **Locations:** All trees in soft landscape
2. **Manufacturer:** Greentech Web: www.green-tech.co.uk or similar approved
Sweethills Park,
Nun Monkton,
York,
North Yorkshire
YO26 8ET
01423 332100.
 - 2.1. **Product reference:** Mona planting system MPS Ring 77 or similar approved. Ring diameter
External 190cm. Internal 165cm
3. **Inlet:** 80 mm diameter heavy duty high-density polyethylene (HDPE) moulded grid top.
4. **Installation**
 - 4.1. **Pipe:** To be installed in accordance with manufacturers recommendations
 - 4.2. **Top cap of inlet:** Mona relief Piazza Irrigation cap installed flush to tree grille level

516 Ornamental planting areas

1. **General Note:** Refer to drawing Z0-REF-G710-PL-GRD-0894-0015 for details

2. **Depth of excavation:** Increase from specified size to allow for a zone (approx 150mm depth) to base of pits to be broken up and loosened and debris or obstructions to drainage removed. To include 150mm aggregate layer wrapped in permeable geotextile, as drawing to enable freeboard of drainage beneath planting.
3. **Aggregate layer:** Clean gravel or broken stone, with no fines, graded 40 to 20 mm.
4. **Drainage pipes**
 - 4.1. **Type:** To WSP specification
5. **Completed pits:** Check for free drainage before planting.

520 Cellular structural soil system

1. **Locations:** Refer to planting plans for locations and Refer to drawing Z0-REF-G710-DE-GRD-0894-8014 for details
2. **Manufacturer:** Deeproot or similar approved
Hesketh House,
43-45 Portman Square,
London
W1H 6HN
Tel: 020 7969 2739
 - 2.1. **Product reference:**
 - Silva cell 1x to tree pit within Wharf Gardens (drawing Z0-REF-G710-DE-GRD-0894-8014 details 03 and 04)
 - Silva cell 3x to tree pits to Port Street (drawing Z0-REF-G710-DE-GRD-0894-8014 details 01 and 02)
3. **Geotextile membrane:** Install on top of structural soil system prior to installation of hard surfacing

Install below structural soil system prior to installation of modular cells
4. **Installation:** To be installed in accordance with manufacturers recommendations and installation guidelines. Installed in three layers unless site conditions prevent doing so. Manufacturer is to be consulted at earliest possible stage following appointment of Principle Contractor. Where site conditions prevent the use of the silva cell 3x, the manufacturer should be consulted along with the project landscape architect to establish the suitable use of other cell systems, the 2x or 1x.

Shop drawings at a scale of 1:20 are to be submitted by supplier to project manager for approval by principle contractor

526 Underground guying for:

1. **Description:** ALL TREES
2. **Manufacturer:** GreenBlue Urban or similar approved
 - 2.1. **Product reference:** ArborGuy AnchorPlate
SASAP10A 1000mm
3. **Anchoring system:** 3 no drive-in anchors
4. **Installation:** Ensure tree is positioned correctly and vertically prior to tightening guy line tensioners.

527 Root barriers

1. **Description:** ALL TREES (where necessary)
2. **Location:** Used on sides of tree pits adjacent to existing or proposed utilities and services
3. **Manufacturer:** Deep Root or similar approved
 - 3.1. **Product reference:** Tree Root Barriers; UB 18-2
Must be permeable to allow ingress and egress of ground water from the tree pit.
4. **Installation:** Top of root barrier below finished soil level: 50 mm

535 Tree stakes To be used in addition to guying systems

1. General Note: For 3nr Pine trees
2. Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
 - 2.1. Preservative treatment: Not required
3. Stake size (minimum): 100 mm diameter
4. Stake length (minimum): 1800 mm

556 Triple staking

1. Description: For 3nr pine trees to corner of tower
2. Staking
 - 2.1. Position: Equidistantly around the tree position.
 - 2.2. Driving: Vertically at least 300 mm into bottom of pit before planting.
 - 2.3. Backfilling: Consolidate material around stake.
 - 2.4. Firming: Sufficiently firm to prevent movement of the rootball/ rootstock.
3. Height of stakes: Cut off to approximately 600 mm above ground level
4. Horizontal bracing: Rubber belting with spacers, nailed to stakes within 25 mm of top of stake
5. Tying: Secure rubber belting around tree stem firmly without causing constriction or chafing. Ensure tree is supported from all directions
6. Nails for fixing belts and webbing: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads

Woodland/ matrix/ buffer zone planting - Not Used

Protecting/ maintaining/ making good defects

710 Maintenance

1. Duration: Carry out the operations in the following clauses from completion of planting until the end of the rectification period.
2. Frequency of maintenance visits: In accordance with the agreed maintenance schedule Z0-REF-G710-SP-GRD-0894-0003

720 Failures of planting

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

740 Cleanliness

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

750 Planting maintenance generally

1. Weed control: Maintain weed free area around each tree and shrub.

- 1.1. **Diameter (minimum):** The larger of 1 m or the surface of original planting pit.
- 1.2. **Keep planting beds clear of weeds:** By maintaining full thickness of mulch and hand weeding
2. **Planted areas:** Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
3. **Precautions:** Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
4. **Firming up:** Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
5. **Trees:** Spray crown when in leaf during warm weather.
 - 5.1. **Timing:** After dusk.
6. **Tree accessories:** Check condition of stakes, ties, guys, guards and irrigation and ventilation systems.
 - 6.1. **Broken or missing items:** Replace.
 - 6.2. **Loose stakes:** Re-firm in the ground or replace as necessary to provide support to the tree.
 - 6.3. **Loose guys:** Re-firm anchor points and adjust as necessary to provide support to the tree.
 - 6.4. **Ties:** Adjust to accommodate growth and prevent constriction or abrasion.
 - 6.5. **Damage to bark:** Cut back neatly with sharp knife. Prevent further damage.
 - 6.6. **Frequency of checks:** At each scheduled maintenance visit
7. **Watering:** As required for healthy establishment, depending on weather conditions

780 Maintenance instructions

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

790 Final mulching

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

Ω End of Section

Q35

Landscape maintenance

Generally

105 Maintenance objectives Hard Landscape

1. Location: All areas of hard landscape
 - 1.1. Duration: 2 years following Practical Completion running in tandem with Defects Liability Period.
2. Aims: To ensure all areas of hard landscape (including paving, kerbs, edging and walls, street furniture, and lighting) are maintained in a good condition and fit for purpose, free of damage or instability which may cause harm and / or negatively impact usability and visual amenity.

106 Maintenance objectives Soft Landscape

1. Location: All areas of soft landscape
 - 1.1. Duration: 2 years following Practical Completion running in tandem with Defects Liability Period. Trees are likely to reveal any establishment issues within year 2 when the scheme.
2. Aims: To ensure all areas of soft landscape (including ornamental planting, trees and climbing plants) are maintained in a healthy and stable condition, free of damage and disease which may cause harm and / or negatively impact visual amenity.

A number of trees are proposed for the purpose of wind mitigation. It is therefore of great importance that the contractor establishes a regular and comprehensive maintenance strategy for all trees to enable them to establish, thrive and provide the wind mitigation purpose throughout the life of the development.

110 Notice

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

130 Reinstatement

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

155 Watering

1. Supply: Contractors choice.
2. Quantity: Wet to full depth of topsoil
3. Application: Do not damage or loosen plants.
4. Compacted soil: Loosen or scoop out, to direct water to rootzone.
5. Frequency: As necessary for the continued thriving of all planting and trees. Contractor to monitor planting and carry out additional watering during prolonged periods of hot dry weather as required

160 Water restrictions

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

170 Disposal of arisings

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

180 Chipping or shredding

1. General: Not permitted on site.

181 Mechanical equipment

1. General: Minimize.
2. Prohibited equipment: Contractor to liaise with landowner and building occupiers
3. Timing: Use of mechanical equipment allowed between the hours of 10:00 am and 4:00 pm only

190 Litter

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

197 Cleanliness

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

Grassed areas

210 Maintenance of grassed areas

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

220 Grass cutting generally

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

250 Leaf removal

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

255 First cut of

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

260 Mowing lawns

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

295 Spiking

1. Location: All lawns
2. Timing: February or March, after first mowing
3. Operations: Aerate the soil and improve surface water penetration.
4. Depth (minimum): 75 mm

300 Scarifying

1. Location: All lawns
2. Timing: February or March, before first cut
3. Operations: Relieve thatch conditions and remove dead grass.
4. Depth (maximum): 15 mm
5. Arisings: Remove

Flower beds/ seasonal beddings

460 Beds containing perennials

1. Watering
 - 1.1. New plants: Before and after planting out.
 - 1.2. Ongoing: As necessary for the continued thriving of all planting. Additional watering will be required during prolonged periods of drought.
2. Operations at end of growing season
 - 2.1. Trim: Older flowering stems of herbaceous perennials.
 - 2.2. Remove: Redundant plant supports, litter, debris and arisings.
 - 2.3. Cultivate: Fork over the soil, taking care not to cause undue disturbance to plants. Reinstall mulch to required depth as Q31.
 - 2.4. Top dress: Apply sanitized and stabilized compost top dressing.

Shrubs/trees/hedges

500 Establishment of new planting

1. Duration: 2 years
2. Weed control

- 2.1. **Method:** Keep planting beds clear of weeds by maintaining full thickness of mulch hoeing and screening.
- 2.2. **Area:** Maintain a weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of the original planting pit.
3. **Soil condition:** Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
4. **Watering:** As necessary for the continued thriving of all planting. Additional watering will be required during prolonged periods of drought.

515 Tree guy wires

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

520 Refirming of trees and shrubs

1. **Timing:** After strong winds, frost heave and other disturbances.
2. **Refirming:** Tread around the base until firmly bedded.
3. **Realignment:** Trees to be reinstated to a horizontal alignment, with all tree supports secured.
4. **Collars in soil at base of tree stems, created by tree movement:** Break up by fork, avoiding damage to roots. Backfill with topsoil and refirm.

540 Pruning generally

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

555 Pruning trees and shrubs

1. **Standard:** To BS 7370-4.
2. **Special requirements:** Submit proposals for tree pruning to client for review against wind mitigation requirements prior to carrying out works.

570 Formative pruning of young trees

1. **Standard:** Type and timing of pruning operations to suit the plant species.
2. **Time of year:** Do not prune during the late winter/ early spring sap flow period.
3. **Young trees up to 4 m high**
 - 3.1. **Crown prune** by removing dead branches and reducing selected side branches by one third to preserve a well-balanced head and ensure the development of a single strong leader.

- 3.2. Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.
4. Whips or feathered trees: Do not prune.
5. Operatives: Approved specialist contractor

575 Pruning ornamental shrubs

1. **General:** Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
Cut back all woody shrubs in elevated planters to a height of 500/600mm max to ensure sightlines and visibility is maintained
2. **Suckers:** Remove by cutting back level with the source stem or root.

580 Pruning flowering species of shrubs and roses

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

620 Removal of dead plant material

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

630 Dead and diseased plants

1. **Removal:** Within 1 week of notification
2. **Replacement:** Within 2 weeks

635 Reinstatement of shrub/ herbaceous areas

1. **Dead and damaged plants:** Remove.
2. **Mulch/ matting materials**
 - 2.1. Carefully move to one side and dig over the soil, leaving it fit for replanting.
3. Do not disturb roots of adjacent plants.
4. **Replacement plants**
 - 4.1. **Use pits and plants:** To original specification or to match the size of adjacent or nearby plants of the same species, whichever is the greater.
 - 4.2. **Additional requirements:** None

645 Weed control generally

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

650 Hand weeding

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

657 Herbicide to kill regrowth

1. **Type:** Suitable foliar acting herbicide to kill regrowth.
2. **Timing:** Allow recommended period for herbicide to take effect before clearing dead weeds.

680 Soil aeration

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

685 Soil level adjustment

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

690 Maintenance of loose mulch

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

700 Snow removal from shrubs/ trees

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

705 Winter leaf removal

1. **Operations:** Take down temporary leaf fences. Collect accumulations of drifted leaves from the vicinity and from planting beds.
2. **Arisings:** Remove to recycling facility

Tree work

810 Tree work generally

1. **Identification:** Before starting work agree which trees, shrubs and hedges are to be removed or pruned.
2. **Protection:** Avoid damage to neighbouring trees, plants and property
3. **Standard:** To BS 3998.
4. **Removing branches:** Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
5. **Appearance:** Leave trees with a well-balanced natural appearance.
6. **Chain saw work:** Operatives must hold a Certificate of Competence.
7. **Tree work:** To be carried out by an approved member of the Arboricultural Association.

815 Additional work

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

820 Prevention of wound bleeding

1. **Standard:** To BS 3998.

825 Prevention of disease transmission

1. **Standard:** To BS 3998.

830 Cleaning out and deadwooding

1. **Remove**
 - 1.1. Dead, dying, or diseased wood, broken branches and stubs.
 - 1.2. Fungal growths and fruiting bodies.
 - 1.3. Rubbish, windblown or accumulated in branch forks.
 - 1.4. Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.

835 Cutting and pruning generally

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

840 Crown reduction/ shaping

1. **General:** Cut back selectively to lateral or sublateral buds or branches to retain flowing branch lines without leaving stumps.
2. **Operations:**

865 Bark damage

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

Water areas - Not Used

Hard landscape areas/fencing

900 Snow clearance

1. Clearance: On reaching a depth of 5 mm
2. De-icing: To roads and footpaths
 - 2.1. Material: Grit
 - 2.2. Timing: When freezing precipitation is forecast
 - 2.3. Application rate: Spread evenly at a rate of as manufacturer's recommendations.

910 Hard surfaces and gravel areas

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

930 Graffiti removal

1. Method: Submit proposals - Contractor to ensure method is suitable for application surface.
2. Subsequent treatment: Submit proposals
 - 2.1. Finish: Submit proposals

Ω End of Section

Q37

Green roofs

General

130 Extensive green roof systems

1. Description: To area above car park ramp slab

Systems specified below are based on the
SB Sedum blanket extensive green roof system by Bauder.
2. Roof type: Cold
3. Manufacturer: [Bauder Ltd](#) or similar approved
4. Contact details
 - 4.1. Address: 70 Landseer Road
Ipswich
Suffolk
IP3 0DH
 - 4.2. Telephone: +44 (0)1473 257671
 - 4.3. Web: www.bauder.co.uk
 - 4.4. Email: info@bauder.co.uk
5. Product reference: [Bauder SB Sedum Blanket Extensive Green Roof System, Flat Roof](#)
6. Moisture control
 - 6.1. Filter membrane: Bauder Filter Fleece.
7. Planting systems
 - 7.1. Planting medium: BauderGREEN SUB-EM UK extensive substrate.
 - 7.2. Planting requirements: BauderGREEN SB Sedum Blanket System with Bauder Xero Flor Organic Fertilizer.
8. Waterproofing: To architect's specification
9. System build-up (from waterproofing upwards):
 - FSM 600 protection layer (4mm thick)
 - DSE 20 water retention and drainage layer (20mm thick)
 - Filter fleece (1mm thick)
 - Extensive substrate (80mm thick)(Also see individual clauses below)
10. Vegetation: SB Sedum Blanket (30-40mm thick)
11. Total system depth: 135-145 mm

Performance - Not Used

Products

330 Protection layer To area above car park ramp

1. Manufacturer: Bauder
 - 1.1. Product reference: FSM 600 Protection Mat
2. Material: Polyester and polypropylene fibres
 - 2.1. Thickness: 4mm

350 Water Retention and drainage layer To area above car park ramp

1. Manufacturer: Bauder
 - 1.1. Product reference: DSE 20 Drainage and Protection Layer
2. Material: Recycled high density polyethylene
 - 2.1. Depth: 20mm
3. Infill: Mineral Drain aggregate by Bauder

351 Water Retention and drainage layer To private courtyard planters above podium

1. Manufacturer: Geosynthetics
 - 1.1. Product reference: Roof Cell
2. Material: Recycled polyethylene (100%)
 - 2.1. Depth: 30mm

360 Growing medium To area above car park ramp

1. Description: Lightweight growing medium for extensive green roof planting schemes manufactured to FLL guidelines
2. Manufacturer: Bauder
 - 2.1. Product reference: Extensive Substrate
3. Material: Recycled crushed brick, expanded clay shale and composted organic material

361 Growing medium To private courtyard planters above podium

1. Description: Lightweight growing medium for intensive green roof planting schemes manufactured to FLL guidelines
2. Manufacturer: Green-Tech
 - 2.1. Product reference: GT4 Intensive Roof Garden Substrate
 - 2.2. Ameliorants: Organic matter or PH stabilisers if necessary in accordance with soil test. Refer to Q28-610. Contractor to seek approval from landscape architect prior to application of ameliorants

365 Filter membrane To area above car park ramp

1. Manufacturer: Bauder
 - 1.1. Product reference: Filter Fleece
2. Material: Polypropylene fleece

400 Vegetation blanket To area above car park ramp

1. Description: Sedum Blanket
2. Manufacturer: Bauder
 - 2.1. Product reference: SB Substrate Sedum Blanket
3. Planting mix: Sedum plants
 - 3.1. Thickness: 30-40mm
4. Vegetation coverage (minimum): 75%.

Execution

710 Installation generally

1. Preparation: Clear all surfaces of debris.
 - 1.1. Timing: After certification of waterproof membrane integrity.
 - 1.2. Surface condition: Visually inspect waterproof membrane, report any damage.
2. Faults in waterproof membrane: Report.
3. Contamination: Do not use materials detrimental to healthy plant growth.
4. Storage: Do not overload.
 - 4.1. Point loads: Avoid.
5. Outlets: Do not block.
 - 5.1. Outlet grilles: Installed.

720 Adverse weather

1. Unfinished work: Secure from damage and wind uplift.
2. Conditions: Do not install or work with frozen materials.

750 Protection layer installation

1. Joints: Minimize.
 - 1.1. Overlaps (minimum): Manufacturer's recommendation
2. Upstands: Extend to top of growing medium.

770 Drainage layer installation

1. Extent: Continuous over entire roof area.
2. Fitting: Manufacturer's recommendation
3. Upstands: Fit closely around penetrations and outlets.

780 Filter membrane installation

1. Joints: Minimize.
 - 1.1. Overlaps (minimum): Manufacturer's recommendation
2. Fitting: Manufacturer's recommendation
3. Upstands: Extend to top of growing medium.

790 Growing medium installation

1. Handling: Minimize.
 - 1.1. Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.
2. Layers
 - 2.1. Depth (maximum): 80mm
 - 2.2. Sequence: Gently firm each layer before spreading the next.

800 Vegetation blanket installation

1. Handling blankets
 - 1.1. Timing: Lay within 36 hours of lifting from growing position.
 - 1.2. Excessive stacking: Not permitted.
 - 1.3. Material loss (maximum): 3% of total surface area.

2. Growing medium condition: Thoroughly watered.
3. Laying blankets
 - 3.1. Dry, damaged, frosty or waterlogged blankets: Do not lay.
 - 3.2. Orientation: Diagonal or perpendicular to slope of roof.
 - 3.3. Joints: Stagger. Butt together or slightly overlap to prevent gaps. Do not stretch blankets. Secure with biodegradable pegs.
 - 3.4. Edges: Finish with whole blankets.
 - 3.5. Consolidation: Firm as laying proceeds to ensure full contact with the growing medium. Do not use rollers.
4. Dressing:
 - 4.1. Application: Brush in to fill joints.
5. Watering: Thorough, immediately after laying and dressing.

Completion

910 Inspection

1. Timing: Before handover.
 - 1.1. Give notice (minimum): Three days.

920 Completion

1. General: Leave the works in a clean, tidy condition.
2. Surfaces: Clean immediately before handover.
3. Outlets: Clean and clear of obstructions.
4. Completed green roof: Protect from adjacent or high level working.

930 Documentation

1. Timing: Submit at handover.
2. Contents
 - 2.1. Growing medium declaration of analysis.
 - 2.2. Manufacturers' guarantees and warranties.
 - 2.3. Procedures for maintenance of the green roof.
 - 2.4. Record drawings showing the location of planting and associated features.
3. Number of copies:

Ω End of Section

Q40 Fencing

Fencing systems

220 Site Entrance Fence and Gates

1. **Contractor design:** Landscape architect drawings represent design intent. Specialist fabricator to develop detailed design and fabrication drawings. Fabrication drawings to be approved by landscape architect prior to procurement.

Refer to drawing Z0-REF-G710-DE-GRD-0894-8007
2. **Description:** To pedestrian entrances off Port Street and Great Ancoats Street and to area beneath building overhang
3. **Manufacturer:** Contractor's choice
 - 3.1. **Product reference:** n/a
4. **Height:** 2000mm above ground
5. **Material:**
 - Galvanised and PPC steel posts, slats and frame. RAL TBC to match building balcony finish
6. **Post::** Square section galvanised and PPC steel. Root fixed into ground to be 100x100 square section.
 - 6.1. **Dimensions :**
 - H 3000mm (1000mm below ground)
 - 100x100mm section
7. **Frame::** Galvanised and PPC box section steel. RAL TBC to match building balcony finish
 - 7.1. **Dimensions :** 50x50mm
8. **Slats :** Galvanised and PPC steel. RAL TBC to match building balcony finish
 - 8.1. **Dimensions :** 15x25mm
9. **Installation:** Posts installed into below ground concrete foundations
10. **Gates:** Gate design to match fence with integrated push / pull handle system and automated locking mechanism.

221 Courtyard and Snug Boundaries and Gates

1. **Contractor design:** Landscape architect drawings represent design intent. Specialist fabricator to develop detailed design and fabrication drawings. Fabrication drawings to be approved by landscape architect prior to procurement.

Refer to drawing Z0-REF-G710-DE-GRD-0894-8008
2. **Description:** To private courtyard and Snug

Refer to drawing Z0-REF-G710-DE-GRD-0894-8008
3. **Manufacturer:** Contractor's choice
 - 3.1. **Product reference:** n/a
4. **Height:** Height varies above ground
5. **Post::** Box section galvanised and PPC steel. RAL TBC to match building balcony finish
 - 5.1. **Dimensions :** Refer to drawing Z0-REF-G710-DE-GRD-0894-8008
6. **Frame::** Galvanised and PPC flat bar steel to top and bottom of fence fixed between posts. RAL TBC to match building balcony finish

- 6.1. **Dimensions** : Refer to drawing Z0-REF-G710-DE-GRD-0894-8008
- 7. **Slats** : Galvanised and PPC steel. RAL TBC to match building balcony finish
 - 7.1. **Dimensions** : Refer to drawing Z0-REF-G710-DE-GRD-0894-8008
- 8. **Installation**: Posts installed into below ground concrete foundations
- 9. **Gate**: Gate design to match fence with integrated push / pull handle system and automated locking mechanism.

222 Site perimeter fence

- 1. **Contractor design**: Landscape architect drawings represent design intent. Specialist fabricator to develop detailed design and fabrication drawings. Fabrication drawings to be approved by landscape architect prior to procurement.
- 2. **Description**: To Wharf Gardens perimeter (and to over clad retained walls)

Refer to drawing Z0-REF-G710-DE-GRD-0894-8007

- 3. **Manufacturer**: Contractor's choice
 - 3.1. **Product reference**: n/a
- 4. **Height**: 2000mm above ground
- 5. **Material**:
 - Galvanised posts and frame
 - C16 softwood timber
- 6. **Post**:: Square section weathered steel
 - 6.1. **Dimensions** :
 - H 3000mm (1000mm below ground)
 - 100x100mm section
- 7. **Frame**:: Galvanised steel angle brackets to top and bottom of fence fixed between posts.
 - 7.1. **Dimensions** : 100x100mm
- 8. **Slats** : C16 softwood timber
 - 8.1. **Dimensions** : 25x100mm
- 9. **Installation**: Posts installed into below ground concrete foundations

223 Balustrade

- 1. **Contractor design** : Landscape architect drawings represent design intent. Specialist fabricator to develop detailed design and fabrication drawings. Fabrication drawings to be approved by landscape architect prior to procurement.
 - 2. **Description**: To top of car park access ramp wall
- Refer to drawing Z0-REF-G710-DE-GRD-0894-8007
- 3. **Manufacturer**: Contractor's choice
 - 3.1. **Product reference**: n/a
 - 4. **Height**: Varies. Refer to drawing Z0-REF-G710-DE-GRD-0894-8007
 - 5. **Vertical posts**:: Flat bar section galvanised and PPC steel. RAL TBC to match building balcony finish.
 - 5.1. **Dimensions** :
 - H Varies
 - W 75mm
 - D 75mm

6. **Horizontal frame::** Flat bar section galvanised and PPC steel. RAL TBC to match building balcony finish
 - 6.1. **Dimensions :**
 - W15m
 - D75mm
7. **Vetical bars :** Flat bar section galvanised and PPC steel. RAL TBC to match building balcony finish
 - 7.1. **Dimensions :**
 - W 15mm
 - D 75mm
8. **Installation:** Posts installed into below ground concrete foundations

224 Balustrade to garden wall

1. **Contractor design :** Specialist fabricator to develop detailed design and fabrication drawings. Fabrication drawings to be approved by landscape architect prior to procurement.
2. **Description:** To top of garden wall, adjacent to steps
3. **Manufacturer:** Contractor's choice
4. **Height:** 1100mm above top of wall level.
5. **Vertical posts::** Flat bar section galvanised and PPC steel. RAL 8019 to match building balcony finish.
 - 5.1. **Dimensions :**
 - H 1100mm
 - W 15mm
 - D 75mm
6. **Horizontal frame::** Flat bar section galvanised and PPC steel. RAL 8019 to match building balcony finish
 - 6.1. **Dimensions :**
 - W15m
 - D75mm
7. **Vetical bars :** Flat bar section galvanised and PPC steel. RAL 8019 to match building balcony finish. 100mm centres.
 - 7.1. **Dimensions :**
 - W 15mm
 - D 75mm
8. **Handrail :** Tubular stainless steel handrail. Brushed finish.
 - 8.1. **Dimensions :**
 - Diameter 50mm
 - H above pitch line 900mm
 - H above landing 1000m
9. **Installation:** Base plate to conceal root fixing

Gates, posts and stiles - Not Used

Accessories - Not Used

Execution

710 Installation generally

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

715 Competence

1. Operatives: Contractors must employ competent operatives.
2. Qualifications: Submit certification of training.
 - 2.1. NHSS Sector Scheme 2A sub categories:
 - 2.2. NHSS Sector Scheme 2C sub categories:

720 Setting posts in concrete

1. Standard: To BS 8500-2.
2. Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
3. 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.
4. Admixtures: Do not use.
5. Holes: Excavate neatly and with vertical sides.
6. Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
7. Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

Completion

910 Cleaning

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

920 Fixings

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

930 Gates

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

Ω End of Section

Q50

Site/ street furniture/ equipment

Gates, barriers and parking controls - Not Used

Site and street furniture

220 Benches

1. Description: Freestanding bench with timber slat seat and backrest, and metal frame
2. Manufacturer: Vestre
Romy Rawlings
Commercial Director
romy@vestre.com
 - 2.1. Product reference: Kong Seat
3. Material:
 - Nordic Pine timber components
 - Steel frame
 - 3.1. Finish:
 - Galv and PCC steel
 - 3.2. Colour: RAL 8019 to match building metalwork
4. Size: L1800mm. Seating height 450mm
5. Accessories/ Special requirements: Backrest and arm rests
6. Method of fixing: Root fixing in to concrete to manufacturers specification

225 Feature Seats

1. Description: Heavy duty timber and steel seat to Wharf Gardens
2. Manufacturer: Streetlife
Yvonne Roebroek
T: 020 30 20 1509 (UK)
T: ++31(0)71 333 33 70 (NL)
W: www.streetlife.nl/en
 - 2.1. Product reference: Drifter Structure
3. Material: Reclaimed mooring posts- Tropical hardwood certified as FSC Recycled 100%

Galvanised and PPC steel supports RAL 8019
4. Size: 1nr 3000mm long seat and 1nr 2000mm long seat fixed next to each other in a staggered offset arrangement. Refer to drawing Z0-REF-G710-DE-GRD-0894-8009
5. Method of fixing: Surface mounted fixing into paved surface as per manufacturers specification and details.

242 Bins

1. Manufacturer: Streetlife
Yvonne Roebroek
T: 020 30 20 1509 (UK)
T: ++31(0)71 333 33 70 (NL)
W: www.streetlife.nl/en
 - 1.1. Product reference: Box Bin
2. Material: Galvanised and PPC steel variant. RAL 8019 to match building balcony finish
3. Size: 49 cmx49 cm plan size. 97cm high. 140ltr.

4. **Accessories/ Special requirements:** Rain cover RAL 8019
5. **Method of fixing:** Surface mounted with ground fixings through paved surface to manufacturers specification

243 Raised Planters to courtyard

1. **Description:** Metal planter wall system with integrated internal structure and footings.
2. **Manufacturer:** Raافت
London, UK,
Clerkenwell, London,
EC1V 4JA, United Kingdom
+44 (0)20 3146 7879
enquiries@raافت.co.uk
2.1. **Product reference:** Planterline
3. **Material:** Galvanised and PPC steel. RAL 8019 to match building balcony finish.
4. **Accessories/ Special requirements:** Integrated top mounted seating (standard product range)
5. **Method of fixing:** Internal support structure with base plates installed onto load bearing drainage layer
6. **Drawing ref :** Z0-REF-G710-DE-GRD-0894-8010

244 Terraced Planters

1. **Description:** Metal planter wall system with integrated internal structure and footings.
2. **Manufacturer:** Raافت
London, UK,
Clerkenwell, London,
EC1V 4JA, United Kingdom
+44 (0)20 3146 7879
enquiries@raافت.co
2.1. **Product reference:** Planterline
3. **Material:** Galvanised and PPC steel. RAL 8019 to match building balcony finish
4. **Accessories/ Special requirements:** Integrated top mounted seating (bespoke terrace seat system). Technical Design development to be undertaken by specialist manufacture.
5. **Method of fixing:** Internal support structure with base plates installed onto load bearing concrete foundation.
6. **Drawing ref::** Z0-REF-G710-DE-GRD-0894-8005

245 Level 07 Roof Terrace Planters

1. **Description:** Metal planter wall system with integrated internal structure.
2. **Manufacturer:** Raافت
London, UK,
Clerkenwell, London,
EC1V 4JA, United Kingdom
+44 (0)20 3146 7879
enquiries@raافت.co
2.1. **Product reference:** Planterline
3. **Material:** Galvanised and PPC steel. RAL 8019 to match building balcony finish
4. **Method of fixing:** Triangular support bracket screwed to galvanised floor panel. Pedestal and rail system beneath.
5. **Drawing ref::** Z2-REF-G710-DE-07-0894-8001

246 Louvered roof pergola

1. **Description:** Open frame pergola with manually operated louvered system to level 07 roof terrace.
2. **Contractor design::** Drawing Z2-REF-G710-DE-07-0894-8003 represents design intent. Design and specification subject to specialist fabricator input and technical design.
3. **Manufacturer:** Specialist fabricator TBC
4. **Material:** Steel frame posts. Hot dip galvanised and powder coated.
 - 4.1. **Colour:** RAL TBC
 - 4.2. **Post size::** 100(w)x2750(h) above FFLx100(d) mm
 - 4.3. **Overall size::** Refer to drawing Z2-REF-G710-DE-07-0894-8003
5. **Accessories/ Special requirements:** Louvered roof canopy - manually operated system
Indicative size of individual slats: 100(w)x2460(l)x10(d)mm.
6. **Method of fixing:** As per fabricator's specification. To be concealed as much as possible.

247 Corner Seats

1. **Description:** Seat with backrest suitable for 90 degree corners
2. **Manufacturer:** Streetlife
Yvonne Roebroek
T: 020 30 20 1509 (UK)
T: ++31(0)71 333 33 70 (NL)
W: www.streetlife.nl/en
 - 2.1. **Product reference:** Rough and Ready 6 bench and Rough and Ready Crosswise Bench combined to create 90degree turn
3. **Material:** Hardwood timber seat slats and backrest with Galvanised and PPC steel Feet. RAL 8019 to match building balcony finish
4. **Accessories/ Special requirements:** Back rest
5. **Method of fixing:** Surface mounted with fixings through paved surface to manufacturers specification
6. **Drawing ref:** Z0-REF-G710-DE-GRD-0894-8010

248 Freestanding Plant Pots

1. **Manufacturer:** Iota

Wick Road
Wick St Lawrence
North Somerset
BS22 7YQ
United Kingdom
+44 (0)20 3146 7879
enquiries@raaft.com
 - 1.1. **Product reference:** Corten planters in various sizes and shapes:
 - 3nr Conical 500
 - 3nr Conical 800
 - 1nr Conical 1000
2. **Material:** Corten

249 Metal Trip Rail

1. **Manufacturer:** Area Street Furniture
 - 1.1. **Product reference:** Zenith Trip Rail
2. **Material:** Galvanised and Powder Coated steel

- 2.1. Colour: RAL 8019 to match building balcony finish
3. Method of fixing: Root fixed to manufacturers specification

320 Finger Post

1. Description: Multi-directional sign
2. Manufacturer: Landmark
 - 2.1. Product reference: Bristol Fingerpost Sign (72015)
3. Height: As supplied
4. Material: Steel
 - 4.1. Finish: Polyester powder-coated, as section
 - 4.2. Colour: RAL 8019
5. Accessories: 3 nr finger signs:
 - Great Ancoats Street
 - Port Street
 - Tariff Street
6. Method of fixing: Root fixed into concrete base to manufacturers specification

Installation

510 Concrete foundations generally

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

515 Setting components in concrete

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

530 Preservative treated timber

1. Surfaces exposed by minor cutting and drilling: Treated by immersion or with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.
2. Heavily worked sections: Re-treat.

545 Erection of timber and prefabricated structures

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

550 Damage to galvanized surfaces

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

- 1.1. **Material:** Low melting point zinc alloy repair rods or powders made for this purpose or at least two coats of zinc-rich paint to BS 4652.
- 1.2. **Thickness:** Sufficient to provide a zinc coating at least equal to the original layer.

560 Site painting

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

Ω End of Section

Q52

Play and sports equipment

General

115 Play Features

1. **Description:** To Wharf Gardens
2. **Equipment:** Richter Spielgerate timber play features:
 - 6.06000 Jumping Disc (3nr)
 - 4.21110 Small Climbing Pyramid (1nr)
 - 6.81000 Straight Balancing Beam

Also refer to specific clauses below.

- 2.1. **System manufacturer:** Timberplay Ltd
Michelle Ruther
Aizlewoods Mill,
Nursery Street,
Sheffield,
S3 8GG
0114 282 1284
3. **Fixing :** Below ground concrete foundations to manufacturers specification and details
4. **Surfacing:** Rubber mat, as section Q26
5. **Containment:** Not required
6. **Accessories:** None

System performance

210 Design

1. **Design:** Complete the design of the Playground.
2. **Proposals:** Submit drawings, technical information, calculations and manufacturers' literature.

215 Playground design

1. **Design criteria:**
 - 1.1. **Age range:** 1-3, 4-8
 - 1.2. **Population served:** Local community
 - 1.3. **Frequency of use:** Continuous

Products

320 Balance beam

1. **Description:** Timber balancing beam with end supports
2. **Standard:** To BS EN 1176-1.
3. **Manufacturer:** Richter Spielgerate

Timberplay Ltd
Michelle Ruther
Aizlewoods Mill,
Nursery Street,

Sheffield,
S3 8GG
0114 282 1284

3.1. **Product reference:** 6.81000 Straight Balancing Beam

4. **Age range:** Kindergarten children
School children
Young people
5. **Materials:** Robiniah wood component with hot-dip galvanised steel ground anchors each end.
6. **Length:** 3000mm long x 200mm dia.
7. **Height:** 350mm above ground
8. **Method of fixing:** Below ground foundations to suppliers specification and guidance.
9. **Safe Distance :** 1500mm from balancing beam to any hard edges and surfaces, or other items of play equipment.

330 Climbing frame

1. **Description:** Climbing pyramid
2. **Standard:** To BS EN 1176-1.
3. **Manufacturer:** Richter Spielgerate

Timberplay Ltd
Michelle Ruthen
Aizlewoods Mill,
Nursery Street,
Sheffield,
S3 8GG
0114 282 1284

3.1. **Product reference:** 4.21110 Small Climbing Pyramid

4. **Age range:** Kindergarten children
School children
5. **Type:** Modular climber
6. **Materials:** Non-impregnated mountain larch with hot-dip galvanised steel or stainless steel ground anchors.
7. **Plan size:** 2300 x 2300mm
8. **Height:** 900mm
9. **Method of fixing:** Concealed root fixing to manufacturers specification
10. **Safe distance::** 1500mm from outer edge of climbing frame

390 Rocking equipment

1. **Description:** Timber disks with heavy duty spring base
2. **Standard:** To BS EN 1176-1 and -6.
3. **Manufacturer:** Richter Spielgerate

Timberplay Ltd
Michelle Ruthen
Aizlewoods Mill,
Nursery Street,
Sheffield,
S3 8GG
0114 282 1284

3.1. **Product reference:** 6.06000 Jumping Disc

4. **Age range:** Kindergarten children
School children
5. **Type:** Wobble board
6. **Materials:** Non-impregnated mountain larch with Galvanised and three powder coated springs (standard colour red).
7. **Method of fixing:** Concealed root fixing to manufacturers specification. (Pre-fabricated concrete foundation)
8. **Safety distance:** 1500mm from edge of boards to any other play feature type, or hard edge / surface. Boards can be placed closer together to other boards of same spec.

Execution

710 Play equipment installation generally

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

720 Concrete foundations generally

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

725 Setting components in concrete

1. **Holes:**
2. **Components:** Accurately positioned and securely supported.
3. **Concrete fill:** Fully compacted as filling proceeds.
4. **Concrete foundations exposed to view:** Finished to weathering profile to shed water and trowel smooth.
5. **Temporary component support:** Maintain undisturbed for minimum 48 hours.

740 Preservative treated timber

1. **Surfaces exposed by minor cutting and drilling:** Treated by immersion or with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.

750 Damage to galvanized surfaces

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

Completion

910 Inspection

1. **Standard:** To BS EN 1176-1
2. **Timing:** 2 weeks prior to date when work is expected to be practically complete
3. **Period of notice (minimum):** 3 working days.

920 Cleaning

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

930 Testing

1. **Standard:** To BS EN 1176-1.

940 Labels

1. **Standard:** To BS EN 1176-1
2. **Labels:** Provide permanent labelling on all types of play equipment.
3. **Location:** Where visible when erected on site.

950 Documentation

1. **Standard:** To BS EN 1176-1
2. **Contents**
 - 2.1. Copies of test reports.
 - 2.2. General product information.
 - 2.3. Installation information.
 - 2.4. Inspection and maintenance information.
3. **Number of copies:** 2
4. **Submission:** 2 weeks prior to date when work is expected to be practically complete

970 Operating tools

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

Ω End of Section

Q55

External decks, boardwalks and bridges

Tendering - Not Used

General

110 Floor Structure Panels

1. Manufacturer: [Raافت](#)
2. Contact details
 - 2.1. Address: 117-121 St John Street
Clerkenwell
London
United Kingdom
EC1V 4JA
 - 2.2. Telephone: [+44 \(0\)20 3146 7879](tel:+442031467879)
 - 2.3. Web: www.raافت.co
 - 2.4. Email: enquiries@raافت.co
3. Product reference: [Floor Structure Panels \(640 x 540 x 28 mm\)](#)
4. Primary components: Steel surface support tray.
5. Dimensions: 640 x 540 x 28 mm.
6. Material: Galvanized steel.
7. Description: To level 07 roof terrace
8. Drawing ref: Z2-REF-G710-PL-07-0894-0001
Z2-REF-G710-PL-07-0894-0003

111 Aluminium joists

1. Manufacturer: [Raافت](#)
2. Contact details
 - 2.1. Address: 117-121 St John Street
Clerkenwell
London
United Kingdom
EC1V 4JA
 - 2.2. Telephone: [+44 \(0\)20 3146 7879](tel:+442031467879)
 - 2.3. Web: www.raافت.co
 - 2.4. Email: enquiries@raافت.co
3. Product reference: [Raافت Aluminium Joist \(30mm Joist, 301015\)](#)
4. Structural sections
 - 4.1. Size: 30 x 72 x 2400 mm.
 - 4.2. Finish
 - 4.2.1. Worked: None.
 - 4.2.2. Applied: None.
 - 4.3. Colour: Silver.
5. Description: To level 07 roof terrace
6. Drawing ref: Z2-REF-G710-PL-07-0894-0001
Z2-REF-G710-PL-07-0894-0003

System performance - Not Used

Products

395 Metal adjustable pedestals

1. Manufacturer: [Raافت](#)
 - 1.1. Contact details
 - 1.1.1. Address: 117-121 St John Street
Clerkenwell
London
United Kingdom
EC1V 4JA
 - 1.1.2. Telephone: [+44 \(0\)20 3146 7879](tel:+442031467879)
 - 1.1.3. Web: www.raافت.co
 - 1.1.4. Email: enquiries@raافت.co
 - 1.2. Product reference: [Fire-rated Metal Pedestals](#)
2. Pedestal type: Adjustable.
3. Material: Steel, zinc coated.
4. Adjustment:
5. Fire performance: Class A in accordance with 96/603/EC.
6. Load capacity: 1 ton (maximum).
7. Dimensions: 50-70mm(d)
8. Description: To level 07 roof terrace
9. Drawing ref: Z2-REF-G710-PL-07-0894-0001
Z2-REF-G710-PL-07-0894-0003

Fabrication - Not Used

Execution

657 Installation of pedestals

1. Ensure that surface to accept pedestals is clean and free of debris.
2. **Setting out:** Mark centre-point of pedestal on substrate surface, with guidelines to ensure square layout.
 - 2.1. Orientation: Align parallel with adjacent features.
 - 2.2. Spacing:
 - 2.3. Additional pedestals:
3. Overall movement tolerance (maximum): 3 mm.

Completion - Not Used

Ω End of Section



Specification created using NBS Chorus