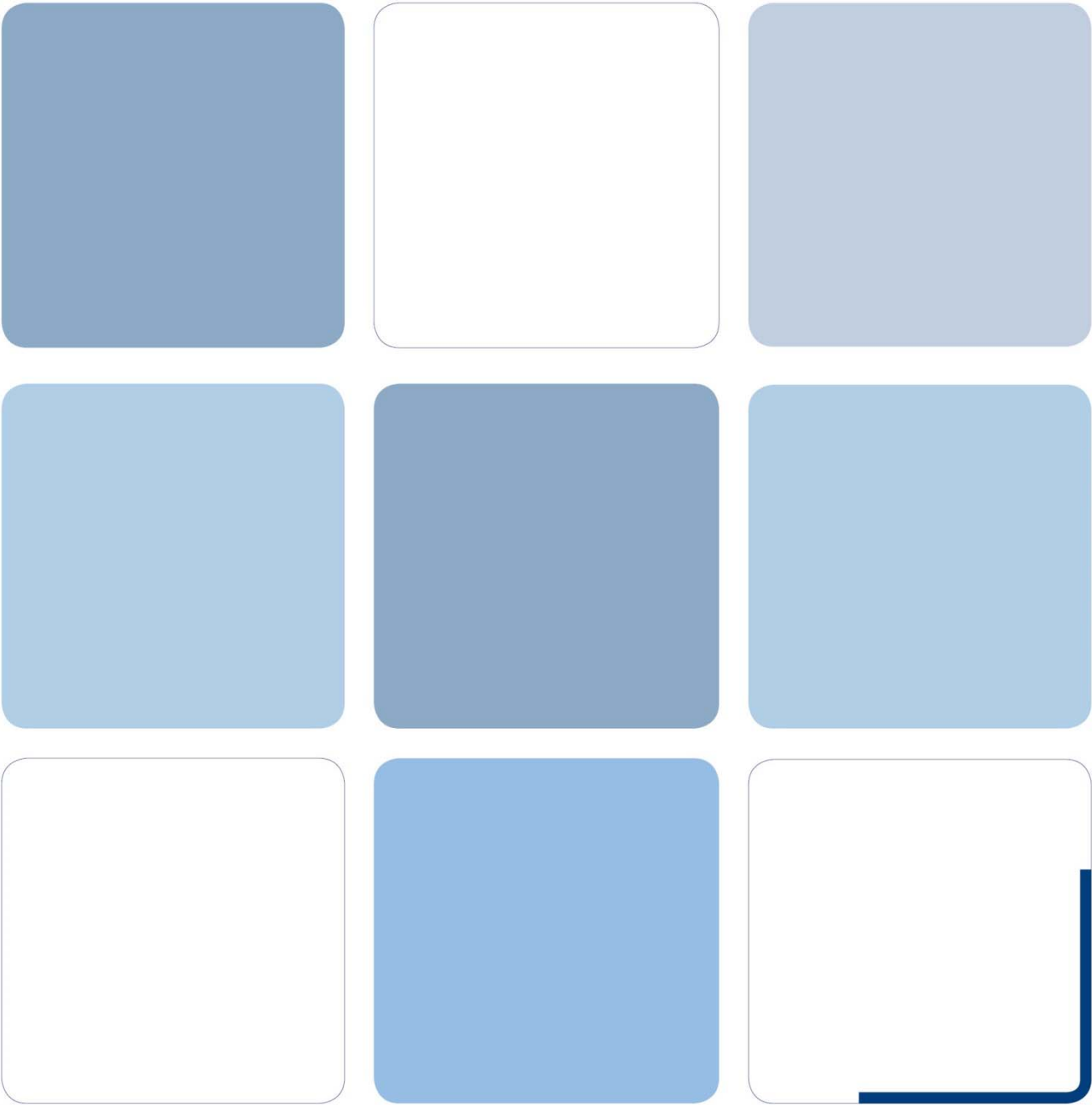




Parker Tower, London

Green and Brown Roof Landscape Specification





QUALITY MANAGEMENT

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Q

Paving/Planting/Fencing/Site furniture

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Q37 Green roofs

To be read with Preliminaries/General conditions

GENERAL

- 125 GREEN (LIVING) WALLS TO TOWER ELEVATION WHERE SHOWN
- Supplier: ANS Living Wall System Tel: 0845 505 5555 or similar approved.
 - Reference: Living Wall Module; 500 x 250 x 100mm high density Polyethylene (HDPE) BS 476 Part 7 1997 Class 1.
 - Fixings: FSC Pressure treated softwood battern fixed to vertical structure at 250mm centres; ANS Fixing rail 48 x 12mm secured at 500mm centres.
 - Waterproofing: Breathable membrane secured to underside of Green wall in accordance with manufacturers recommendations.
 - Growing medium: Suppliers growing medium.
 - Vegetation: Planting as section Q31 to suppliers design. Details to be submitted for approval prior to order.
 - Drainage Channel: Osma Squareline 107x 51mm gutter or similar approved to connect to SW drainage point.
 - Accessories: Irrigation system with electronic programmer to manufacturers specification.
- 130 EXTENSIVE GREEN ROOF TO ROOF PLANS WHERE SHOWN
- Roof type: Warm.
 - Substrate: To Architects details.
 - Slope: 5-20 degrees.
 - Waterproofing: To architects specification.
 - Thermal insulation: To architects specification.
 - Protection: Combined layers.
 - Moisture control layers: Moisture retention mat as clause 340.
 - Growing medium: As clause 390.
 - Depth: 100mm to areas of plug planting and 80mm below sedum mat - Refer RPS Planting Plan 501.
 - Vegetation: Plug planting and Sedum mat as section Q31.
 - Accessories: To Architects detail.
- 135 BROWN (BIODIVERSE) ROOF TO ROOF PLANS WHERE SHOWN
- Roof type: Warm.
 - Substrate: To Architects details.
 - Waterproofing: To architects specification.
 - Thermal insulation: To architects specification.
 - Protection: Combined layers.
 - Moisture control layers: Not required.
 - Material: As clause 395.
 - Depth: Varying depths 80-150mm to include low mounding and stone piles.
 - Accessories: Stone and logs piles to be agreed on site.

PRODUCTS

- 335 SEPARATION LAYER TO GREEN ROOF BUILD UP
- Manufacturer: Bailey Roofing Systems or similar approved .
 - Product reference: ECO Roof Reservoir board with pre-applied separation layer .
 - Material: Polyethylene sheet, weight approx. 100g/m² .
 - Thickness: 0.6 mm .

- 340 MOISTURE RETENTION MAT TO GREEN ROOF BUILD UP
- Manufacturer: Bailey Roofing Systems or similar approved .
 - Product reference: ECO Roof Reservoir board with pre-applied Moisture Mat to DIN18195 .
 - Material: Non-rotting polypropylene, weight approx. 470g/m², thickness approx. 5m .
 - Capacity: 5 litres/m² .
- 350 DRAINAGE LAYER TO GREEN ROOF BUILD UP
- Manufacturer: Bailey Roofing Systems similar approved .
 - Product reference: ECO Roof Reservoir board .
 - Material: 100% recycled HDPE .
 - Depth: 25 mm .
 - Infill: Not required .
- 355 COMBINED LAYERS TO GREEN ROOF BUILD UP
- Manufacturer: Bailey Roofing Systems or similar approved .
 - Product reference: ECO Roof Reservoir with pre-applied fleeces.
 - Type: Moisture Retention Mat, Drainage reservoir and Filter Sheet as clauses 335, 340 and 350.
 - Material: Polyethylene.
 - Depth: 25 mm.
 - Other requirements: In accordance with manufacturers details.
- 390 EXTENSIVE GROWING MEDIUM TO SEDUM
- Manufacturer: Blackdown Horticultural Consultants .
 - Product reference: -.
 - Material: Blackdown Horticultural Consultants lightweight environment specific volcanic material base extensive green roof substrate, consisting of organic, inorganic and mineral components pH 6.5-8 or similar approved.
 - Ameliorant/ conditioner: Slow release green roof fertiliser - Zinco Plantfit 4M.
 - Coverage: 25 grams per sq. metre.
 - Declaration of analysis: Submit.
 - Parameters: Organic content.
- 395 BROWN ROOF MATERIAL WHERE SHOWN
- Source: Submit proposals, preference for clean site won materials .
 - Material: Crushed brick, concrete and rubble ranging in size from 5mm grit to 400mm. Stones should be no greater than 100-150mm and boulders 200+mm to be grouped together to provide a range of habitats. Logs piles varying in size between 100, 500 and 1000mm in length and stacked no greater than 350mm high.
 - Depths: Providing varying depths of substrate 80-150mm.
 - Profiles: Undulating material with some low mounds and piles of larger stones/rubble for habitat diversity.
- 400A VEGETATION BLANKET WHERE SHOWN
- Manufacturer: Blackdown Horticultural Consultants .
 - Product reference: 'Nature Mat' .
 - Planting mix: 6-8 Sedum species .
 - Thickness: 20-25 mm .
 - Vegetation coverage (minimum): 90%.
- 440 VEGETATION BARRIER TO ROOF PERIMETER AND ROOF PENETRATIONS
- Material: 20-40 mm Washed rounded pebble in fill .
 - Depth: 120 mm .
 - Width: 300 mm .

EXECUTION

710 INSTALLATION GENERALLY

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

720 ADVERSE WEATHER

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

760 MOISTURE RETENTION MAT INSTALLATION

- Joints: Minimize.
 - Overlaps (minimum): 100 mm .
- Upstands: Fit closely around penetrations and outlets.

770 DRAINAGE LAYER INSTALLATION

- Extent: Continuous over entire roof area.
- Fitting: Butt joints .
- Upstands: Fit closely around penetrations and outlets.

780 FILTER MEMBRANE INSTALLATION

- Joints: Minimize.
 - Overlaps (minimum): 200 mm .
- Fitting: Adhered to drainage layer as supplied .
- Upstands: Extend to top of growing medium.

790A GROWING MEDIUM INSTALLATION

- Handling: Minimize.
 - Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.
- Layers:
 - Depth: 80-100 mm.
 - Sequence: Gently firm each layer before spreading the next. Ensure all hard landscaping is complete prior to installing the growing medium.

800A VEGETATION BLANKET INSTALLATION

- Installation: To be completed only following the installation of supporting build up of drainage layers, filter sheet, substrate and hard landscaping. A water test must also be carried out before any planting is carried out to establish the water holding capacity of the substrate and drainage layers.
- Handling blankets:
 - Timing: Lay within 36 hours of lifting from growing position.
 - Excessive stacking: Not permitted.
 - Material loss (maximum): 3% of total surface area.
- Growing medium condition, drainage layer and moisture retention mat: Thoroughly watered.
- Laying blankets:
 - Dry, damaged, frosty or waterlogged blankets: Do not lay.
 - Orientation: Diagonal or perpendicular to slope of roof.
 - Joints: Stagger. Butt together or slightly overlap to prevent gaps. Do not stretch blankets.
 - Edges: Finish with whole blankets.
 - Consolidation: Firm as laying proceeds to ensure full contact with the growing medium. Do not use rollers.
 - Avoid installation during the months of June, July and August or during periods of prolonged dry weather.
 - The optimum period to install Sedum mats is late September / early October and late March / early April.
- Dressing: 2-5 mm horticultural grit .
 - Application: Brush in to fill joints.
- Watering: Thorough, immediately after laying and dressing and kept moist thereafter for 4-6 weeks or longer if necessary, to allow the Sedum to become established.

820 EDGE RETAINING PROFILE INSTALLATION

- Cutting: Neat, accurate and without spalling.
 - Junctions: vertical, secured using proprietary connectors.
- Position: True to line and level. Smooth continuous lines.
- Fixing: Refer to Architects proposals .

COMPLETION**910 INSPECTION**

- Timing: Before handover.
 - Give notice (minimum): 3 days.

920 COMPLETION

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

930A DOCUMENTATION

- Timing: Submit at handover.
- Contents:
 - Growing medium declaration of analysis.
 - Manufacturers' guarantees and warranties.
 - Proposed programme for maintenance of the green roof until end of maintenance and defects period including details of all tasks to be undertaken and their frequency.
 - Record drawings showing the location of planting and associated features.
- Number of copies: 2 .

940 GREEN ROOF MAINTENANCE

- General: In accordance with suppliers recommendations and maintenance and management plan.
- Frequency: Allow a minimum of 3-4 visits during year one and 2 per year thereafter.
- In early Spring and at the end of Autumn;
 - Strim the roof surface to remove all dead vegetation, rake off debris and cart away.
 - Inspect substrate surface and vegetation barrier, remove all unwanted grasses, weeds, saplings etc.
 - Remove any litter and debris.
 - Any bare areas of substrate must be re-planted and any failed plants replaced during the planting season as clause 800B.
 - Maintain roof perimeters and outlets free from weeds and other blockages.
- Other requirements: Maintenance contractor to provide RAMS for approval PRIOR to any visits.

950 GREEN WALL MAINTENANCE

- General: In accordance with suppliers recommendations and maintenance and management plan.
- Frequency: As required to maintain the planting in a healthy condition and manage the species ratio and establishment. Minimum 1-2 visits per year will require access to the whole extent of wall.
- Other requirements: Maintenance contractor to provide RAMS for approval PRIOR to any visits.