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Revision C02

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Checked By RM

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External Works Outline Specification

For Construction

Client: IQ Student Accomodation

Project: Echo Street

Issue History:

02/05/2024	Stage 4/5 Issue	C01
15/12/2025	Stage 4 Update	P02
12/02/2026	Stage 4 update	P03
10/03/2026	Construction	C02

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E10
Mixing/casting/curing in situ concrete

Summary

Details of amended clauses

No changes to show.

Concrete

101 Specification

1. Concrete generally: To BS 8500-2.
2. Exchange of information: Provide concrete producer with information required by BS 8500-1, clauses 4 and 5.

132 Precast imprinted concrete retaining walls - Design Intent Only W1, W2 & W3

1. Description: To front and mid sections of fire escape ramp retaining walls at servicing yard. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7006 & 63073-PLA-ZZ-ZZ-DR-L-7007 for details.
2. Structural information to engineers specifications and details.
3. Imprinted Patterns: To be applied to W1 and W3.
   - 180mm with 10mm gaps.
4. FInish: Painted in Ral 7016 with 30% gloss.
5. Corner Finish: 15mm chamfered on all outer edges.
6. Additional mix requirements: None

Materials, batching and mixing

230 Interruption of supply during concreting

1. Elements without joints: Where elements are detailed to be cast in a single pour without joints, make prior arrangements for a back-up supply of concrete.
2. Elsewhere
   - 2.1. Preparation: Manage pour to have a full face, and have materials available to form an emergency construction joint while concrete can still be worked.
   - 2.2. Before pour is completed: Submit location and details of joint, make proposals for joint preparation.

415 Admixtures

1. Calcium chloride and admixtures containing calcium chloride: Do not use.

490 Properties of fresh concrete

1. Adjustments to suit construction process: Determine with concrete producer . Maintain conformity to the specification.

Project testing/ certification - Not Used

Placing/ compacting/ curing and protecting

648 Adverse temperature conditions

1. Requirement: Submit proposals for protecting concrete when predicted ambient temperatures indicate risk of concrete freezing or overheating.

Ω End of Section

Q10
Kerbs/ edgings/ channels/ paving accessories REVISED

Summary

Details of amended clauses

Change	Code	Prefix	Title	Suffix
REVISED	Q10/110		Precast Concrete Kerbs	K1/K2/K3/K4
REVISED	Q10/200		Aluminium Edging - Rigid	E1
ADDED	Q10/201		Aluminium Edging - Flexible	P2
DELETED	Q10/510		Laying kerbs, edgings and channels	
DELETED	Q10/530		Concrete for foundations, races and haunching	
DELETED	Q10/540		Cement mortar bedding	
DELETED	Q10/547		Bedding/ Backing of units on fresh concrete races	

Types of kerbs/edgings and channels

110 Precast Concrete Kerbs K1/K2/K3/K4 REVISED

1. Description:
    - Pre Cast Concrete Kerb With Bullnose Edge
    - To match specification on approved S278 drawings
2. Standard: To BS EN 1340.
3. Manufacturer: Marshalls Plc. or equal and approved.
4. Recycled content: As manufactured.
5. Size (width x height x length): 125 x 255 x 915mm.
   16-19mm radius of bullnose profile.
6. Finish: As cast.
7. Colour: Standard Grey
8. Bedding: To engineer's specification
9. Joints generally: Dry joints.
10. Designations::
    - K1 Laid to 125mm Upstand Kerb
    - K2 Laid to 50mm Upstand Kerb
    - K3 Laid Flush
    - K4 Drop Kerb
11. Laid:: Stack bond.
12. Abrasion resistance: : Includes transitions, to include bullnose profile.

121 Flush Granite Kerb K5

1. Standard: To BS EN 1343.
2. Supplier: Hardscape Products Ltd
3. Contact details
    - 3.1. Address: Eagley House
      Deakins Business Park
      Egerton
      Bolton
      Lancashire
      United Kingdom
      BL7 9RP
    - 3.2. Telephone: +44 (0)1204 565500
    - 3.3. Web: www.hardscape.co.uk
    - 3.4. Email: enq@hardscape.co.uk
4. Product reference: Granite Kerb
5. Stone type: Granite - Alpendorada Gre
6. Size (width x height): 215mm x 205mm x 915mm
7. Freeze/ Thaw resistance: Class 1 (resistant)
8. Finish: Flamed
9. Laid: Flush
10. Bedding: To engineer's details
11. Joints generally: Dry, 2-3mm gap
12. Sealant movement joints: Not required

180 Drainage channel systems with gratings Design Intent Only

1. Manufacturer: Aco or equal and approved
   1.1. Product reference: MultiDrain MD Brickslot
2. Size: Nominal bore 150 mm
3. Finish: Standard
4. Colour: Buff
5. Accessories: Inspection unit channels
6. Bedding: Concrete haunching to engineers specification.
7. Joints generally: To manufacturers details and specifications .

200 Aluminium Edging - Rigid E1 REVISED

1. Description: To east and west courtyards loose gravel maintenance edging. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-1001 & 63073-PLA-ZZ-ZZ-DR-L-1002 for details.
2. Manufacturer: Kinley Systems or equal and approved
   2.1. Product reference: Alu Excel Edging or equal and approved
3. Type/ Material: Aluminium
   3.1. Finish: Milled
   3.2. Colour: Standard
4. Laid: Laid flush
5. Bedding: To engineer's specification

201 Aluminium Edging - Flexible P2 ADDED

1. Description: To east courtyard loose gravel edging around feature tree. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-1001 for details.
2. Manufacturer: Kinley Systems or equal and approved
   2.1. Product reference: Alu Excel Edging or equal and approved
3. Type/ Material: Aluminium
   3.1. Finish: Milled
   3.2. Colour: Standard
4. Laid: Laid flush.
5. Bedding: To engineer's specification

Roads/paving accessories/ marking/ demarcation - Not Used

Laying

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.

630 Narrow mortar joints

1. Jointing: Ends of units buttered with bedding mortar as laying proceeds. Joints completely filled, tightly butted and surplus mortar removed immediately.
    1.1. Joint width: 3 mm.

640 Tooled mortar joints

1. Jointing: Ends of units buttered with bedding mortar as laying proceeds. Joints completely filled and tooled to a neat flush profile.
    1.1. Joint width: 6 mm.

Deleted clauses

~~510 Laying kerbs, edgings and channels~~ DELETED

~~530 Concrete for foundations, races and haunching~~ DELETED

~~540 Cement mortar bedding~~ DELETED

~~547 Bedding/ Backing of units on fresh concrete races~~ DELETED

Ω End of Section

Q22
Asphalt roads/ pavings REVISED

Summary

Details of amended clauses

Change	Code	Prefix	Title	Suffix
REVISED	Q22/140		Hot rolled asphalt with chipping	H13
DELETED	Q22/230		Samples	

Types of paving

140 Hot rolled asphalt with chipping H13 REVISED

1. Description: To servicing yard surfacing. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-1000 for location.
2. Standard: To BS EN 13108-4
3. Builups to engineers details and specification.
4. Surface course: HRA with Colourchip by Ayton or equal and approved.
   4.1. Compacted thickness: 50mm
5. Chipping colour: PC14 14-20mm Norfolk Gravel clear coated.
6. Surface treatment: Flint Gravel 14 mm coated chippings .
7. Other: Buildups to engineers details.
   Chippings to provide not less than 80% coverage of the finished asphalt surface.
8. Sample area: Construct a sample area of asphalt with chippings, minimum 2 x 2 m (or as instructed), to demonstrate the required finish, chipping coverage (minimum 80%), texture and appearance. Do not proceed with full installation until the sample area has been inspected and approved by the Landscape Architect.

Preparatory work/ requirements

220 Bituminous materials generally

1. Suppliers' names: Submit.
   1.1. Timing (minimum): Two weeks before starting work.
2. Test certificates: At the time of delivery for each manufacturing batch submit certificate:
   2.1. Confirming compliance with this specification and the relevant standard.
   2.2. Stating full details of composition of mix.

240 Acceptance of surfaces

1. Surface: Sound, clean and suitably close textured.
2. Level tolerances: To BS 594987.
3. Kerbs and edgings: Complete, adequately bedded and haunched and to the required levels.

250 Abutments

1. Vertical edges of manholes, gullies, kerbs and other abutments: Clean and paint with a thin uniform coating of hot applied 40/60 paving grade bitumen.
2. Finishing: Tamp surface around projections.
   2.1. Level: Flush or not more than 3 mm above projections.

Laying

310 Laying generally

1. Preparation: Remove all loose material, rubbish and standing water.
2. Adjacent work: Form neat junctions. Do not damage.
3. Channels, kerbs, inspection covers etc: Keep clean.
4. New paving
   4.1. Keep traffic free until it has cooled to prevailing atmospheric temperature.
   4.2. Do not allow rollers to stand at any time.
   4.3. Prevent damage.

4.4. Lines and levels: With regular falls to prevent ponding.

4.5. Overall texture: Smooth, even and free from dragging, tearing or segregation.

4.6. State on completion: Clean.

320 Adverse weather

1. Frozen materials: Do not use.
2. Suspend laying
   2.1. During freezing conditions
   2.2. If the air temperature reaches 0°C, or in calm dry conditions -3°C, on a falling thermometer.
   2.3. Hot rolled asphalt: During periods of continuous or heavy rain or if there is standing water on the base.

330 Levels

1. Permissible deviation from the required levels, falls and cambers (maximum): In accordance with BS 594987, clause 5.2.

Completion

390 Documentation

1. Standard: BS EN 13108-4
   1.1. Declaration of conformity: Submit.
2. Number of copies: 2
3. Submission: Two weeks prior to date when Contractor expects work to be complete

Deleted clauses

~~230 Samples~~ DELETED

Ω End of Section

Q23
Gravel/ hoggin/ woodchip/ resin bound roads/ pavings/ overlays REVISED

Summary

Details of amended clauses

Change	Code	Prefix	Title	Suffix
REVISED	Q23/160		Resin stripe to building interface	
REVISED	Q23/160A		H10 Gravel Stripe to both courtyards	
ADDED	Q23/160B		H10a Gravel to East Courtyard Feature Tree	
DELETED	Q23/225		Natural Aggregate Resin Bound Permeable Paving	

Types of surfacing

160 Resin stripe to building interface REVISED

1. Description: To area between building facade and kerb at servicing yard. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-1001 for details.
2. Buildup: To engineers details
3. Geotextile: To engineers details
4. Product: Addaset - Resin Bound Surfacing System or equal and approved
   - 4.1. Supplier:: Addagrip Terraco Ltd or equal and approved
     Telephone:
     +44 (0)1825 761333
     Web:
     https://www.addagrip.co.uk
     Email:
     sales@addagrip.co.uk
   - 4.2. Colour: Acorn

160A H10 Gravel Stripe to both courtyards REVISED

1. Description: To maintenance stripes at east and west courtyards. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-1001 and 63073-PLA-ZZ-ZZ-DR-L-1002 for details.
2. Geotextile: Geotextile membrane to base of trench
3. Granular sub-base: To engineers details and specification.
4. Gravel: Loose laid and raked to uniform thickness.
   - 4.1. Supplier:: Long Rake Spar or equal and approved.
   - 4.2. Type: Angular granite gravel.
   - 4.3. Colour: Golden Corn Flint
   - 4.4. Size: 10mm.
   - 4.5. Thickness: min. 50mm depth.
5. Accessories : Gravel Grid
   Product: Nidagravel 130 by Nidagravel or equal and approved.
   Size: 30mm thickness

160B H10a Gravel to East Courtyard Feature Tree ADDED

1. Description: To area around feature tree planting. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-1001 for details.
2. Geotextile: Geotextile membrane to base
3. Gravel: Loose laid and raked to uniform thickness.
   - 3.1. Supplier:: Long Rake Spar or equal and approved.
   - 3.2. Type: Angular granite gravel.
   - 3.3. Colour: Golden Corn Flint
   - 3.4. Size: 10mm.
   - 3.5. Thickness: min. 30mm depth.

Laying

320 Samples

1. Submit: Representative samples of all aggregates.

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.

Completion - Not Used

Deleted clauses

~~225 Natural Aggregate Resin Bound Permeable Paving~~ DELETED

Ω End of Section

Q25
Slab/brick/sett/cobble pavings REVISED

Summary

Details of amended clauses

Change	Code	Prefix	Title	Suffix
REVISED	Q25/109	B	Yorkstone Sett Paving H3	
REVISED	Q25/109A		Yorkstone paving H2	
REVISED	Q25/110		Tegula Concrete Setts to parking bay H4 & H4a	
REVISED	Q25/120		Perfecta Smooth Ground Paving	H1
REVISED	Q25/125A		Permeable Concrete Paving	H11
REVISED	Q25/127		Porcelain Tiles	H8
REVISED	Q25/128		Tactile blister paving to pedestrian crossing	B1
DELETED	Q25/110	A	Tegula Concrete Setts to demarcate parking bay H5	
DELETED	Q25/650		Cementitious bases and sub-bases	
DELETED	Q25/655		Condition of sub-bases/ bases before spreading laying course	
DELETED	Q25/695		Site mixed mortar	

Clauses

2 To be read with preliminaries/ general conditions.

General

100 Natural stone - general note

1. For all natural stone.
2. Quality:
    - Free from vents, cracks, fissures, discolouration, or other defects deleterious to strength, durability or appearance.
    - Dress and work in accordance with shop drawings prepared by supplier.
3. Product must be CE marked by manufacturer to confirm compliance with Standards and support documentation must be relevant to shipping number of delivery. CE Cert to be supplied.
4. Testing:
    - British Standard Test Data to be submitted with the tender to ensure technically suitable materials.
    - UKAS or EUAS Lab Tests that are Date valid to include dates of test & location. Petrographical description.
5. Method of Fixing: Production QMS: To ISO 9001 quality standard specific for the design and manufacture of natural stone. ISO 9001 Certificate to be provided.
6. Ethics: Supplier must evidence the UN Guiding Principles for Human Rights in Business
7. Supplier must evidence the UN Guiding Principles for Human Rights in Business throughout their supply with graduation to achiever status membership of the Ethical Trading Initiative or equal and approved International Body. Evidence of membership level from ETI to be provided.

109 B Yorkstone Sett Paving H3 REVISED

1. Refer to drawing 63073-PLA-XX-ZZ-DR-L-1000
2. Standard: To BS EN 1341.
3. Supplier: Marshalls or equal and approved
    3.1. Product reference: Whitworth Yorkstone
4. Stone type: Yorkstone.
5. Finish: Sawn
6. Sizes: 160 L x 80 W x 80 D mm for standard units.
7. Jointing: To clause Q25/ 455
8. Laid: Stretcher Bond
9. Bedding, priming and jointing: To clause Q25/435 and engineer's detail and specification.
10. Samples: Samples to be approved
11. For approval prior to ordering.
12. Build up and sub base details to engineers specification.

109A Yorkstone paving H2 REVISED

1. Refer to drawing 63073-PLA-XX-ZZ-DR-L-1000
2. Standard: To BS EN 1341.
3. Supplier: Hardscape or equal and approved
    3.1. Product reference: Whitworth Yorkstone
4. Stone type: Yorkstone.

5. Finish: Sawn
6. Sizes: 600 L x 300 W x 50 D mm
7. Jointing: To clause Q25/ 455
8. Laid: Stretcher Bond
9. Bedding, priming and jointing: To clause Q25/435 and engineer's detail and specification.
10. Samples: Samples to be approved
11. For approval prior to ordering.
12. Build up and sub base details to engineers specification.
13. Cut units: Lengths no smaller than 100mm.
14. Accessories: Proprietary stone sealant applied after installation to protect stone and seal jointing material. Product should be tested on sample panel prior to installation on

110 Tegula Concrete Setts to parking bay H4 & H4a REVISED

1. Refer to drawing 63073-PLA-XX-ZZ-L-1000 GA for details of location
2. Material: Concrete
3. Supplier: Marshalls or equal and approved.
   Tel: 0333 363 6459.
4. Colours: Traditional.
5. Sizes: L 160 x W 120 x D 60 mm
6. Laid: Stretcher Bond. Rigid Buildup. Laid pattern vertically to access zone around parking bays.
7. Bedding, Priming and Jointing: to clause Q25/435 and engineer's detail and specification.
8. Samples: Samples to be approved
9. Build up and sub base details to engineers specification.

120 Perfecta Smooth Ground Paving H1 REVISED

1. Refer to drawing 63073-PLA-XX-ZZ-L-1000 GA for details of location
2. Supplier: Marshalls or equal and approved.
   Tel: 0333 363 6459.
3. Colours: Natural, to match existing.
4. Sizes: L 450 x W 450 x D 50 mm
5. Laid: Stretcher Bond. Rigid Buildup
6. Bedding, Priming and Jointing: to clause Q25/435 and engineer's detail and specification.
7. Samples: Samples to be approved

125A Permeable Concrete Paving H11 REVISED

1. To East Courtyard.
   Refer to drawing 63073-PLA-XX-ZZ-L-1001 for details of location
2. Material: Concrete
3. Product: Ecogranite permeable aquaslab or equal and approved
4. Supplier: Hardscape or equal and approved.
   Tel: 01204 565 500.
5. Colours: Truto
6. Sizes: L 300 x W 450 x D 60 mm
7. Laid: Stack Bond.
8. Bedding, Priming and Jointing: To be laid on permeable laying course. To engineer's detail and specification.

9. Samples: Samples to be approved

127 Porcelain Tiles H8 REVISED

1. To West Courtyard
   Refer to drawing 63073-PLA-XX-ZZ-L-1002 for details of location
2. Product: Quadro or equal and approved
3. Supplier: Ryno or equal and approved.
4. Colours: Argento
5. Sizes: L 600 x W 600 x D 20 mm
6. Laid: Stack Bond.
7. Pedestales: Non-combustible adjustable aluminium pedestals.
   Product: RP-FR Adjustable Paving Support Pedestal by Ryno or equal and approved.
   Reference: RP-FR-5
8. Samples: Samples to be approved.
9. Build up and sub-base to engineers details and specification.
10. Accessories:
    - Anti-slip aluminium nosing edge on step. Colour: Black.
    - Contractor's choice: Submit sample for approval
    - Wind uplift clips not required due to surrounding buildings and structures

System performance - Not Used

Products

128 Tactile blister paving to pedestrian crossing B1 REVISED

1. Refer to drawing 63073-PLA-XX-ZZ-L-0001 and 63073-PLA-XX-ZZ-L-7010 for location and details.
   Refer to approved S278 drawings.
2. Standard: To BS EN 1341
3. Supplier: Marshalls or equal and approved.
   Tel.0333 363 6459 .
4. Product reference : Marshall blister paving
5. Colour: Charcoal
6. Sizes: L 400 x W 400 x D 50mm
7. Laid: Stack Bond
8. Bedding, Priming and Jointing: to clause Q25/435 and engineer's detail and specification.
9. Build up and sub base details to engineers specification.

435 Primer for underside of flags and slabs

1. Description: To all natural stone areas
2. Manufacturer: Steintec Ltd or equal and approved.
   Tel: 01708 860 049.
   2.1. Product reference: Steintec Tuffbond or equal and approved.

455 Jointing mortar for all natural stone areas

1. Manufacturer: Steintec Ltd or equal and approved; t: 01708 860 049
   1.1. Product reference: Steintec TuffTop or equal and approved
2. Joint widths: 6mm

456 Bedding mortar

1. Manufacturer: Steintec Ltd or equal and approved; t: 01708 860 049
   1.1. Product reference: Steintec Tuffbed or equal and approved
2. Depth: To engineers specification.

480 Aluminium Pedestal 115-205

1. Description: To support porcelain pavers and composite decking in East and West Courtyards.
2. Manufacturer: Ryno or equal and approved.
   2.1. Product reference: RP-FR-5
3. Type: Adjustable
4. Material: Aluminium
5. Dimensions: H 115-205mm adjustable x Base 120 x 120mm

480A Aluminium Pedestal 50-70

1. Description: To support porcelain pavers and composite decking in East and West Courtyards.
2. Manufacturer: Ryno or equal and approved.
   2.1. Product reference: RP-FR-3
3. Type: Adjustable
4. Material: Aluminium
5. Dimensions: H 50-70mm adjustable x Base 120 x 120mm

480B Aluminium Self-leveling Pedestal

1. Description: To support porcelain pavers over ramp area at Western Courtyard.
2. Manufacturer: Ryno or equal and approved.
   2.1. Product reference: RPA-FR-5 & **RPA-FR-6**
3. Type: Adjustable
4. Material: Aluminium
5. Dimensions: RPA-FR-5 : H 110-190mm
   RPA-FR-6: H 190-305mm

Execution

610 Material samples

1. Samples representative of colour and appearance of designated materials: Submit before placing orders.
   1.1. Designated materials: All pavings

620 Adverse weather

1. General
   1.1. Temperature: Do not lay or joint paving if the temperature is below 3°C on a falling thermometer or below 1°C on a rising thermometer.
   1.2. Frozen materials: Do not use. Do not lay bedding on frozen or frost covered bases.
2. Paving with mortar joints and/ or bedding
   2.1. Protect from frost damage, rapid drying out and saturation until mortar has hardened.
3. Paving laid and jointed in sand:
   3.1. Stockpiled bedding sand: Protect from saturation.

3.2. Exposed areas of sand bedding and uncompacted areas of sand bedded paving: Protect from heavy rainfall.

3.3. Saturated sand bedding: Remove and replace, or allow to dry before proceeding.

3.4. Laying dry-sand jointed paving in damp conditions: Brush in as much jointing sand as possible. Minimize site traffic over paving. As soon as paving is dry, top up joints and complete compaction.

625 Laying pavings – general

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

630 Levels of paving

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

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: 5 mm.
   1.2. Precast concrete flags or natural stone slabs: 3 mm.
2. Difference in level between adjacent paving units (maximum): 1 mm.
3. Sudden irregularities: Not permitted.

640 Colour banding

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

645 Protection

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

710 Laying flag and slab paving – sand/ fine aggregate laying course and jointing

1. Standard: In accordance with BS 7533-4.
2. Flag installation and cutting: To Interpave Concrete flag paving and Perfecta Paving
3. Laying course
   3.1. Nominal thickness after compaction: 40mm.
4. Joint width: 2-5 mm.

750 Laying natural stone cobble paving

1. Bedding, laying, jointing and completion: In accordance with BS 7533-7 and -10.

Completion

930 Slip resistance testing

1. Surfaces to be tested: Porcelain paving area
   1.1. Surface condition: Dry and wet
2. Timing: As agreed with contract administrator
3. Period of notice (minimum): 3 working days.
4. Test standard: To BS 1134
   4.1. Testing authority: An approved laboratory
   4.2. Witnessing/ Certification: Arrange for tests to be witnessed/ certified by: Consultant/ Contract administrator.
   4.3. Report: Submit.

Deleted clauses

~~110 A Tegula Concrete Setts to demarcate parking bay H5~~ DELETED

~~650 Cementitious bases and sub-bases~~ DELETED

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

~~695 Site mixed mortar~~ DELETED

Ω End of Section

Q28
Topsoil and soil ameliorants REVISED

Summary

Details of amended clauses

Change	Code	Prefix	Title	Suffix
REVISED	Q28/135		Lightweight topsoil system - to all planters at west courtyard	
ADDED	Q28/136		Lightweight subsoil system - to all planters at west courtyard	
REVISED	Q28/670J		Soil Depths	
REVISED	Q28/845		Applying loose mulch to trees in raised planters and free standing planters	
REVISED	Q28/920		Applying mulch	
DELETED			Testing For Site Won Soils	

System outline

105 Container planting growing media system

1. Description: To all raised planters in courtyards and free standing planters at building entrance
2. Composition
   2.1. Growing media: Imported topsoil to BS 3882
   2.2. Ameliorants: Fertilizer to be incorporated into topsoil.

115 Topsoil system for extensive roof substrate

1. Description: For all biodiverse roof on link buildings between block A-B and block B-C.
2. Composition
   2.1. Topsoil: BauderGreen Sub-BM biodiverse substrate or equal and approved.

135 Lightweight topsoil system - to all planters at west courtyard REVISED

1. Description: Lightweight top soil substrate. To planters in west podium garden.
2. Product: Green-tree Intensive Roof Garden Substrate by Green-tech or equal and approved.
   Reference: **190GT3551-PRO**
3. Depth: Planting beds: minimum 300mm.
   Tree pits: minimum 300mm.

136 Lightweight subsoil system - to all planters at west courtyard ADDED

1. Description: Light weight subsoil substrate. To planters in west podium garden.
2. Product: Green-tree Roof Garden Subsoil or equal and approved.
   Reference: **190GT4569-PRO**
3. Depth: Planting beds: minimum 300mm.
   Tree pits: minimum 600mm.

155 Mulching and top dressing system

1. Description:

   Product (Benchmark for desired quality): 'Pine Ornamental Bark'
   18-35mm
   Supplier: https://www.ahs-ltd.co.uk
   phone: 0333 207 0440
2. Thickness:: See detailed drawings for depths, typically 75mm depth.

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.

301 Topsoil Analysis

1. Soil to be analysed: on site topsoil, any imported topsoil.
2. Soil analyst: Voelker Consultants or equal and approved
   Address: Glossop House, Hogwood Lane, Wokingham, Berks, RG40 4QW.
   Tests should confirm that topsoil is in compliance with BS3882. 2015.
3. Samples: Collect in accordance with BS 3882:2015.
4. Submit:
   - Declaration of analysis: basic analysis testing: description of the samples in terms of colour, structure, consistency, stone content, presence of foreign matter or evidence of pernicious weeds such as Japanese Knotweed, a laboratory analysis detailing dry weight organic matter content, fertility, physical and chemical characteristics, recommendations of amelioration required to improve structure or nutrient content of the topsoil, throughout the duration of the project test: quantitate and qualitative analysis of site topsoil prior to work commencing, nutrient content and physical structure of existing topsoil, contamination of stockpiled topsoil with subsoil due to inaccurate site stripping operations, depth and quality of installed topsoil prior to planting, analysis of chemical contamination of the existing topsoil or materials to be used in a manufactured topsoil.
   - Report detailing soil analyst's recommendations.

310 Materials not permitted

1. Materials: Products containing peat

315 Imported topsoil to BS 3882

1. Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
2. Standard: To BS 3882.
3. Classification: Multipurpose with the pH levels confirmed at source.
4. Source: Contractor's choice . Provide qualitative analysis and sourse details prior to delivery to site. Report is to include recommendations for soil improvement if required.
   4.1. Product reference: Not required.

331 Fertiliser For Trees and Shrubs

1. Type: Scotts Enmag CRF (11%N:22%P2O5:9%K2O:6%MgO)

386 Topsoil Ameliorant

1. Location: To all raised planters and free standing planters
2. Type: Spent mushroom compost
3. Reference / description / grade: TBA
4. Coverage: Consolidated depth of 75mm cultivated into the top 300mm of topsoil rate to be agreed.
5. Timing: Apply prior to cultivation.

400 Green Compost for Soil Amelioration

1. Standard: In accordance with BSi PAS 100:2011 or current revision.
2. Source: From PAS 100 compliant facility.
3. Parameter Unit Lower Limit Upper Limit
   pH Value Unit 7.5 8.5
   Electrical Conductivity µS/cm 750 1400

Moisture Content % 35 45
Bulk Density g/l 450 550
Particle Size / Grading mm - 10
Organic Matter % 25 35
Total Nitrogen % 0.5 1.5
C : N rati - 20 -
Ammonia N mg/l 1.0 5.0
Nitrate N mg/l 5 120
Total Phosphorus % 0.1 0.3
Soluble Phosphorus mg/l 4 30
Total Potassium % 0.5 1.5
Soluble Potassium mg/l 650 1200
Free Carbonate % - 5
Water Soluble Sodium mg/l - 200
Water Soluble Chloride mg/l - 850

600 Importing Topsoil and Subsoil

1. The Contractor shall allow sufficient time for sourcing and testing the necessary soils to meet the requirements of Q28.
2. A copy of the Soft Landscape specification and the proposed planting list /drawings shall be provided for review by the Soil Scientist and for reference within the test report(s).
3. The Contractor shall appoint a suitably qualified and approved, independent Soil Scientist to undertake the sampling and testing of the soil materials considered for importation.
4. The Contractor shall await written approval from the Contract Administrator prior to importing soil materials to site.

Execution

630 Documentation for imported topsoil

1. Description: The Contractor shall provide the Contract Administrator with the appointed Soil Scientist's report for each source and type of topsoil and subsoil to be imported.
2. Timing: At least one week prior to delivery.
3. Report Contents/Information::

   - Source name and location;
   - Date of sampling;
   - Details of the Soil Scientist, including company information, qualifications;
   - Photographs of the stockpile and the soils;
   - Visual examination;
   - Certificate of Analysis;
   - Interpretation of all results with comments on the suitability of the soil for the proposed landscape scheme:
   - Recommendations for soil improvements, treatments, additives.
4. Number of copies: One (in digital form)

631 Sampling and Testing - Imported Soils

1. The soil materials considered for importation shall be independently sampled while stockpiled off site at their source or manufacture location.
2. The samples shall be truly representative of the soil to be offered. One Composite Sample shall be taken for every 500m3 of each type of soil to be imported, with a minimum of 3 no. samples to be tested per source (unless alternative testing rates have been agreed with the Landscape Architect).
3. Samples shall be analysed strictly in accordance with relevant Testing Schedule given in clauses Q28 632 and 634.

4. The samples shall be analysed and reported on a 10 working day turnaround and the Contractor should incorporate this in their programme. An accelerated analysis turnaround will be permitted at the Contractor's cost where programme constraints deem this necessary.
5. The sampled soil materials shall be temporarily stockpiled at the source location until the Contract administrator has provided written approval on its suitability for use within the project.

632 Imported Topsoil - Testing Schedule

1. Topsoil samples shall be tested prior to approval by the Contract Administrator. The following parameters shall be requested (methods in accordance with BS 3882:2015, or as indicated):
   1. Visual examination to record Munsell colour, moisture status, aerobic state, soil structure, texture, stoniness (size & shape), the presence of any deleterious materials
   2. pH Value (1:2.5 soil/water extract)
   3. Electrical Conductivity (1:2.5 soil/water extract)
   4. Electrical Conductivity (1:2.5 soil/CaSO4 extract)
   5. Exchangeable Sodium Percentage
   6. Particle Size Analysis (clay, silt, 5 sands – USGA sieve sizes)
   7. Stone Content by % weight (2-20mm, 20-50mm, >50mm)
   8. Total Nitrogen (% - Dumas Method)
   9. Extractable Phosphorus, Potassium & Magnesium (RB427 Method)
   10. Organic Matter (%)
   11. Carbon: Nitrogen rati(by calculation)
   12. Calcium Carbonate (%)
   13. Potential Contaminants – See parameters in Clause Q28/636
2. Additional samples and/or additional testing (eg. saturated hydraulic conductivity) may be required if the initial results are not satisfactory or conclusive.

633 Imported Topsoil - Quality

1. Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
2. The topsoil shall comply with the following lower and upper limits:
   Parameter Unit Lower Limit Upper Limit.
   Clay (<0.002mm) % 5-18
   Silt (0.002-0.05mm) % 5-35
   Sand (0.05-2.0mm) Of which at least 45% shall fall into fine tmedium sand range
   % 55 85
   Stones (2-20mm) % DW - 15
   Stones (20-50mm) %DW - 20
   Stones (>50mm) %DW - 0
   pH Value Unit 5.5 8.5
   Electrical Conductivity (1:2.5 water extract)
   µS/cm - 1500
   Electrical Conductivity (CaSO4 extract)
   µS/cm - 2800
   Exchangeable Sodium % - 15
   Calcium Carbonate % - 5
   Organic Matter % 3.0 8.0
   Total Nitrogen % - 0.15
   Carbon: Nitrogen Rato -20:1
   Extractable Phosphorus mg/l 26 100
   Extractable Potassium mg/l 240 1200
   Extractable Magnesium mg/l 50 600

634 Subsoil - Testing Schedule

1. Subsoil samples shall be tested prior to approval by the Contract Administrator. The following parameters shall be requested (methods in accordance with BS3882:2007 or as indicated):

2. 1. Visual examination to record Munsell colour, moisture status, aerobic state, soil structure, texture, stoniness (size & shape), the presence of any deleterious materials
   2. pH Value (1:2.5 soil/water extract)
   3. Electrical Conductivity (1:2.5 soil/water extract)
   4. Electrical Conductivity (1:2.5 soil/CaSO4 extract)
   5. Exchangeable Sodium Percentage
   6. Particle Size Analysis (clay, silt, 5 sands – USGA sieve sizes)
   7. Stone Content by % weight (2-20mm, 20-50mm, >50mm)
   8. Calcium Carbonate (% - BS7755:3:10:1995)
   9. Organic Matter (%)
   10. Potential Contaminants – See parameters in Clause Q28/636
3. Additional samples and/or additional testing (eg. saturated hydraulic conductivity) may be required if the initial results are not satisfactory or conclusive.

635 Documentation for compost and composted materials

1. Timing: Submit at handover.
2. Contents
   2.1. Full description of all compost components.
   2.2. Record of source for all compost components.
   2.3. Analyst's report for each test carried out.
   2.4. Declaration of compliance: in accordance with PAS 100 and BSI PD CR 13456.
   2.5. Quality Compost Protocol certification:
3. Number of copies: 1 (digital).

636 Imported Subsoil - Quality

1. Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
2. The subsoil shall comply with the following lower and upper limits:
   Parameter Unit Lower Limit Upper Limit
   Clay (<0.002mm) % 0 18
   Silt (0.002-0.05mm) % 0 35
   Sand (0.05-2.0mm)
   Of which at least 40% shall fall intfine tmedium sand range
   % 60 90
   Stones (2-20mm) %DW -- 35
   Stones (20-50mm) %DW -- 15
   Stones (>50mm) %DW -- 0
   pH Value Unit 5.0 8.5
   Electrical Conductivity (1:2.5 water extract)
   µS/cm -- 1500
   Electrical Conductivity (CaSO4 extract)
   µS/cm -- 2800
   Exchangeable Sodium Percentage % -- 15
   Organic Matter % -- 1.5
   Calcium Carbonate % -- 5

637 Environmental Requirements

1. The following Generic Assessment Criteria (GAC) shall be used as Tier 1 screening values for the assessment of soil(s) to be used, unless Site-Specific Assessment Criteria (SSAC) are available for the site where the soil(s) is to be used.
2. In circumstances where any of these values are exceeded, further risk assessment and/or testing should be undertaken to confirm the significance of the non-compliance.

3. Parameter Unit Generic Assessment Criteria
   Inorganic Arsenic mg/kg 3 2
   Boron (soluble) mg/kg 5
   Cadmium mg/kg 3
   Chromium (III) mg/kg 3 000
   Chromium (IV) mg/kg 4 .3
   Copper mg/kg 1 00
   Lead mg/kg 4 50
   Mercury mg/kg 1
   Nickel mg/kg 6 0
   Selenium mg/kg 3 50
   Zinc mg/kg 2 00
   Phenol mg/kg 4 20
   Benzene mg/kg 0 .33
   Toluene mg/kg 6 10
   Ethylbenzene mg/kg 3 50
   Xylene - m mg/kg 2 40
   Xylene - mg/kg 2 50
   Xylene - p mg/kg 2 30
   Aliphatics C5-C6 mg/kg 1 10
   Aliphatics C6-C8 mg/kg 3 70
   Aliphatics C8-C10 mg/kg 1 10
   Aliphatics C10-C12 mg/kg 5 40
   Aliphatics C12-C26 mg/kg 3 000
   Aliphatics C16-C35 mg/kg 7 6,000
   Aromatics C5-C7 mg/kg 2 80
   Aromatics C7-C8 mg/kg 6 11
   Aromatics C8-C10 mg/kg 1 51
   Aromatics C10-C12 mg/kg 3 46
   Aromatics C12-C16 mg/kg 5 93
   Aromatics C16-C21 mg/kg 7 70
   Aromatics C21-C35 mg/kg 1 230
   Acenaphthene mg/kg 4 80
   Acenaphthylene mg/kg 4 00
   Anthracene mg/kg 4 900
   Benzo(a)anthracene mg/kg 4 .7
   Benzo [a]
   pyrene mg/kg 0 .94
   Benzo(b)fluoranthene m g/kg 6 .5
   Benzo(g,h,i)perylene m g/kg 4 6
   Benzo(k)fluoranthene m g/kg 9 .6
   Chrysene mg/kg 8 .0
   Dibenzo [a,h]
   anthracene mg/kg 0 .86
   Fluoranthene mg/kg 4 60
   Fluorene mg/kg 3 80
   Indeno(1,2,3-cd)pyrene mg/kg 3 .9
   Naphthalene mg/kg 3 .7
   Phenanthrene mg/kg 2 00
   Pyrene mg/kg 1 000
   Total Cyanide mg/kg 2 0
   Asbestos screen Present/Absent Absent
4. GAC values derived from CLEA SGV 2009, LQM/CIEH 2009 and BS 3882:2015

640 Documentation for preparation materials

1. Timing: Submit at handover.
2. Contents
   2.1. Full description of all components.

2.2. Record of source for all components.
2.3. Analyst's report for each test carried out.
2.4. Supplier's declaration of compliance with BSI PD CR 13456.

3. Number of copies: 1 (digital).

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: 5 days.

655 Mechanical tools

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

660 Grading subsoil for:

1. Description: Ornamental and 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.

670J Soil Depths REVISED

1. For information on soil depths refer to construction details.
2. Shrubs and herbaceous: Minimum 300mm top soil
   Minimum 300mm sub soil
3. Semi-mature tree: Minimum 300mm top soil
   Minimum 600mm sub soil

675J Inspecting Formations

1. Give notice: Before spreading topsoil for:
   - raised planters
   - tree pits
2. Notice Period: 7 days.

690 Topsoil storage heaps

1. Location: As agreed with contract administrator.
2. Height (maximum): 3.0m unless advised by the appointed Soil Scientist
3. Protection
   3.1. To protect from wet weather once the final height is achieved, a tracked dozer shall regrade the sides and top of each stockpile to encourage water to runoff. The tracked dozer shall then compact down the surface of the stockpile by tracking across it to seal in the dry soil and reduce rainfall infiltration.
   3.2. Do not place any other material on top of storage heaps.

3.3. New Item: Do not place any other material on top of or adjacent to each stockpile.

3.4. New Item: Do not place different soil types on top of or adjacent to each stockpile.

3.5. Do not allow construction plant to pass over storage heaps.

3.6. Prevent compaction and contamination, by fencing and covering as appropriate.

690J Handling Topsoil and Subsoil

1. Plant: Select and use plant to minimise disturbance, trafficking and compaction.
2. Contamination: Do not mix topsoil with:
   - Subsoil, stone, hardcore, rubbish or material from demolition work.
   - Other grades of topsoil.
3. Multiple handling: Keep ta minimum. Use or stockpile topsoil immediately after stripping.
4. It is important to avoid physical degradation to the soil during all phases of soil handling (e.g. spreading, cultivation, amelioration, planting, turfing and seeding). As a consequence, soil handling operations shall be carried out when soil is non-plastic (friable) in consistency (i.e. at least 5% below the soil's lower plastic limit).
5. Soil shall not be unnecessarily compacted by trampling or trafficking by site machinery.
6. Soil shall not be handled when frozen unless authorised by the Contract Administrator.
7. Soil handling shall be stopped during and after heavy rainfall, and not continue until the soil has regained a non-plastic (friable) consistency.
8. If, during the course of the soiling and landscape works, the soil is compacted, it shall be suitably cultivated to relieve the compaction and restore the structure prior to any planting, turfing or seeding.

691 Soil Decompaction and Cultivation

1. Soil Decompaction: After spreading topsoil, the soil profile shall be ripped at 300mm centres to a minimum depth of 300mm to decompact the soils and key in the topsoil and subsoil layers.
   - use appropriate tillage equipment (e.g. rigid tine attachment, subsoiler, chisel plough).
2. Timing: when weather and ground conditions are suitably dry and non-plastic.
3. Further cultivation: Any large, compacted lumps of soil shall be broken down by further appropriate cultivation (in accordance with BS 4428) to produce a fine tilth suitable for planting (<30mm), turfing and seeding (<10mm).
4. The topsoil may be anaerobic after storage in a temporary stockpile - cultivations shall ensure that the topsoil is fully aerated.
5. Only when the topsoil has lost any sour odour and grey colouration (symptoms of anaerobism) will it be satisfactory for planting, turfing or seeding.
6. Any undesirable material brought to the surface during this exercise shall be removed by picking or raking. For example, stones, fill materials and coarse vegetation larger than 50mm in any dimension.
7. Surface: Leave regular and even.
8. Levels: As shown on drawings.
9. Soil within root spread of trees and shrubs to be retained: Do not dig or cultivate.

700 Grading of topsoil

1. Topsoil condition: Reasonably dry and workable.
2. Contours: Smooth and flowing, with falls for adequate drainage.
   2.1. Hollows and ridges: Not permitted.
3. Finished levels after settlement:: As per design.
4. Give notice: If required levels cannot be achieved by movement of existing soil.
5. Other:: Factor in allowance for mulch layer.

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

1. Standard: In accordance with BS 3882.
2. Layers
   2.1. Depth (maximum): 300 mm.
   2.2. Gently firm each layer before spreading the next.
3. Depth after firming and settlement: Planted areas: 300mm.
4. 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 raised planters and tree pits.
2. Compacted topsoil: Break up to full depth.
3. Tilth: Loosen, aerate and break up topsoil to a tilth suitable for blade grading.
4. Depth: 150mm
5. Particle size (maximum): 10mm
6. Timing: Within a few days before planting.
7. Weather and ground conditions: Suitably dry.
8. Surface: Leave regular and even.
9. Undesirable material brought to the surface
   9.1. Remove visible weeds.
   9.2. Remove roots and large stones with any dimension exceeding 30mm.

730 Green roof 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): 100 - 250mm.
   2.2. Sequence: Gently firm each layer before spreading the next.

830J Applying Fertiliser for Tree and Shrubs

1. Description: Apply and incorporate compound, slow release fertiliser Scotts Enmag CRF (11%N:22%P2O5:9%K2O:6%MgO) at a rate of 80 g/m2 and to depth of 150mm.
2. Timing: Apply 5-10 days prior to planting.

845 Applying loose mulch to trees in raised planters and free standing planters REVISED

1. Description: For planting areas.
2. Timing: Immediately after planting.
3. Preparation: Clear all weeds and ensure that soil is thoroughly moistened, applying water where necessary.
4. Coverage of mulch (minimum)
   - 4.1. Planting beds (depth): 50 mm depth
   - 4.2. Trees: 50 mm depth
5. Finished level of mulch: 30mm below planter edge

Completion

920 Applying mulch REVISED

1. Timing: At the end of the maintenance period.
2. Watering: Ensure that soil is thoroughly moistened prior to mulching, applying water where necessary.
3. Trees: Remulch.
   - 3.1. Depth (minimum): 50 mm depth
4. Container planting: Remulch.
   - 4.1. Depth (minimum): 50mm depth

Deleted clauses

~~Testing For Site Won Soils~~ DELETED

Ω End of Section

Q31
External planting REVISED

Summary

Details of amended clauses

Change	Code	Prefix	Title	Suffix
REVISED	Q31/215		Plants/ Trees – specification criteria	
REVISED	Q31/480		After planting	
REVISED	Q31/485		Mulching raised planter	
REVISED	Q31/485		Mulching free standing planters	A
REVISED	Q31/790		Final mulching	
DELETED	Q31/385		Mulch matting/ Geotextile fabric	
DELETED	Q31/410		Formal Instant Hedges	
DELETED	Q31/420		Climbing plants	
DELETED	Q31/463		Pre-planted mats	
DELETED	Q31/505		Tree pits for made ground	
DELETED	Q31/513		Tree pit root barriers in hard	
DELETED	Q31/515		Tree pit irrigation	
DELETED	Q31/520		Cellular structural soil system for trees in hard landscape	
DELETED	Q31/526		Underground guying for trees in hard landscape	

General information/ requirements

112 Site clearance generally

1. General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
2. Stones: Remove those with any dimension exceeding 50 mm.
3. Contamination: Substances injurious to plant growth including subsoil, rubble, fuel, and lubricants
4. Vegetation: Clear surface vegetation in areas shown on drawings using suitable nonresidual herbicide.
5. Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.

118 Soil conditions

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

120 Climatic conditions

1. General: Carry out the work while soil and weather conditions are suitable.
    1.1. Strong winds: Do not plant during periods of frost or strong winds.

125 Times of year for planting

1. Deciduous trees and shrubs: Late October to late March.
2. Conifers and evergreens: September/ October or April/ May.
3. Herbaceous plants (including marginal): September/ October or March/ April.
4. Container grown plants: At any time if ground and weather conditions are favourable. Ensure that adequate watering and weed control is provided
    4.1. Watering and weed control: Provide as necessary.
5. Dried bulbs, corms and tubers: September/ October.
6. Biodiverse roof vegetation blankets:: September/ October or April/ May.

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.

156 Bark Mulch

1. Product (Benchmark for desired quality): 'Pine Ornamental Bark'
   18-35mm or equal and approved
   Supplier: https://www.ahs-ltd.co.uk
   phone: 0333 207 0440

2. In all raised planters to two courtyards
3. 75mm consolidated depth - refer to drawings for details

165 Preparation, Planting and Mulching Materials

1. General: Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
2. Certification: Submit a certificate giving supply source, content analysis, confirmation of suitability for purpose and confirmation of absence of harmful substances.
   - Certified materials: Mulches.
   - Give notice before ordering or using.

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: Tree pit backfilling soil system, as section Q28
   1.3. External container planting: Container planting growing media system, as section Q28
   1.4. 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: To requirements of the relevant parts of BS 3936 and balanced with branch system.
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 REVISED

1. Name, forms, dimensions, provenance and other criteria: As scheduled and defined in the National Plant Specification.
2. Schedule of plants/trees:: Refer to drawing *63073-PLA-XX-ZZ-DR-L-2000* , *63073-PLA-XX-ZZ-DR-L-2003* and *63073-PLA-XX-ZZ-DR-L-2004* for details.

218 Semi-Mature Trees: General

1. To BS 4043, sizes and other criteria as scheduled.
2. Trees shall be obtained from one of the sources listed in clause Q31/248J Under no circumstances will other sources be considered at the time of tender.
3. Transplant to BS 4043 unless specified otherwise in this clause.
4. Trees grown in nurseries shall have been transplanted every 4-5 and 6-8 years comparable to their height and rootball size.
5. All imported material must have proof of being free of disease. A certificate of health must be provided for inspection by the CA and the Local Authority Forestry OfficerOrigin and Provenance have the meaning given in the National Plant Specification.

6. Tree species have been chosen to reflect the sites location. All trees will be sourced from regions of similar climatic conditions and we would recommend that trees are hardened off at local nurseries before being planted. Tree species requires further detail specification

219 Multi-stem Trees: General

1. To BS 4043, sizes and other criteria as scheduled.
2. Trees shall be obtained from one of the sources listed in clause Q31/248 Under no circumstances will other sources be considered at the time of tender.
3. Transplant to BS 4043 unless specified otherwise in this clause.
4. Trees grown in nurseries shall have been transplanted every 4-5 and 6-8 years comparable to their height and rootball size.
5. All imported material must have proof of being free of disease. A certificate of health must be provided for inspection by the CA and the Local Authority Forestry OfficerOrigin and Provenance have the meaning given in the National Plant Specification.
6. Tree species have been chosen to reflect the sites location. All trees will be sourced from regions of similar climatic conditions and we would recommend that trees are hardened off at local nurseries before being planted. Tree species requires further detail specification

225 Bulbs/ Corms/ Tubers

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

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.

2. Additional information: Submit on request: Date supplied. Country of origin Date supplied and consignment details or reference Type of container.

246 Labelling and information

1. Standard: To BS 3936.

248 Approved Tree Suppliers

1. All trees and shall be obtained from one of the sources identified in the categories listed. If alternatives are submitted then they will be done so at time of tender, photographs and details will also be provided.
2. Landscape architect to be invited to check and tag all plant material.
3. Listed Tree Suppliers: Hillier 01794 368 733 , Deepdale Trees 01767 26 26 36 and Brunz +49 4403 601-128.
   Alternate suppliers to be approved by landscape architect.

255 Plants/ Trees reserved at supplier’s premises

1. Types/ Species: As plant schedule.
2. Predelivery inspection: Give notice.
3. Labelling: Identify inspected plants/ trees as reserved for use on this project.

260 Plant/ Tree substitution

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

265 Plant handling, storage transport and planting

1. Standard: To 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. Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped
5. Planting: Upright or well balanced with best side to front.

270 Planting: Generally

1. Standard: To HTA 'Handling and establishing landscape plants' (obtainable from the Horticultural Trades Association) Part III, paragraphs 6.2 to 6.6.

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.

290 Surplus material

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

Plant containers - Not Used

Preparation of planting beds/ planting materials

305 Weed control

1. Description: For invasive non-native weeds.
2. Locations: Across site.
3. General: Prevent weeds from seeding and perennial weeds from becoming established, by use of a herbicide recommended for the purpose in the current list of Agricultural Chemicals Approved.

341 Peat

1. Do not use.

Planting shrubs/ herbaceous plants/ bulbs

400 Random plant layout

1. Spacing: Evenly, avoiding straight lines.
2. Density: As per plant schedule

404 Percolation Test

1. To be performed on tree pits and planting areas where insufficient permeability might be an issue. Allow for 4 no. tests.
2. Instructions For Performing A Percolation Test:
   1. With a spade or soil auger, dig a hole 45-60 cm deep at the bottom of the proposed tree pit. The hole diameter should be a minimum of 10 cm. The diameter of the hole should be uniform from top to bottom with the bottom
   being flat.
   2. Pre-wetting: Fill hole with water to the top and allow to stand for at least an hour to pre-wet the soil.
   3. Refill hole to within a 5 cm of the top. Don't overflow the hole.
   4. To aid in measurement, place a stick across the top of the hole and use a ruler or measuring tape to mark periodic drops in water level.
   5. Allow the hole to drain for at least one hour. A longer period of time (2 to 3 hours) will give a more accurate reading of average percolation rates.
   6. Determine the average drop in water level per hour and refer to the points below to interpret results:
   - If water level drops less than 1.25 cm per hour the soil is poorly drained and suited to wet-site species.
   - If water level drops 1.25-2.50 cm per hour the soil is moderately well drained and acceptable for many species including wet site species.
   - If it drops more than 2.5 cm per hour the soil is suitable for all species including sensitive species.
3. Please report the results to the landscape architect prior to filling the tree pit.

405 Shrub planting pits

1. Timing: Excavate 2 days (maximum) before planting.
2. Sizes:
   - Planting holes to be 150mm wider than root spread.
   - Depth to ensure planting at same level as nursery/container soil mark

3. Pit bottom improvement with slightly raised centre to aid root penetration and pit drainage. Break up to a depth of 200mm..
4. Backfilling material: Refer to clause Q28/671
5. Drainage layer: [as Q31/410J]

405 A Shrub Planters

1. Sizes: See planter details for sizes
2. Sloping ground:: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
3. Minimum 300mm Imported Topsoil to clause Q28
4. Minimum 400mm Imported Subsoil to clause Q28
5. Drainage layer: 150mm clean crushed stone layer, no fines.

445 Planting bulbs/ Corms/ Tubers

1. Depth: Top of bulb/ corm/ tuber at a depth of approximately twice its height, base in contact with bottom of hole.
2. Naturalized planting in existing grassed areas
   2.1. Scattering: Random. Plant bulbs/ corms/ tubers where they fall.

480 After planting REVISED

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: Mulch.
   3.1. Depth: 50mm.

485 Mulching raised planter REVISED

1. Material: Fine grade bark mulch.
   1.1. Purity: Free of pests, disease, fungus and weeds.
2. Preparation: Clear all weeds. Water soil thoroughly.
3. Coverage: 50mm

485 Mulching free standing planters A REVISED

1. Material: Fine grade bark mulch.
   1.1. Purity: Free of pests, disease, fungus and weeds.
2. Preparation: Clear all weeds. Water soil thoroughly.
3. Coverage: 50mm

Planting trees

519 Tree Pit Drainage

1. Excavate trial pits at tree pit locations to depth of 900mm - Fill with water to establish drainage capabilities. If ground conditions are found to be compacted and not draining, allow for active drainage to all tree pits within hard and soft landscape areas.
2. Lay 200mm depth, clean gravel or broken stone, with no fines, graded 40 to 20mm. Increase depth of excavation from specified size to allow for aggregate layer.
3. Subject to permeability testing: Lay perforated plastic pipe, 100mm diameter, through pit within aggregate layer and connect to soakaway or land drains. To engineers details.

4. Lay approved geotextile filter over aggregate before completing backfilling.
5. Ensure that tree pits are free-draining before progressing with planting.

535 Tree stakes for trees in raised planters

1. Stakes: Three softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
   1.1. Preservative treatment: Not required.
2. Stake size (minimum): 100 mm diameter
3. Stake length (minimum): 1800 mm - Distance between stakes to be 100mm wider than the rootball or roots when fully spread
4. Nails:: 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 liability period.
2. Frequency of maintenance visits: Monthly during growing season.

720 Failures of Planting

1. General: Plants/ trees/ shrubs that have failed to thrive (unless due to theft or malicious damage after completion) during period stated in clause 710, will be regarded as defects due to materials or workmanship not in accordance with the Contract. 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: 1 month or next planting season- to be agreed with the Contract Administrator.

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: Removed by hand
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.

7. Watering: As clauses 145 and 150.

8. Fertiliser:: Time of year: March or April.
Fertilizer: 15:15:15 NPK.
Manufacturer: Contractors choice.
Product reference: N/A.
Application: Evenly spread, carefully incorporating below mulch materials.
Coverage: 70g per feathered, standard or larger tree.

760 Planting maintenance – pruning

1. General: Prune at appropriate times, to remove dead or dying and diseased wood and suckers, to promote healthy growth and natural shape.

1.1. Dead, dying, diseased wood and suckers: Remove.

1.2. Trees: Favour a single central leading shoot.

2. Arisings: Remove.

780 Maintenance instructions

1. General: Before end of the maintenance period, submit printed instructions recommending procedures to be established by the Employer for maintenance of the planting work for one full year: The landscape contractor is to inform the employer of any known maintenance problems encountered at the end of the defects period.

790 Final mulching REVISED

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): 50mm
5. Trees: Remulch.
6. Depth (minimum): 50mm

Deleted clauses

~~385 Mulch matting/ Geotextile fabric~~ DELETED

~~410 Formal Instant Hedges~~ DELETED

~~420 Climbing plants~~ DELETED

~~463 Pre-planted mats~~ DELETED

~~505 Tree pits for made ground~~ DELETED

~~513 Tree pit root barriers in hard~~ DELETED

~~515 Tree pit irrigation~~ DELETED

~~520 Cellular structural soil system for trees in hard landscape~~ DELETED

~~526 Underground guying for trees in hard landscape~~ DELETED

Ω End of Section

Q35
Landscape maintenance REVISED

Summary

Details of amended clauses

Change	Code	Prefix	Title	Suffix
REVISED	Q35/580		Pruning flowering species of shrubs.	
REVISED	Q35/690		Maintenance of loose mulch	
REVISED	Q35/860		Removing trees and shrubs	
DELETED	Q35/225		Tree stems	
DELETED	Q35/226		Tree stems	
DELETED	Q35/250		Leaf removal	
DELETED	Q35/515		Tree guy wires	
DELETED	Q35/535		Tree grilles	
DELETED	Q35/610		Trimming instant hedges	
DELETED	Q35/625		Climbing plants	

Generally

105 Maintenance objectives

1. Location: All external works planted under this contract. Existing vegetation to be maintained through agreement.
    1.1. Duration: All trees and planting 12 months, other works 12 months unless otherwise agreed.

110 Notice

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

130 Reinstatement

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

155 Watering

1. Supply: Contractor to submit for approval a detailed watering regime for the duration of the contract maintenance period.
2. Quantity: Wet full depth of topsoil.
3. Application: Do not damage or loosen plants.
4. Compacted soil: Loosen or scoop out, to direct water to rootzone.
5. Frequency: As necessary for the continued thriving of all planting.

156 Watering

1. Supply: Rain water from storage tank
2. Quantity: Wet full depth of topsoil
3. Application: Do not damage or loosen plants.
4. Compacted soil: Loosen or scoop out, to direct water to rootzone.
5. Frequency: As schedule and when instructed but allow for weekly inspection visits during 1st June and 1st Sept.

160 Water restrictions

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

170 Disposal of arisings

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

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 - Not Used

Flower beds/ seasonal beddings

460 Beds of perennials or perennials and annuals

1. Plant supports: Stake and tie plants using Stake and tie plants using bamboo canes..
   1.1. Length: 1-2m
   1.2. Maintain throughout the growing season.
2. Gaps in planting: Refill by replanting.
3. Watering
   3.1. New plants: Before and after planting out.
   3.2. Ongoing: As necessary for the continued thriving of all planting.
4. Operations at end of growing season
   4.1. Trim: Older flowering stems of herbaceous perennials.
   4.2. Remove: Redundant plant supports, litter, debris and arisings.
   4.3. Cultivate: Fork over the soil, taking care not to cause undue disturbance to plants.
   4.4. Top dress: Apply sanitised and stabilised compost top dressing..

470 Flower beds generally

1. Operations
   1.1. Remove: Dead flower heads, fallen leaves, litter and debris.
   1.2. Weeds: Thoroughly hand weed.
   1.3. Cultivate: Lightly hoe.
   1.4. Trim: Clip grass edges.
2. Fungicide: As required
3. Insecticide: As required

Shrubs/trees/hedges

500 Establishment of new planting

1. Duration: Two full growing seasons from the date of planting.
2. Weed control
   2.1. Method: Keep planting beds clear of weeds by hoeing and screefing and maintaining full thickness of mulch as specified..
   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 required, carry out in the evening.

502 Establishment of new planting – fertilizer

1. Time of year: March or April.
2. Type: Compound fertiliser - Growmore, Bentleys or equal and approved.
3. Spreading: Spread evenly. Carefully lift and replace any mulch materials.
   3.1. Application rate: 70 g/m2 and as per manufacturer's recommendations.

510 Tree stakes and ties

1. Inspection/ Maintenance times: Autumn /Spring and immediately after strong winds.
2. Stakes
   2.1. Replace loose, broken or decayed stakes to original specification.
   2.2. If longer than half of clear tree stem height, cut to this height in spring. Retie to tree firmly but not tightly with a single tie.
3. Ties: Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing.
   3.1. Where chafing has occurred, reposition or replace ties to prevent further chafing.
4. Removal of stakes and ties: 2 years after planting.
   4.1. Fill stake holes with lightly compacted soil.

520 Refirming of trees and shrubs

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

537 Nesting wild birds

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

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.

545 Pruning of excessive overhang

1. Timing: Annually.
2. Operations: Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.

555 Pruning trees and shrubs

1. Standard: To BS 7370-4.

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.
2. Suckers: Remove by cutting back level with the source stem or root.

580 Pruning flowering species of shrubs. REVISED

1. Time of year
   - 1.1. Winter flowering shrubs: Spring.
   - 1.2. Shrubs flowering between March and July: Prune immediately after the flowering period. Leave species with winter interest such as those with seed heads and dried flower heads until next early spring before pruning.
   - 1.3. Shrubs flowering between July and October: Back to old wood in winter.

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: As soon as possible.
2. Replacement: In the next suitable planting season.

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: Submit details and cost of plants before ordering.
5. Dressing: Slow release fertilizer:
   - 5.1. Type: Submit proposals.
   - 5.2. Application rate: As manufacturer's recommendations.

645 Weed control generally

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

650 Hand weeding

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

655 Weed cutting by hand or machine

1. Undesirable grass, brambles and herbaceous growth: Cut down cleanly to a maximum height of 75mm.
2. Herbicides: Do not use.

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 REVISED

1. Thickness (minimum): 50mm.
    1.1. Top up: Annually.
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.

695 Fertilizing established trees and shrubs

1. Time of year: During February or March.
2. Type of fertilizer: Slow release.
3. Application: Spread evenly.
    3.1. Rate: As manufacturer's recommendations.

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: Distribute evenly over all planting beds.

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 and Health & Safety Executive(HSE) 'Forestry and arboriculture safety leaflets'.
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.
    1.5. Other unwanted objects, e.g. tree houses, swings.

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:
    6.1. Remove in small sections and lower to ground with ropes and slings.
7. Dead branches and stubs: When removing, do not cut into live wood.

8. Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
9. Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.

845 Crown lifting

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

860 Removing trees and shrubs REVISED

1. Standard: To BS 3998.
2. Existing services: Check for below and above ground services. Give notice if they may be affected.
3. Shrubs and smaller trees: Cut down and grub up roots.
4. Tree stumps
   4.1. Treatment:
   4.2. Removal by winching: Give notice. Do not use other trees as supports or anchors.
5. Protection:
6. Work near retained trees: Where tree canopies overlap and in confined spaces generally, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
7. Filling holes
   7.1. Material: Use as-dug material and/ or imported soil as required.
   7.2. Finishing: Consolidate and grade to marry in with surrounding ground level.

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.

870 Cavities in trees

1. Investigation: Remove rubbish and rotten wood. Probe the cavity to find the extent of any decay, and give notice.
2. Water filled cavities: Do not drain.
3. Sound wood inside cavities: Do not remove.

Water areas - Not Used

Hard landscape areas/fencing

900 Snow clearance

1. Clearance: on reaching a depth of 5mm, when instructed.
2. De-icing: to roads and footpaths.
   2.1. Material: grit to BS 3247.

2.2. Timing: after snow clearance, when freezing precipitation is forecast.

2.3. Application rate: Spread evenly at a rate of 10m/m2.

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: Air abrasion.
2. Subsequent treatment: Not required..
   2.1. Finish: Not required.

Deleted clauses

~~225 Tree stems~~ DELETED

~~226 Tree stems~~ DELETED

~~250 Leaf removal~~ DELETED

~~515 Tree guy wires~~ DELETED

~~535 Tree grilles~~ DELETED

~~610 Trimming instant hedges~~ DELETED

~~625 Climbing plants~~ DELETED

Ω End of Section

Q37
Green roofs

Summary

Details of amended clauses

No changes to show.

General

130 Extensive green roof

1. Description: To biodiverse roofs on link buildings between block A-B and block B-C.
2. Roof type: Refer to architects details.
3. Growing medium: Green roof growing media system, as section Q28.
   3.1. Depth: 100-250mm.
4. Vegetation: Vegetation blanket by Bauder or equal and approved. To include native seeds and plug mixes.
5. Accessories: To include habitat features such as log piles and small boulders.

Performance - Not Used

Products - Not Used

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.
2. Upstands: Extend to top of growing medium.

755 Separation layer installation

1. Joints: Minimize.
2. Upstands: Extend to top of growing medium.

770 Drainage layer installation

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

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): As per manufacture's recommendation
   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 biodegradeable 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.

820 Edge-retaining profile installation

1. Cutting: Neat, accurate and without spalling.
   1.1. Junctions: vertical, secured using proprietary connectors.
2. Position: True to line and level. Smooth continuous lines.
3. Fixing:

Completion

910 Inspection

1. Timing: Before handover.
   1.1. Give notice (minimum): 7 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 REVISED

Summary

Details of amended clauses

Change	Code	Prefix	Title	Suffix
REVISED	Q40/220		Bespoke Perforated Flatbar Steel Fencing to basement - DESIGN INTENT	
REVISED	Q40/220A		Bespoke Perforated Flatbar Steel Wind Baffle - DESIGN INTENT	
REVISED	Q40/560		Automatic Bespoke Perforated Steel Flatbar Gate	
DELETED	Q40/720		Setting posts in concrete	
DELETED	Q40/730		Exposed concrete foundations	

Fencing systems

220 Bespoke Perforated Flatbar Steel Fencing to basement - DESIGN INTENT

REVISED

1. Description: For design intent only. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7001 for details.
2. Specialist fabrication and structural engineer's input required.
3. Manufacturer: Lang + Fulton or equal and approved.
   Tel: 0131 441 1255.
   - 3.1. Product reference: Rimini or equal and approved.
4. Bespoke fence panels to suite length between block A and block B
5. Height: 3660mm
6. Posts and bars
   - 6.1. Corner/ End posts: Square hollow section
   - 6.2. Finish: Painting with Micaceous Iron Oxide paint. As clause Q40/625.
     - 6.2.1. Colour: Natural Grey
7. Conformity: Submit manufacturer's and installer's certificates, to BS 1722-8.

220A Bespoke Perforated Flatbar Steel Wind Baffle - DESIGN INTENT

REVISED

1. Description: For design intent only. Refer to drawing 63073-PLA-XX-ZZ-DR-L-7000 for details.
2. Specialist fabrication and structural engineer's input required.
3. Manufacturer: Lang + Fulton or equal and approved.
   Tel: 0131 441 1255.
   - 3.1. Product reference: Rimini or equal and approved.
4. Bespoke wind baffle panel to servicing yard entrance
5. Height: 2241mm
6. Posts and bars
   - 6.1. Corner/ End posts: Square hollow section
   - 6.2. Finish: Micaceous Iron Oxide paint. As clause Q40/625.
     - 6.2.1. Colour: Natural Grey
7. Conformity: Submit manufacturer's and installer's certificates, to BS 1722-8.

Gates, posts and stiles

560 Automatic Bespoke Perforated Steel Flatbar Gate REVISED

1. Description: For design intent only. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7000, 63073-PLA-ZZ-ZZ-DR-L-7001 and 63073-PLA-ZZ-ZZ-DR-L-7002 for locations and details.
2. Manufacturer: Lang + Fulton or equal and approved.
   Tel: 0131 441 1255.
3. Specialist fabrication and structural engineer's input required.
4. Freestanding steel portal frame.
5. To include a set of doors for vehicle and cycle access
6. Standard
   - 6.1. Domestic gates: To BS 4092-1.
   - 6.2. Steel palisade gates: To BS 1722-12.
7. Materials and workmanship: As section Z11.

8. Finish: Micaceous Iron Oxide paint. As clause Q40/625.
    8.1. Colour: Natural Grey.
9. Jointing: To include cross bracings, fixing steel sections subject to further design development. Fixings and loadings to be developed with Civil Engineer.
10. Fittings: Soft closing hinges.
11. Method of fixing: To manufacture's recommendation.
12. Foundation: : To engineer's details
13. Accessories: All accessories subject to further development.
    - Metal signage, design to be developed.
    - Manual drop lock
    - Key pad access. To be confirmed with M&E engineers.
    - Door handles with swing mechanism
    - Safety features to be confirmed

Accessories

625 Micaceous Iron Oxide Paint

1. Description: To all steel railing, fencing and gates to servicing yard
2. Manufacturer: Dulux or equal and approved
    2.1. Product reference: MIO Paint or equal and approved
3. Type:
    3.1. Colour: Natural Grey

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:

780 Making good galvanized surfaces

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

790 Site painting

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

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.

Deleted clauses

~~720 Setting posts in concrete~~ DELETED

~~730 Exposed concrete foundations~~ DELETED

Ω End of Section

Q50
Site/ street furniture/ equipment REVISED

Summary

Details of amended clauses

Change	Code	Prefix	Title	Suffix
REVISED	Q50/119		Handrail to Escape Ramp	
ADDED	Q50/119A		Handrail to West Courtyard	F14
REVISED	Q50/120		Steel Balustrade to Ramp - DESIGN INTENT	W1.1 + W1.2
REVISED	Q50/120A		Steel Balustrade - to Vimto Park Interface - DESIGN INTENT	W2
REVISED	Q50/121		Glass Balustrade - to escape ramp mid section DESIGN INTENT	W3
REVISED	Q50/121A		Glass Balustrade - to western courtyard DESIGN INTENT	Gb1
REVISED	Q50/122		Raised Steel Planters to Courtyards	P1
ADDED	Q50/122a		Free Standing Planters - to west courtyard	F11
REVISED	Q50/123		Free Standing Planters	P2
REVISED	Q50/130		Automatic Perforated Wind Screen & Metal Gate - Pedestrian + Vehicular DESIGN INTENT	G1
REVISED	Q50/130A		Automatic Perforated Metal Gate - Pedestrian DESIGN INTENT	G2
REVISED	Q50/130B		Automatic Metal Gate - Pedestrian + Vehicular DESIGN INTENT	G3
REVISED	Q50/130C		Automatic Basement Screen & Metal Gate - Pedestrian + Vehicular DESIGN INTENT	G4
REVISED	Q50/210		Cycle Stands	C1
REVISED	Q50/220		Bespoke Composite Curve Bench - DESIGN INTENT	B1a & B1b
REVISED	Q50/221		Bespoke Lounger Seat over vent -DESIGN INTENT	F3
ADDED	Q50/221A		Bespoke Lounger Seat - DESIGN INTENT	F13
REVISED	Q50/225		Bespoke Composite Communal Table and Seating - DESIGN INTENT	F2
REVISED	Q50/231		Renson Pergola	Pe2
REVISED	Q50/233		Steel Bistro Table	F1
ADDED	Q50/236		Bespoke Linear Bar Counter DESIGN INTENT	F8.1
ADDED	Q50/237		Bar Stools	F8.2 / F8.3
REVISED	Q50/244		Bib tap with lockable cover	F44
ADDED	Q50/250		Modular Circular Seats	F9
ADDED	Q50/270		Metal Post Support to Courtyards - DESIGN INTENT	F12a/ F12b
ADDED	Q50/330		Outdoor Kitchen Island - DESIGN INTENT	F6
ADDED	Q50/331		Stainless Steel Sink Cabinet - DESIGN INTENT	F7
REVISED	Q50/380		Lighting Columns - design intent only	L1
REVISED	Q50/381		Wall Mounted Lights - design intent only	L2
REVISED	Q50/382		In-ground Uplighters - design intent only	L4

ADDED	Q50/384		Built-in Planter Wall Lighting - DESIGN INTENT	L6
ADDED	Q50/385		Centenary Lights - DESIGN INTENT	L7
ADDED	Q50/386		Recessed In-ground Floor Light- DESIGN INTENT	L8
ADDED	Q50/389		Fairy Light to Feature Tree- DESIGN INTENT	L9
DELETED	Q50/221A		Bespoke Lounger Seat	F4
DELETED	Q50/226		Bespoke Composite Table	F6
DELETED	Q50/230		Bespoke Steel Pergola - design intent only	Pe1
DELETED	Q50/262		Tree grilles	T1
DELETED	Q50/383A		Bollard Lighting in ground- design intent only	L3.1
DELETED	Q50/383		Bollard Lighting in planters- design intent only	L3.2

Gates, barriers and parking controls

119 Handrail to Escape Ramp REVISED

1. Description: Handrail to escape ramp
2. Manufacturer: Logic Bespoke or equal and approved
   2.1. Product reference: See drawing 63073-PLA-ZZ-ZZ-DR-L-7006 and 63073-PLA-ZZ-ZZ-DR-L-7007 for more information.
3. Material: Stainless steel handrail, posts and structure
4. Finish: Satin polished
5. Size: 45mm diameter profile handrail
   Height above pitch line and landing 900mm
   See detail drawings for more information
6. Method of setting posts: See details and engineer's details
7. Other: Use countersunk and tamper proof stainless steel fixings if required for any parts of balustrade/handrail. To meet Part M Building Regulations.

119A Handrail to West Courtyard F14 ADDED

1. Description: To ramp and fire escape step at west courtyard. LED light only required to the ramp handrails.
   Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4001 for location
2. Manufacturer: The Light Lab or equal and approved
   2.1. Product reference: Glowrail LED handrail
3. Material: Stainless steel
4. Finish: Brushed
5. Size: 42.4mm diameter profile handrail
   Height above pitch line and landing 900mm.
6. Method of setting posts:
7. Other: With integrated LED light for the ramp handrails only. IP65 water proofing rating

120 Steel Balustrade to Ramp - DESIGN INTENT W1.1 + W1.2 REVISED

1. Description: See drawing 63073-PLA-ZZ-ZZ-DR-L-7006, 63073-PLA-ZZ-ZZ-DR-L-7007 and for more information.
2. Manufacturer: Lang and Fulton or equal and approved
   2.1. Product reference: Remini or equal and approved
3. Size:: W1.1: to be installed 950mm on top of retaining wall.
   W1.2: to be installed 1100mm on top of retaining wall.
4. Material: Steel Flatbar
5. Finish: Painted with Micaceous Iron Oxide paint
6. Colour: Natural Grey
7. Method of setting posts: To engineer's details
8. Other: To meet loading class 2 - 15Kn

120A Steel Balustrade - to Vimto Park Interface - DESIGN INTENT W2 REVISED

1. Description: See drawing 63073-PLA-ZZ-ZZ-DR-L-7003 for more information.
2. Manufacturer: Lang and Fulton or equal and approved
   2.1. Product reference: Remini or equal and approved

3. Material: Steel Flatbar
4. Finish: Painted with Micaceous Iron Oxide paint
5. Colour: Natural Grey
6. Method of setting posts: Concrete foundation
7. Other: To meet loading class 2 - 15Kn

121 Glass Balustrade - to escape ramp mid section DESIGN INTENT W3

REVISED

1. Description: To eastern courtyard escape ramp.
2. Manufacturer: Delta Balustrade or equal and approved.
   Tel: 01270 753 383
   Email: info@deltabalustrades.com
   Address: Delta Balustrades Ltd
   Delta House,
   Millbuck Way,
   Sandbach,
   Cheshire.
   CW11 3JA
   2.1. Product reference: Laminated glass balustrade. To be installed on top of pre-cast concrete wall.
3. Material: Laminated Glass
4. Colour: Clear
5. Size: H 1580 x D 12 x W to be site measured. Refer to dwg 63073-PLA-ZZ-ZZ-DR-L-7006 details.
6. Method of setting posts: Aluminium 'U' channel
7. Accessories:
   - Metal cap rail to glass top
   - Flat bar steel door. To be installed on freestanding metal frame; Size: H 2100 x W 1210mm; accessories to include:
     - Metal door handle
     - Access key pad (require electricity supply, connection to engineers details)
     - Soft closure hinge
     - Exit push button on courtyard facing side.

121A Glass Balustrade - to western courtyard DESIGN INTENT Gb1

REVISED

1. Description: To western courtyards and servicing yard interface.
2. Manufacturer: Delta Balustrade or equal and approved.
   Tel: 01270 753 383
   Email: info@deltabalustrades.com
   Address: Delta Balustrades Ltd
   Delta House,
   Millbuck Way,
   Sandbach,
   Cheshire.
   CW11 3JA
   2.1. Product reference: Laminated glass balustrade. To be installed on concrete wall.
3. Material: Glass
4. Colour: Clear

5. Size: H 1545 x D 12 W to be site measured. Refer to dwg 63073-PLA-ZZ-ZZ-DR-L-7001 and 8003 for details.
6. Method of setting posts: Aluminium 'U' channel
7. Accessories: Metal cap rail to glass top

122 Raised Steel Planters to Courtyards P1 REVISED

1. Description: Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7011 for details & refer to drawing 63073-PLA-ZZ-ZZ-DR-L-63073-PLA-ZZ-ZZ-DR-L-4001 & 63073-PLA-ZZ-ZZ-DR-L-4002 for locations.
2. Manufacturer: Logic Bespoke or equal and approved.
   2.1. Product reference: Staple Planter Edge with Velox System
3. Size: Size: W various, L Various, H (West Courtyard) 1000 - 1150mm above FFL. Keep top of planter as same height across the same courtyard; H (East Courtyard) 450mm above FFL
4. Materials: Galvanised steel
5. Installation: To manufacturers recommendations.
6. Finish: Powder coated
7. Colour: RAL 7016 with 30% gloss

122a Free Standing Planters - to west courtyard F11 ADDED

1. Description: To main building entrance
   Refer to 63073-PLA-ZZ-ZZ-DR-L-7009 for details.
2. Manufacturer: Urbis Design Ltd. or equal and approved.
   2.1. Product reference: **Axis 75** or equal and approved.
3. Size: D 510 x H 710 mm
4. Materials: Glass-reinforced concrete
5. Finish: Stoney
6. Colour: Charcoal

123 Free Standing Planters P2 REVISED

1. Description: To main building entrance
   Refer to 63073-PLA-ZZ-ZZ-DR-L-7009 for details.
2. Manufacturer: Urbis Design Ltd. or equal and approved.
   2.1. Product reference: Globe or equal and approved.
3. Size: 1150mm diameter x 790mm height
4. Materials: Glass-reinforced concrete
5. Colour: Charcoal
6. Accessories:
   - Geotextile membrane Terram or equal and approved.
   - Drainage board by Alumasc or equal and approved.
   - Irrigation/reservoir system. Supplier:Street life; Product: Treetec Bottom Up water reservoir system

130 Automatic Perforated Wind Screen & Metal Gate - Pedestrian + Vehicular DESIGN INTENT G1 REVISED

1. Description: -To servicing yard. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4000 for locations and drawing 63073-PLA-ZZ-ZZ-DR-L-7000 for details.
   -Include 1no. of vehicle gate and 1no. of pedestrian/cycle gate.

2. Manufacturer: Lang + Fulton or equal and approved.
   2.1. Product reference: Based on Remini railing. Railing pattern and spacing to match screens to building basement.
3. Size: Overall H 7200 x W 4422. Exact width to be site measured.
4. Posts: Steel
   4.1. Treatment: Hot-dip galvanized to BS EN ISO 1461
5. Finish as delivered: Micaceous Iron Oxide painted by Dulux or equal and approved.
   5.1. Colour: Natural Grey.
6. Fittings and accessories:
   - Soft closure hinge
   - Drop bolts
   - Door handle -swing mechanism
   - Metal signage
   - Key pad access
   - Push button

   Note: electricity supply required. To engineers details.
7. Method of setting posts: Concrete foundation

130A G2 REVISED Automatic Perforated Metal Gate - Pedestrian DESIGN INTENT

1. Description: -To Eastern courtyard emergency access. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4000 for location and drawing 63073-PLA-ZZ-ZZ-DR-L-7006 for details..
   -Include 1no. of pedestrian gate.
2. Manufacturer: Lang + Fulton or equal and approved.
   2.1. Product reference: Based on Remini railing. Railing pattern and spacing to match screens to building basement.
3. Size: Approximate W 1150 x H 2120. Exact width to be site measured.
4. Posts: Steel
   4.1. Treatment: Hot-dip galvanized to BS EN ISO 1461
5. Finish as delivered: Micaceous Iron Oxide painted by Dulux or equal and approved.
   5.1. Colour: Natural Grey.
6. Fittings and accessories:
   - Soft closure hinge
   - Drop bolts
   - Door handle -swing mechanism
   - Metal signage
   - Key pad access
   - Push button

   Note: electricity supply required. To engineers details.
7. Method of setting posts: Concrete foundation

130B G3 REVISED Automatic Metal Gate - Pedestrian + Vehicular DESIGN INTENT

1. Description: -To servicing yard. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4000 for locations and drawing 63073-PLA-ZZ-ZZ-DR-L-7002 for details.
   -Include 1no. of vehicle gate and 1no. of pedestrian/cycle gate.
2. Manufacturer: Lang + Fulton or equal and approved.

2.1. Product reference: Based on Remini railing. Railing pattern and spacing to match screens to building basement.

3. Size: Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7002 for dimension.
4. Posts: Steel
   4.1. Treatment: Hot-dip galvanized to BS EN ISO 1461
5. Finish as delivered: Micaceous Iron Oxide painted by Dulux or equal and approved.
   5.1. Colour: Natural Grey.
6. Fittings and accessories:
   - Soft closure hinge
   - Drop bolts
   - Door handle -swing mechanism
   - Metal signage
   - Key pad access
   - Push button
7. Method of setting posts: Concrete foundation

130C Automatic Basement Screen & Metal Gate - Pedestrian + Vehicular DESIGN INTENT G4 REVISED

1. Description: -To servicing yard. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4000 for locations and drawing 63073-PLA-ZZ-ZZ-DR-L-7001 for details.
   -Include 1no. of vehicle gate and 1no. of pedestrian/cycle gate.
2. Manufacturer: Lang + Fulton or equal and approved.
   2.1. Product reference: Based on Remini railing. Railing pattern and spacing to match screens to building basement.
3. Size: Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7002 for dimension.
4. Posts: Steel
   4.1. Treatment: Hot-dip galvanized to BS EN ISO 1461
5. Finish as delivered: Micaceous Iron Oxide painted by Dulux or equal and approved.
   5.1. Colour: Natural Grey.
6. Fittings and accessories:
   - Soft closure hinge
   - Drop bolts
   - Door handle -swing mechanism
   - Metal signage
   - Key pad access
   - Push button

   Note: electricity supply required. To engineers details.
7. Method of setting posts: Concrete foundation

195 Static Bollards with disabled parking signage Bo2

1. Description: To disabled parking bays on Gramby Row. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4000 for details.
2. Manufacturer: Broxap or equal and approved
   2.1. Product reference: BX47/SemiDomed or equal and approved
3. Material: 304 grade Stainless steel
4. Height above ground: 750mm
5. Method of fixing: As per manufacturer's recommendations, foundations to engineer's.

6. Accessories : Disabled Parking Sign:
   To be fixed on static bollards.
   Size: W 100 x L 200

196 Access Control Bollards Bo1

1. Description: To NRW Boundary/ Servicing yard. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4000 for details.
2. Manufacturer: Broxap or equal and approved
   2.1. Product reference: BX47 0060-FD .
3. Material: 304 grade Stainless steel
   3.1. Finish as delivered: 240 grit satin polish
4. Control:: Fold-down
5. Height above ground: 1000mm
6. Sectional size: 60mm diameter
7. Method of fixing: As per manufacturer's recommendations, foundations to engineer's.

Site and street furniture

210 Cycle Stands C1 REVISED

1. Manufacturer: Runge or equal and approved .
   1.1. Supplier : DW Windsor or equal and approved.
   Tel: 01992 474600
   1.2. Product reference: Ekkiflex or equal and approved.
2. Material: Aluminum
   2.1. Finish: Powder coated
   2.2. Size:: W 850 x H 850 mm
   2.3. Colour: RAL 7006 in 30% gloss
3. Method of fixing: Root mounted. As per manufacturer's recommendations, foundations to engineer's.

220 Bespoke Composite Curve Bench - DESIGN INTENT B1a & B1b REVISED

1. To Eastern Courtyard.
   Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4002 for locations.
2. Material:
   Frame: Aluminium steel
   Slats: FSC certified hardwood. Iroko or similar approved.
   Size: Various, refer to drawing for details.
   Other: with LED stripe light to edge of seat. Electricity connection required, to engineers details.
   Note: Slat orientation to follow decking board on floor finish

221 Bespoke Lounger Seat over vent -DESIGN INTENT F3 REVISED

1. To Western Courtyard. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7003 for details.
   Material: Modular hot-dipped galvanised frame with polyester powder coating. Enhanced Grain by Millboard (176 x 3600 x 32mm).
   Size: L 3100 x W 1800 x H 400-1100mm
   Colour: Limed Oak
   Finish: Polyester powder coating.
2. Manufacturer: Woodscape (or equal and approved as agreed with local authority)
3. Material: Modular hot-dipped galvanised frame with polyester powder coating. Composite decking; Enhanced Grain by Millboard

4. Accessories/ Special requirements: Grating to vent opening under lounger seat. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7005 for details.
    - Product: Type PI Floor Grating with 86% porosity
    - Manufacture: Lang and Fulton or equal and approved
    - Fixing: As per manufacture's recommendation

    LED stripe light to edge of seat. Electricity connection required, to engineers details.

221A Bespoke Lounger Seat - DESIGN INTENT F13 ADDED

1. To east courtyard.
   Refer to drawings 63073-PLA-ZZ-ZZ-DR-L-7013 and 63073-PLA-ZZ-ZZ-DR-L-7014 for details.
    - Frame: Aluminium steel
    - Seat
        - FSC certified hardwood. Iroko or similar approved.
        - Laid: to align with floor decking orientation
        - slats to be tapered with consistent 8mm joint between slats
        - Slats 90mm width, circa 30mm thickness
    - Front Edging
        - Sheet metal edging to bench. Staple Planter Edge with Velox System by Logic Ltd or equal and approved. Galvanised steel and powder coated. Colour RAL 7016 with 30% gloss.
    - Backrest
        - FSC certified hardwood slats
        - Size: 600mm depth
        - Slats to be tapered with consistent 8mm joint between slats
        - Slats 90mm width, circa 30mm thickness
        - Backrest angle 130 degrees
        - Vertical timber slat screen to enclose back and sides of backrest, timber to match seat. 60mm slats with consistent 8mm joint between slats
2. Size: Refer to drawings 63073-PLA-ZZ-ZZ-DR-L-7013 and 63073-PLA-ZZ-ZZ-DR-L-7014 for dimension.
3. Accessories/ Special requirements:
4.
    - Electricity connection required, to engineers details.

225 Bespoke Composite Communal Table and Seating - DESIGN INTENT F2 REVISED

1. Bespoke composite timber communal table and seating. Table to be over vent opening. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7004 for details.
   Material: Modular hot-dipped galvanised frame with polyester powder coating. Enhanced Grain by Millboard.
   Size: Various sizes, see details for more information.
    - Table: 2000 W x 4800 L x 700mm H
    - Benches: 2no. 400 W x 2150 L x 450mm H; 1no. 400 W x 3732 L x 450mm H

Colour: Limed Oak; Frame - RAL 7016 with 30% gloss finish.
Finish: Polyester powder coating

2. Material: Modular hot-dipped galvanised frame with polyester powder coating. Composite decking; Enhanced Grain by Millboard
3. Sample: Submit sample of: Recycled plastic timber slat for landscape architects approval prior ordering materials
4. Accessories/ Special requirements: Grating to vent opening under lounger seat. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7004 for details.
    - Product: Type PI Floor Grating with 86% porosity
    - Manufacture: Lang and Fulton or equal and approved
    - Fixing: As per manufacture's recommendation

    Composite table top divider with integrated outdoor charging sockets. Refer to 63073-PLA-ZZ-ZZ-DR-L-7004 for details.

    - Product: IP66 Outdoor Charging Socket Box or equal and approved
    - Manufacture: Lang and Fulton or equal and approved
    - Size: Divider L 1500 x W 240 x H 400mm. Socket L 135 x W 135 mm
    - Fixing: As per manufacture's recommendation

    LED stripe light to edge of table. Electricity connection required, to engineers details.

231 Renson Pergola Pe2 REVISED

1. To Western Courtyard. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4000 for details.
2. Manufacturer: Renson or equal and approved.
    2.1. Product reference: Algarve free standing or equal and approved.
3. Material: Aluminium
    3.1. Finish: Polyester powder-coated
    3.2. Colour: RAL 7016 with 30% gloss
4. Size: W 4000 x L 6000 x H 2800mm
5. Accessories/ Special requirements:
    - Integrated LED light in louvers/ Integrated rain sensor/ Integrated speaker
    - Infrared outdoor heating with button time control
        - Supplier: Heatwave (Model no. HW01) or equal and approved
        - Product: Gtech or equal and approved
        - Colour: Black
    - Projector shelve. Refer to clause 387.
    - Solid metal panel within louver for installation of pull down projector screen. Refer to clause 388.
6. Method of fixing: As per manufacture's recommendation
7. Other: Electricity supply required. To engineers details.

233 Steel Bistro Table F1 REVISED

1. To GF courtyards. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-0002 and 63073-PLA-ZZ-ZZ-DR-L-0003 for locations.
2. Manufacturer: Fermob or equal and approved.
Tel: 020 8878 1994
    2.1. Product reference: Metal Bistro Table and Chairs or equal and approved.

3. Material: Steel
   3.1. Finish: Polyester powder-coated
   3.2. Colour: Black Cherry (subject to client review)
4. Size: Table 770mm diameter x 740mm height. Chair 420 x 500 x H 820mm

235 Foldable Table Tennis Table F5

1. To Eastern Courtyard. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-0003 for details.
2. Manufacturer: Cornilleau or equal and approved.
   2.1. Product reference: 400X Outdoor Table Tennis Table or equal and approved.
3. Material:
   3.1. Colour: Blue 115103
4. Size: W 2740 x L 1670 x H 760mm (height adjustable)
5. Accessories/ Special requirements: Integrated lockable wheels

236 Bespoke Linear Bar Counter DESIGN INTENT F8.1 ADDED

1. To Western Courtyard. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4001 and 63073-PLA-ZZ-ZZ-DR-L-7018 for details.
2. Material: Wooden bar table with upstand. FSC certified hardwood. Iroko or similar approved.

   Vertical slats to sides. Long horizontal slats to top. 90mm width slats, circa 30mm thickness . Consistent 8mm joint between slats.
   2.1. Colour:

   Frame: Ral 7016 with 30% gloss
3. Size: H 940mm x W 450mm x L 1200mm
4. Accessories/ Special requirements:
   - Integrated LED light along counter edge. Electricity supply required, to engineers details.
   - With mini table top upstand H 30mm
   - 5no. double power sockets fixed to underside of bar table. Weatherproof sockets by Wentvale or similar approved.

237 Bar Stools F8.2 / F8.3 ADDED

1. To Western Courtyard. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4001 for details.
2. Product : Product to be specified by client

   F8.2 = Adjustable bar stool to bar
   F8.3 = Bar stool to kitchen island

244 Bib tap with lockable cover F44 REVISED

1. Description: To courtyards. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-0002 and 63073-PLA-ZZ-ZZ-DR-L-0003
2. Manufacturer: Tap Safe or equal and approved.
   Tel: 0333 014 2822
   2.1. Product reference: SKU 5060473230040
3. Material: Steel
   3.1. Colour: Graphite Grey
4. Accessories/ Special requirements:
5. Method of fixing: To manufacture's recommendation

250 Modular Circular Seats F9 ADDED

1. Description: To Eastern courtyard around feature tree. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4002 for location
2. Manufacturer: Sui Generis or equal and approved.
   Address:
   Sui Generis International Ltd.
   The Chandler Centre, Hythe Quay,
   Colchester, Essex CO2 8JF, UK.
   Tel: 01206 798 798
   Web: https://www.suigeneris.co.uk/
   2.1. Product reference: 3m Halo seat segment
3. Size: 1143 x 600 x 476mm (external radius 3m)
4. Material: Reinforced recycled bottles
   4.1. Colour: RAL 9010 Pure White

270 Metal Post Support to Courtyards - DESIGN INTENT F12a/ F12b ADDED

1. Description:
   - F12a to Western Courtyard; F12b to Eastern Courtyard
   - Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4002 & 63073-PLA-ZZ-ZZ-DR-L-4003 for locations
   - Free-standing metal post to support catenary lighting.
2. Size:
   - F12a: Post to match Algrave metal pergola; Height: 2.8m above FFL.
   - F12b: 5m above FFL
3. Material:
   - F12a: Aluminum
   - F12b: PPC galvanised steel

   3.1. Colour:
   - Ral colour AD Bronze C33 to match window frame colour on building

330 Outdoor Kitchen Island - DESIGN INTENT F6 ADDED

1. Description: Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7017 details.
2. Components:
   2.1. Concrete Worktop : Concrete worktop (Warrington + Rose). Colour Bone.
   Size: W 1000 x L 3000 x D 35
   Accessories: Integrated LED stripe light under workshop.
   2.2. Main Body:
   - Frame: 50 x 50mm galvanised steel box section. Support to be designed by structural engineers.
   - Cladding: Composite cladding board. Refer to drawing for precedent image.
     - Colour: Antique
     - Size: 2.5m/3.5m H x 219mm W x 26mm D
     - To be fixed back to steel frame with colour matching screws and counter sunk bolts.
   - Aluminium Cabinet Doors
     - Size: approximate 572 W x 749 H. Note: to be made bespoke to dimensions.

- IP60 12v Weather Proof Charging Sockets. Power supply required. To engineers details.

2.3. Digital Quattro Ceramic Plate Double Contact Grill: Size: 700mm W x 480mm D x 170mm H.
Material: Stainless Steel with ceramic plates

331 Stainless Steel Sink Cabinet - DESIGN INTENT F7 ADDED

1. Description: Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7018 details.
2. Size : Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7018 for detailed dimension
3. Components:
   - 3.1. Stainless steel tap: Material: Brushed stainless steel
     Others: With both hot and cold water supply. Water connection to engineers details.
   - 3.2. Concrete drainage board: Concrete drainage board (Warrington + Rose). Colour Bone.
   - 3.3. Sink: Stainless steel sink with shelves and drainage board
   - 3.4. Cabinet & Frame : Material: PPC steel
     Colour: dark grey
     Others: with stainless steel cabinet handles
4. Method of fixing: Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-7018.

380 Lighting Columns - design intent only L1 REVISED

1. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4000 for details
   Refer to approved S278 drawing
   Luminaries & Columns to be replaced with MCC Adoptable Standard.
2. Manufacture: Philips T:+44(0)1483 446070 or equal and approved .
3. Product Reference : BGP621 Mini Luma
4. Method of fixing: To engineers specification

381 Wall Mounted Lights - design intent only L2 REVISED

1. To building facade. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4000 for details
2. Manufacture: Iguzzini T:+44 0141 2291322 or equal and approved .
3. Colour: To match external window frame metal works
4. Product Reference : Lander Wall 2200.
5. Method of fixing: Mounted at 4m high. To engineers specification .
   Subject to discussion and coordination with architects.

382 In-ground Uplighters - design intent only L4 REVISED

1. To light up trees in east and west courtyards.
   Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4001 and 63073-PLA-ZZ-ZZ-DR-L-4002 for details.
2. Manufacture: Iguzzini T:+44 0141 2291322 or equal and approved .
3. Product Reference : 7111 'Light Up Garden' by Iguzzini LED: 4200Neutral or equal and approved
4. Size: 130mm diameter

384 Built-in Planter Wall Lighting - DESIGN INTENT L6 ADDED

1. To be integrated within raised metal planter at west courtyard.
   Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4001 for details.
2. Manufacture: Iguzzini T:+44 0141 2291322 or equal and approved .

3. Product Reference : iWalky Square Recessed Light or equal and approved
4. Size: 180 x 180 x 45mm
5. Colour: Ral 7016 Anthracite Grey in 30% gloss. To match raised metal planter
6. Method of fixing: To engineers specification
7. Other:
    - IP66 waterproof receptor box to be fully hidden within planter.
    - LED: 4200Neutral
    - Electricity supply required. To engineers details.

385 Centenary Lights - DESIGN INTENT L7 ADDED

1. To be fixed on metal support posts at east courtyard.
   Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4002 for details.

   Western courtyard: To be fixed on 2 x metal support posts set in concrete base within the planter corners and 1 x to pergola. To be confirmed with pergola manufacture. Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4001 for details.
2. Product: TBC. Contractor to submit proposals for LA to review
3. Other: Electricity supply required. To engineers details.

386 Recessed In-ground Floor Light- DESIGN INTENT L8 ADDED

1. To be integrated within raised metal planter at west courtyard.
   Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4001 for details.
2. Manufacture: Iguzzini T:+44 0141 2291322 or equal and approved .
3. Product Reference : Light up Earth Flush Frame or equal and approved
4. Size: D 144mm
5. Material: Stainless steel
6. Fixing: Fully flush to adjacent decking finish
7. Other:
    - LED: 4200Neutral
    - Electricity supply required. To engineers details.

389 Fairy Light to Feature Tree- DESIGN INTENT L9 ADDED

1. To be integrated within raised metal planter at west courtyard.
   Refer to drawing 63073-PLA-ZZ-ZZ-DR-L-4001 for details.
2. Manufacture: LITE Ltd or equal and apporved.
   Address:LITE LTD, Unit 2, Farrington Place. Rossendale Road Industrial Estate, Burnley, Lancashire. BB11 5TY
   Tel: 01282 448086
   Email: sales@lite-ltd.co.uk
   Web: https://www.lite-ltd.co.uk/
3. Product Reference : LED Mini Light or equal and approved
4. Colour: Warm white
5. Fixing : To suppliers recommendation. Lights to wrap around tree trunk and at least 2/3 of the exposed main branches.
6. Other: Electricity supply required. To engineers details.

Installation

510 Concrete foundations generally

1. Standard: To BS 8500-2.
2. Concrete: To engineers specification.
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: To engineers specification.
2. Components: Accurately positioned and securely supported.
3. Concrete fill: Fully compacted as filling proceeds.
4. Concrete foundations exposed to view: Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
5. Temporary component support: Maintain undisturbed for minimum 48 hours.

550 Damage to galvanized surfaces

1. Minor damage in areas up to 40 mm² (including on fixings and fittings): Make good.
   1.1. Material: Low melting point zinc alloy repair rods or powders made for this purpose or at least two coats of zinc-rich paint to BS 4652.
   1.2. Thickness: Sufficient to provide a zinc coating at least equal to the original layer.

560 Site painting

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

Deleted clauses

~~221A Bespoke Lounger Seat F4~~ DELETED

~~226 Bespoke Composite Table F6~~ DELETED

~~230 Bespoke Steel Pergola - design intent only Pe1~~ DELETED

~~262 Tree grilles T1~~ DELETED

~~383A Bollard Lighting in ground- design intent only L3.1~~ DELETED

~~383 Bollard Lighting in planters- design intent only L3.2~~ DELETED

Ω End of Section

Q55
External decks, boardwalks and bridges REVISED

Summary

Details of amended clauses

Change	Code	Prefix	Title	Suffix
REVISED	Q55/110		Composite Decking	
REVISED	Q55/670		Installation of surfacing	

Tendering - Not Used

General

110 Composite Decking REVISED

1. Description: To Eastern Courtyard. Refer to drawings *63073-PLA-ZZ-ZZ-DR-L-0002* for locations and *63073-PLA-ZZ-ZZ-DR-L-7010* for details
2. Surfacing: Deck boards
   2.1. Method of attachment: As per manufacturer's recommendation.
3. Supplier: : Millboard
4. Product:: Enhanced Grain
5. Colour:: Limed Oak
6. Size:: L 3600 x W 176 X D 32mm
7. Jointing:: To decking manufacturer's specifications.
8. Substructure:: Laid on aluminium joints, supported by aluminium pedestals, and positioned on concrete slabs.
9. Fixing:: Clips and accessories as necessary to manufacturers recommendations.
10. Laying:: Laid with 'softwood grain' side on on top

System performance - Not Used

Products - Not Used

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.

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: As per manufacturers recommendations.
   2.3. Additional pedestals: As per manufacturers recommendations.
3. Overall movement tolerance (maximum): 3 mm.

670 Installation of surfacing REVISED

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

Completion - Not Used

Ω End of Section