NBS Domestic sample

NBS

Containing:

A9 General requirements

System Outline

102 General requirements
• Requirement: Comply with obligations relating to the project as a whole, detailed in the following 'Execution' clauses.

Execution

602 Significant hazards of the design
• Hazards to be considered: Overhead power lines across site

604 Existing services
• Pre-commencement notifications to service providers:
- Party responsible for notifications:
Electricity: Contractor.
Gas: Contractor.
Sewage: Contractor.
Water: Contractor.
- Timing: In sufficient time not to delay progress.
• Identification of services: Before starting work, check and mark positions of services.

606 Undocumented defects in existing work
• Reporting undocumented defects: When discovered, immediately give notice.

608 General quality
• Sizes:
- General dimensions: Nominal.
• Accuracy and fit:
- General tolerances (maximum): To BS 5606 'Accuracy in building', tables 1 and 2.
• Execution generally:
- Fixing: Fix, apply, install or lay components securely, accurately, plumb, neatly and in alignment.
- Dimensions: Check on-site dimensions.
- Finished work: Not defective, e.g. not damaged, disfigured, dirty, faulty or out of tolerance.

610 Proprietary products
• Products generally:
- Source: Obtain products of each type from the same source or manufacturer.
• Manufacturers' recommendations:
- General: Unless otherwise specified comply with manufacturers' current printed recommendations and instructions. Keep copies on site.
- Conflict with other requirements: In the event of conflict with other specified requirements seek advice/ instruction.
• Substitution:
- Products:
Argument for substitution: If an alternative product to that specified is proposed, submit reasons for proposal.
Approvals: Obtain approval before ordering alternative products.

Total for A9 General requirements
To be carried forward to Tender Summary

D2 Site preparation

System Outline

102 Survey
- Objectives:
  - Site boundary: Confirm location and dimensions.
  - Buildings and structures adjacent to site boundary: Confirm locations and dimensions relative to boundary.
  - Above and below ground services: Identify and record service lines above and below ground within or immediately adjacent to site boundary.
- Report: Submit.

108 Site clearance
- Materials and features to be removed:
  - General: Rubbish and debris within site boundary.
  - Vegetation: Within area of new construction.
  - Topsoil: Within area of new construction.

110 Grading and levelling
- Grading to levels: As drawings.
- Excess subsoil: Remove from site.

Execution

606 Site clearance
- Trees, shrubs and hedges to be removed:
  - Methods: In accordance with HSE/Arboriculture and Forestry Advisory Group safety leaflets.
- Stripping topsoil:
  - Depth: Full depth of existing topsoil.
  - Around trees: Do not remove topsoil from below the spread of retained trees.

D2/102 Survey	
D2/108 Site clearance	
D2/110 Grading and levelling	
Total for D2 Site preparation To be carried forward to Tender Summary	

E1 Concrete foundations and floors

System Outline

102 Strip foundations

- Trenches: Excavations as clause 608.
- Foundations:
  - Concrete:
    Standard: To BS 8500-2.
    Type: Designated concrete GEN1 or Standardized prescribed concrete ST2.
    Placement: As clause 614.
- Backfill:
  - Type:
    Under concrete and pavings: Highways Agency type 1 granular fill.
  - Timing: On completion of substructure.

Execution

602 Excavating generally

- Surplus materials: Remove from site.
- Mud, rock projections, boulders and hard spots: Remove. Replace with granular fill, well consolidated.
- Local soft spots: Harden by tamping in granular fill.
- Excavations: Keep free from water.

604 Placing concrete generally

- Surfaces to receive concrete: Clean, with no debris or free water.
- Temperature range for concrete: 5–30°C. Do not place against frozen or frost covered surfaces.
- Concrete: Compact fully.

606 Placing fill generally

- Excavations and areas to be filled: Free from loose soil and rubbish.
- Freezing conditions: Do not use frozen materials or materials containing ice. Do not place fill on frozen surfaces.

608 Excavating trenches for strip foundations

- Trenches:
  - Depth below ground (minimum): 600 mm.
  - Width at base: Equal to design width of foundations.
  - Sides: Vertical and stable.
  - Timing: Excavate immediately before placing concrete.

614 Placing concrete for strip foundations

- Foundation dimensions (minimum) for each wall type:
  - Solid walling: 450 x 150 mm.

644 Curing and protecting concrete generally

- Evaporation: Limit throughout curing period. Cover immediately after compacting. Replace cover immediately after finishing operations.
- Curing periods (minimum):
  - Surfaces which in the finished building will be exposed to the elements, and wearing surfaces of floors and pavements: Ten days.
  - Other structural concrete surfaces: Five days.

E1/102 Strip foundations	
Total for E1 Concrete foundations and floors To be carried forward to Tender Summary	

F1 Masonry walling

System Outline

106 External solid walling
- Parameters: As clause 602.
- Walling below ground:
  - Type: Solid.
  - Masonry units: Aggregate concrete blocks as clause 308.
  - Mortar: Class M6 as clause 316.
- Dpc at ground floor: Flexible as clause 338.
- Walling above ground:
  - Masonry units: Facing bricks as clause 304.
  - Bond or coursing: Flemish bond.
  - Mortar:
    Type: Class M4 as clause 316.
    Joint profile to external faces: Struck.
- Openings:
  - Lintels: Steel as clause 360.
  - Sills:
    Type: Precast concrete as clause 368.
    Dpc below: Flexible as clause 338.

112 Internal solid walls
- Parameters: As clause 604.
- Walling below ground:
  - Type: Solid.
  - Masonry units: Aggregate concrete blocks as clause 308.
  - Mortar: Class M6 as clause 316.
- Dpc at ground floor: Flexible as clause 338.
- Walling above ground:
  - Masonry units: Facing bricks as clause 304.
  - Bond or coursing: Stretcher bond.
  - Mortar:
    Type: Class M4 as clause 316.
    Joint profile: Flush.
- Openings:
  - Lintels: Precast concrete as clause 358.

Products

304 Facing bricks
- Manufacturer: Contractor's choice.
- Type: Clay to BS EN 771-1.
- Colour and finish: Multi.
- Unit sizes: 215 x 65 x 103 mm.
- Durability: F2.

308 Aggregate concrete blocks
- Manufacturer: Contractor's choice.
- Standard: To BS EN 771-3.
- Density: 1800–2000 kg/m³.
- Compressive strength (minimum): Manufacturer's standard.
- Unit sizes: 440 x 215 x 100 mm.

312 Manufactured stone blocks
- Manufacturer:
- Product range or reference:
- Standard:
- Colour and finish:
- Unit sizes:

316 Mortar
- Standards:
  - Mortars: To BS EN 998-2.
  - Cements:
    Masonry: To BS EN 413-1.
    Portland: To BS EN 197-1, type CEM I.
    Sulfate resisting: To BS 4027.
  - Lime: To BS EN 459-1.
  - Sand: To BS EN 13139.
- Mortar mixes:
  - Class M4: 1:1:6 cement:lime:sand.
  - Class M6: 1:0.5:4 cement:lime:sand.
- Site batching: Permitted.
- Site mixed additives: Not permitted.

338 Flexible dpcs
- Manufacturer: Contractor's choice.
- Type: Bitumen polymer, Agrément (BBA) certified.
- Width: As drawings.

358 Precast concrete lintels
- Manufacturer: Contractor's choice.
- Standard: To BS EN 845-2.
- Size: As drawings.

360 Steel lintels
- Manufacturer: Contractor's choice.
- Standard: To BS EN 845-2.
- Size: As drawings.

368 Precast concrete sills
- Manufacturer: Contractor's choice.
- Standard: To BS 5642-1.
- Colour and finish: Natural, smooth.
- Size:

Execution

602 External walling parameters
- External walling:
  - Solid walling below ground:
    Wall width: 215 mm.
  - Solid walling above ground:
    Wall width: 215 mm.

604 Internal walling parameters
- Internal walling:
  - Solid walling below ground:
    Wall width: 100 mm.
  - Solid walling above ground:
    Wall width: 103 mm.

606 Laying brickwork and blockwork

- General:
  - Mortar joints: Lay units on full bed. Fill vertical joints.
  - Lift heights (maximum):
    Total: Not more than 1.5 m daily.
- Facework:
  - Lowest courses: To extend 150 mm minimum below finished ground level.
  - Coursing: Plumb, with consistent appearance.
  - Built-in components: Align with walling joints.
  - Cleanliness:
    Walling units: Keep clean.

616 Laying horizontal dpcs

- Bedding and lapping: Lay on full mortar bed. Lap 100 mm (minimum) at joints and fully lap at angles.
- Width: At least full width of masonry leaf.
- Overlying construction: Full even bed of mortar to receive next masonry course.
- Overall finished joint thickness: As close to thickness of general walling joints as practicable.
- Ground level dpcs:
  - Level: At least 150 mm above finished ground level.
  - Joint with damp proof membrane: Continuous and sealed.
- Sill dpcs: In one piece. Turn up at back where the sill is in contact with inner leaf.

F1/106 External solid walling

F1/112 Internal solid walls

Total for F1 Masonry walling
To be carried forward to Tender Summary

G2 Structural timber and general carpentry

System Outline

108 Timber joist flat roof structure
- Joists:
  - Type: As clause 302.
  - Setting out parameters: As clause 602.
- Preservative treatment: As clause 372 to all timber.
- Support: Wall plates with framing anchors as clause 356.
- Restraint:
  - Lateral restraint straps: As clause 364.
  - Vertical restraint straps: To wall plates as clause 370.
- Timber blocking:
  - Type: Softwood.
  - Size: As adjacent structural timbers.
- Strutting: Metal herringbone as clause 354.
- Roof decking:
  - Type: Rigid sheet as clause 312.
  - Fasteners: Annular ring shanked nails as clause 374.

Products

302 Flat roof joists
- Type: Softwood.
- Certification: Forestry Stewardship Council (FSC) chain of custody.
- Strength class:
  - Standard: To BS EN 338.
  - Class: C24.
- Size: 47 x 195 mm.

312 Rigid sheet flat roof deck
- Manufacturer: Contractor's choice.
- Type: Plywood to BS EN 636, structural use, bonding class 3.
- Certification: Forestry Stewardship Council (FSC) chain of custody.
- Thickness: 22 mm.

350 Wall plates
- Type: Softwood.
- Size: 63 x 100 mm.

354 Metal herringbone struts
- Manufacturer: Contractor's choice.
- Material: Pregalvanized steel.
- Size: To suit joist spacing.

356 Framing anchors
- Manufacturer: Contractor's choice.
- Material: Galvanized steel.
- Type: To suit connection.

364 Lateral restraint straps to joists
- Manufacturer: Contractor's choice.
- Material: Galvanized steel.
- Type: Flat strap with cranked end.
- Size:
  - Section: 30 x 5 mm (minimum).
  - Length: To carry over at least three joists.

370 Vertical restraint straps to wallplates
- Manufacturer: Contractor's choice.
- Material: Galvanized steel.
- Type: Flat strap with cranked end.
- Size:
  - Section: 30 x 2.5 mm (minimum).
  - Length: 1000 mm (minimum).

372 Preservative treatment
- Manufacturer: Contractor's choice.
- Treatment regime:
  - Timber for general construction: To Wood Protection Association (WPA) Commodity Specification C8.
- Type: Boron.
- Preservative solution for site application to cut timbers: As recommended for the purpose by main treatment solution manufacturer.

374 Fasteners
- Nails:
  - Type: Stainless steel, dimensions to BS 1202-1 or to BS EN 10230-1.
  - Form: Flat head, annular ring shanked.
  - Shank diameter (minimum): 3.0 mm.
  - Length: To penetrate 44 mm (minimum).

Execution

604 Setting out flat roof joists
- Joist centres: As drawings.

612 Fixing timber joists generally
- Standard: In accordance with BS 8103-3.
- Bowed joists: Install with positive camber.
- Fixing:
- Herringbone strutting between joists:
  - Spacing:
    Joist spans of 2.5–4.5 m: One row at centre span.
    Joist spans over 4.5 m: Two rows equally spaced.
- Outer joists against masonry walls:
  - Location: Position about 50 mm from masonry.
  - Packing at restraint strap positions: Insert softwood folding wedges between joist and masonry and fix solid blocking between joists along full length of each strap.
  - Packing at internal walls: Insert softwood folding wedges between joist and masonry on line of strutting and at 2 m (maximum) centres.

622 Fixing rigid sheet roof decking generally
- Setting out: Fully support long edges at right angles to structure. Support end edges. Stagger end joints.
- Fixing: Fasteners at 150 mm (maximum) centres to edges and at 200 mm (maximum) centres at supports.
- Joint cover strips: Bitumen membrane strips, 150 mm (minimum) wide. Lay centrally over joints. Adhere with bonding compound along edges.

G2/108 Timber joist flat roof structure

Total for G2 Structural timber and general carpentry
To be carried forward to Tender Summary

Q1 Landscape

System Outline

102 In situ concrete pavings

- Substrate:
  - Formation levels: Excavating as clause 608.
  - Sub-bases:
    Type: Clean granular crushed hard rock and/ or quarry waste, free from harmful matter and excessive dust and clay, well graded, passing a 75 mm BS sieve.
    Placement: As drawings.
  - Membrane: Separation as clause 308.
- Concrete for paving:
  - Standards: To BS 8500-1 and BS 8500-2.
  - Type: Designated concrete PAV1.
  - Use of recycled aggregates: Permitted.
  - Placement: As drawings.

110 Brick, flag and slab mortar bedded pavings

- Substrate:
  - Formation levels: Excavating as clause 608.
  - Sub-bases:
    Type: Clean granular crushed hard rock and/ or quarry waste, free from harmful matter and excessive dust and clay, well graded, passing a 75 mm BS sieve.
    Placement: As clause 612.
- Edgings: Precast concrete as clause 410.
- Paving:
  - Type: Concrete flags as clause 324.
  - Placement: As clause 626.

118 Metal fencing

- Type: Chain link as clause 340.
- Height: As drawings.
- Fixing: As clause 629.

122 Masonry freestanding walls

- Trenches: As drawings.
- Concrete for foundations:
  - Standards: To BS 8500-1 and BS 8500-2.
  - Ready mixed:
    Type: Designated concrete GEN1 or Standardized prescribed concrete ST2.
  - Use of recycled aggregates: Permitted.
  - Placement: As drawings.
- Walling:
  - Parameters: As clause 634.
  - Walling below ground:
    Type: Solid.
    Masonry units: Clay bricks as clause 344.
    Mortar for walling: Class M6 as clause 362.
  - Dpc at ground: Slate as clause 356.
  - Walling above ground:
    Type: Solid.
    Masonry units: Clay bricks as clause 344.
    Mortar for walling: Class M6 as clause 362.
- Capping:
  - Type: Brick on edge.
  - Mortar for walling: Class M12 as clause 362.

140 Topsoiling and grass seeding

- Topsoil:
  - Type: Obtain from site strip
  - Amelioration: Friable sanitized and stabilized compost in accordance with BSI PAS 100.
- Seed:
  - Certification: OECD Grass and legume seed scheme.
  - Mixture: Manufacturer's standard mix for all grassed areas.

Products

308 Separation membrane

- Manufacturer: Contractor's choice.
- Material: Polyethylene.
- Thickness (minimum): 250 micrometres (1000 gauge).

324 Concrete flags

- Manufacturer: Contractor's choice.
- Standard: To BS EN 1339.
- Size: 450 x 450 x 50 mm.
- Colour: Natural.

340 Chain link metal fencing

- Manufacturer: Contractor's choice.
- Standard: To BS 1722-1.
- Height: 1800 mm.
- Posts: Concrete.
- Chain link mesh: Plastics coated.

344 Clay bricks

- Manufacturer: Contractor's choice.
- Standard: To BS EN 771-1.
- Colour: As drawings.
- Unit sizes: 215 x 65 x 103 mm.
- Durability: F2.

356 Slate dpcs

- Type: Two course natural slates, staggered joints.
- Source: Contractor's choice.

362 Mortar for walling

- Standards:
  - Mortars: To BS EN 998-2.
  - Cements:
    Portland cement: To BS EN 197-1, type CEM I.
  - Lime: To BS EN 459-1.
  - Sand: To BS EN 13139.
- Mixes:
  - Class M6: 1:0.5:4 cement:lime:sand.
  - Class M12: 1:0.25:3 cement:lime:sand.
- Site batching: Permitted.
- Site mixed additives: Not permitted.

410 Precast concrete edgings

- Manufacturer: Contractor's choice.
- Standard: To BS EN 1340.
- Size: 50 x 150 mm.
- Edges: Square.
- Colour: Natural

Execution

602 Excavating generally

- Surplus materials: Remove from site.
- Mud, rock projections, boulders and hard spots: Remove. Replace with granular fill, well consolidated.
- Local soft spots: Harden by tamping in granular fill.
- Water: Keep excavations free from water.

604 Placing concrete generally

- Surfaces to receive concrete: Clean, with no debris or free water.
- Temperature range for concrete: 5–30°C. Do not place against frozen or frost covered surfaces.
- Compaction: Compact fully.

606 Placing fill generally

- Excavations and areas to be filled: Free from loose soil and rubbish.
- Freezing conditions: Do not use frozen materials or materials containing ice. Do not place fill on frozen surfaces.

608 Excavating to sub-base formation levels

- Formation levels: As drawings.
- Excavation: Excavate to formation level in dry conditions immediately before compaction.
- Compaction of formation: Adequate to resist subsidence and deformation during construction and of the completed paving when in use.
- Compacted surface: Well closed, no movement under compaction plant.
- Permissible deviation (maximum) from required levels, falls and cambers: ± 20 mm.

612 Placing sub-base hardcore fill for paths and patios

- Placing fill:
  - Spreading and levelling: Spread and level in 100 mm (maximum) layers.
  - Compacting fill:
    Compaction: Sufficient to resist subsidence and deformation of the completed paving when in use.
    Compacted thickness (minimum): To achieve required levels.
  - Permissible deviation (maximum) from required levels, falls and cambers: ± 20 mm.

614 Laying precast concrete edgings

- Laying generally:
  - Cutting units: Cut neatly and accurately without spalling. Form neat junctions.
  - Bedding and backing of units: Bed on 1:3 cement:sand mortar. Secure units with a continuous haunching of concrete.
- Deviations (maximum):
  - Level: ±6 mm.
  - Horizontal and vertical alignment: 3 mm in 3 m.

618 Laying pavings generally

- Cutting units: Cut neatly and accurately without spalling. Form neat junctions.
- Laying generally:
  - Preparation: Remove loose material, rubbish and standing water.
  - Lines and levels of finished surface: Smooth and even with falls to prevent ponding.

620 Laying in situ concrete paving

• Separation membrane: Lay immediately before placing concrete, with 300 mm (minimum) lapped joints.
• In cold weather: Do not use frozen materials. Do not place concrete against frozen or frost covered surfaces.
• Air temperature: Do not place concrete when air temperature is below 3°C on a falling thermometer. Do not resume placing until rising air temperature has reached 3°C.
• Compacting: Fully compact concrete to full depth.
• Finishing:
  - Condition for applied finishing: A dense, even textured surface free from laitance or excessive water.
  - Brushed finish: Approximately 1 mm texture depth at right angles to longitudinal direction of the slab.
• Deviations (maximum):
  - Finished surface generally: ±6 mm.
  - Level adjacent to gullies and manholes: 0 to +3 mm.

626 Laying mortar bedded brick, flag or slab paving

• Laying units:
  - Laying: Lay units on 25 mm (minimum) semi-dry full mortar bed.
  - Condition: Firm so that rocking or subsidence does not occur or develop.
  - Appearance: Even and regular with even joint widths and free of mortar and sand stains.
• Protection from traffic: After laying keep free from pedestrian traffic for four days (minimum).
• Dry mortar joints:
  - Execution: When paving is dry and rain is not expected.
  - Jointing: Brush dry mortar into joints and ram firmly home until joints are filled solid and flush.
  - Protection: After filling joints, protect from rain for three days (minimum).
• Deviations (maximum):
  - Finished surface generally: As drawings.

629 Installing metal fencing

• Chain link fencing:
  - Centres of posts (maximum):
    Straining posts: 69 m in straight runs and at all ends, corners, changes of direction and acute variations in level.
    Intermediate posts: 3 m.
  - Completion: Submit manufacturer's and installer's certificates, to BS 1722-1.

630 Excavating trenches for wall foundations

• Trenches:
  - Depth below ground (minimum): 600 mm.
  - Trench width: Width at base equal to design width of foundations.
  - Condition: With stable sides.

632 Placing concrete foundations for walling

• Foundation dimensions (minimum): 600 x 150 mm.

634 Freestanding garden walling parameters

• Walling below ground:
  - Locations: As drawings.
  - Wall width: 215 mm.
• Walling above ground:
  - Wall width: 215 mm.

638 Laying masonry garden walling generally

- Basic brickwork:
  - Mortar joints: Lay units on full bed. Fill vertical joints.
  - Lift height (maximum): 1.2 m above other parts of work but not more than 1.5 m daily.
- Horizontal dpcs:
  - Bedding: Lay on full mortar bed.
  - Width: At least full width of masonry leaf.
  - Overlying construction: Full even bed of mortar to receive next masonry course.
  - Ground level dpcs: 150 mm (minimum) above finished ground.

642 Topsoiling

- Compacted soil: Loosen, aerate and break up soil to particles of 2–8 mm.
- Undesirable material: Remove weeds, roots, stones and foreign matter.
- Spreading topsoil: Spread in 150 mm layers (maximum before firming) when reasonably dry.
- Depths after firming and settlement (minimum):
  - Areas to be grassed: 100 mm.
- Within root spread of existing trees: Do not cultivate.

646 Grass seeding and turfing

- Fertilizing: Before final cultivation and 3–5 days before seeding/ turfing.
- Final cultivation:
  - Surface preparation: Reduce to fine, firm tilth with good crumb structure. Depth, 25 mm (minimum). Rake to a true, even surface.
  - Surface stones and earth clods: Remove those exceeding 20 mm.
- Watering: Soak the full depth of topsoil. Water evenly.
- Seeding: Good seed contact with the soil.

Q1/102 In situ concrete pavings	
Q1/110 Brick, flag and slab mortar bedded pavings	
Q1/118 Metal fencing	
Q1/122 Masonry freestanding walls	
Q1/140 Topsoiling and grass seeding	
Total for Q1 Landscape To be carried forward to Tender Summary	

R1 Above and below ground drainage

System Outline

108 Threshold rainwater drainage
- Drawing references:

118 Surface water drainage pipework
- Drainage layout and levels: As drawings.
- Trenches:
  - Excavating trenches: As clause 614.
  - Completing trenches: For plastics pipelines as clause 618.
- Pipework: Plastics solid wall as clause 350.
- Fittings:
  - Bends and branches: As required to complete the installation.
  - Gullies: Trapped as clause 362.
- Channels: As clause 322

122 Inspection chambers and manholes
- Inspection chambers:
  - Proprietary chambers: Concrete as clause 366.
- Fittings:
  - Channels: As required to complete the installation.
  - Steps: Required for chambers deeper than 900 mm.
- Covers and frames: As clause 384.
- Backfilling: As clause 642.

Products

322 Rainwater drainage channels
- Manufacturer: Contractor's choice.
- Type: Polymer concrete.
- Length: Manufacturer's standard.
- Outlet size: 110 mm.
- Grid: Galvanized steel.

350 Plastics solid wall pipes
- Manufacturer: Contractor's choice.
- Type: Solid wall PVCU pipes to BS EN 1401-1.
- Size: As drawings.

362 Trapped gullies
- Manufacturer: Contractor's choice.
- Type: Plastics to BS 4660 or BS EN 13598-1, Kitemarked.
- Outlet size: As pipeline.

366 Concrete inspection chambers
- Manufacturer: Contractor's choice.
- Standard: To BS 5911-4
- Size: As drawings.

384 Access covers and frames
- Manufacturer: Contractor's choice.
- Standard: To BS EN 124.
- Size: 450 x 450 mm.
- Loading grades: B125.

388 Granular materials
- Granular material (for general use):
  - Source: Contractor's choice.
  - Standard: To BS EN 12620.
  - Size: 4/10.

Execution

614 Excavating pipe trenches generally
- Trench from bottom up to 300 mm above crown of pipe:
  - Sides: Vertical.
  - Width: As small as practicable but not less than external diameter of pipe plus 300 mm.
- Timing: Excavate to formation immediately before laying beds or pipes.
- Mud, rock projections, boulders and hard spots: Remove. Replace with bedding material, well consolidated.
- Local soft spots: Harden by tamping in bedding material.

618 Completing trenches for plastics pipelines
- Granular bed and side fill:
  - Bedding: 100 mm (minimum) compacted granular material.
  - Granular support: After initial testing of pipeline, lay and compact by hand more granular material uniformly to 100 mm above crown of pipe.

626 Laying below ground drainage pipes generally
- Alignment: To true line and regular gradient on even bed for full length of barrel with sockets (if any) facing up the gradient.
- Hard packings under pipes: Do not use.

630 Backfilling to trenches generally
- Backfill from top of surround or protective cushion:
  - Type: Material excavated from trench. Compact in 300 mm layers.
  - Protection: Do not use heavy compactors where there is less than 600 mm of material over pipes.

642 Backfilling to chambers and tanks
- Type: As chamber manufacturer's recommendations.

System Completion

804 Testing foul and surface water drainage pipework
- England and Wales: As Approved Document H, part H1, 2.60 (air test) or 2.61 (water test).

806 Testing manholes and inspection chambers
- Exfiltration: To BS EN 1610, method W.
- Infiltration: No identifiable flow of water penetrating chamber.

808 Cleaning below ground drainage systems
- Cleaning: Flush out the whole installation and remove silt and debris immediately before handing over.

R1/108 Threshold rainwater drainage	
R1/118 Surface water drainage pipework	
R1/122 Inspection chambers and manholes	
Total for R1 Above and below ground drainage To be carried forward to Tender Summary	

Tender Summary	£
A9 General requirements	
D2 Site preparation	
E1 Concrete foundations and floors	
F1 Masonry walling	
G2 Structural timber and general carpentry	
Q1 Landscape	
R1 Above and below ground drainage	
Total £	
Contractor's assessment of VAT £	
Grand total £	

Signed _____

For and on behalf of _____

Date _____