P4719/1

Pinnacleesp Limited

Core Education Trust

Jewellery Quarter Sports Hall

Jewellery Quarter Academy Outline Specification

27-10-2023

Contents

C10
Site survey

Surveys

125 Site survey

1. Description: TOPOGRAPHIC
2. Qualifications of survey author: Suitably qualified land surveyor
3. Area to be surveyed: Whole site
4. Site datum: Submit proposals
5. Objectives
   - 5.1. General: Establish/ record positions, dimensions and levels including Outlines of structures adjacent to site within 10 m of provisional boundary.
   - 5.2. Features: Record positions, dimensions and levels including Access covers Drainage manhole covers and invert levels Bench marks Fences Gates and stiles Gullies Hedgerows height and spread Isolated trees height and spread Kerbs Overhead cables Paths, roads and tracks adjacent to site within ??? m of boundary paths, roads and tracks into and across the site Paving Planted beds Service poles and pylons Shrubbery Street furniture Walling and wall head height.
6. Methodology: Do not use intrusive survey techniques. Avoid disturbing natural features or wildlife.
   - 6.1. Permissible survey techniques: Submit proposals
7. Control points: Establish and record measuring stations/ targets to facilitate future remeasuring.
   - 7.1. Standards: To BS 5964-1 and -2.
     - 7.1.1. Type: Submit proposals
8. Dimensional accuracy
   - 8.1. Angular: Submit proposals
   - 8.2. Horizontal: Submit proposals
   - 8.3. Vertical: Submit proposals
9. Source data for reference/ verification: The following information is provided: Preliminary survey report.
10. Site survey report: Submit.
    - 10.1. Timing: Within four weeks of completion of survey work

Survey techniques

210 Desk study

1. Description: Existing Structures & Services
2. General: Carry out a study of available information.
   - 2.1. Scope of study: Obtain and identify all available current Statutory Authority, Statutory Undertaker and Ordnance Survey information regarding the site.
   - 2.2. Features to be included: All above ground features, and underground services. Identify the locations of all benchmarks and permanent ground markers.
   - 2.3. Specific requirements as to method: Submit evidence for verification of documents. Do not, without written approval, use information from sources over three years old, or scales smaller than 1:500.

410 Bench marks

1. Unrecorded bench marks and other survey information: Give notice when found and notify Ordnance Survey.

420 Unforeseen hazards

1. Unrecorded hazards and hazardous materials: Give notice when found. Do not disturb.

430 Survey instruments

1. Equipment calibration: In accordance with manufacturer's recommendations.
2. Site use calibration: To relevant parts of BS 7334-1, -3, -4, -5 and -8.
3. Calibration: Use only persons accredited by the United Kingdom Accreditation Service (UKAS).
4. Calibration compliance: Submit evidence prior to use.

Completion - Not Used

Ω End of Section

C11
Site investigation

General requirements

110 Extent of investigation

1. Location: Area where development is proposed.
2. Scope
   - 2.1. Desk study: Required
   - 2.2. Exploratory holes: Boreholes to locate and identify soil types to a depth of 8 metres below existing ground level
3. Geophysical tests: Required
4. Instrumentation: Submit proposals
5. Reports
   - 5.1. Type: Factual and interpretive reports
   - 5.2. Other requirements: Submit recommendations for further investigation, special studies and remedial work
6. Objectives: Provide data for the design of foundations

150 Public safety

1. Protection of the public and occupiers of adjoining property: Erect temporary fences, hoardings, footpaths, warning lights, etc. before starting work.
2. Means of escape from adjoining property in the event of fire: Maintain for the duration of the Works.
3. Specific hazards which may be encountered: Existing service connections

160 Site safety

1. Excavations and boreholes: Support sides and keep free from ground and surface water.
2. Protection: Submit proposals

180 Competence

1. Skill and experience: Appropriate for the type of work.
   - 1.1. Evidence: Submit prior to commencement.

Investigation

242 Contractor designed ground investigation

1. Description: - FOR DESIGN OF EMBEDDED RETAINING WALLS - FOR DESIGN OF GROUND BEARING SLABS - FOR DESIGN OF PILED FOUNDATIONS - FOR DESIGN OF RETAINING WALLS - FOR DESIGN OF SPREAD FOUNDATIONS - FOR DESIGN OF SLOPE STABILITY - FOR DESIGN OF UNDERPINNING
2. Requirements: Design and carry out a ground investigation to determine the soil profile, physical and chemical nature of the soils and the necessary design parameters.
3. Standard: BS EN 1997-2 UK Specification for ground investigation (SFGI) published by the Institution of Civil Engineers Site Investigation Steering Group
   - 3.1. Definitions: None, other than those included in the standard
4. Amendments to standard: None
   - 4.1. Substitutions for reference documents: None

5. Proposals: Submit proposals for depth of boreholes number, location and depth of boreholes sampling and site testing laboratory testing.
    5.1. Timing: 21 days before starting work on site

267 Substructure inspection pits

1. Purpose: To determine the dimensions and formation level of existing substructures and the nature of the soil on which they are bearing.
2. Pit dimensions: The minimum necessary for the described purpose.
3. Method of excavation: Hand dig
    3.1. Precautions: As excavation proceeds, probe through the pit floor to find the bottom of the substructure
4. Backfill material: Designated cement-bound concrete to a level 150 mm above the substructure formation; compacted, as dug material above
5. Reinstatement: As existing
6. Record: Dimensions of visible face of substructure; level of substructure formation; sequence of strata visible in sides of pit; level at which soil samples were taken.

Field tests

300 Geophysical tests

1. Standard: Carry out and report in accordance with BS 7022 and BS EN ISO 22475-1.
2. Purpose: To determine extent and depth of made ground.
3. Test/ method: Borehole geophysical logging
    3.1. Locations: At every borehole
4. Test report: Include interpretation of test results, clearly identifying any areas of uncertainty.
    4.1. Format: Digital
    4.2. Timing: Within 14 days of completing tests

Sampling - Not Used

Laboratory tests - Not Used

Ω End of Section

C20
Demolition

General requirements

110 Desk study/ survey

1. Scope: Before starting deconstruction/ demolition work, examine available information, and carry out a survey of: The site on which the structure or structures stand.
2. Report and method statements: Submit, describing: All remaining structures
   - 2.1. Form, condition and details of the structure or structures, the site, and the surrounding area.
     - 2.1.1. Extent: As survey boundary drawing
   - 2.2. Type, location and condition of features of historical, archaeological, geological or ecological importance.
   - 2.3. Type, location and condition of adjoining or surrounding premises that might be adversely affected by removal of the structure or structures, or by noise, vibration and dust generated during deconstruction or demolition.
   - 2.4. Identity and location of services above and below ground, including those required for the contractor's use, and arrangements for their disconnection and removal.
   - 2.5. Form and location of flammable, toxic or hazardous materials, including lead-based paint, and proposed methods for their removal and disposal.
   - 2.6. Form and location of materials identified for reuse or recycling, and proposed methods for removal and temporary storage.
   - 2.7. Proposed programme of work, including sequence and methods of deconstruction or demolition.
   - 2.8. Details of specific pre-weakening required.
   - 2.9. Arrangements for protection of personnel and the general public, including exclusion of unauthorized persons.
   - 2.10. Arrangements for control of site transport and traffic.
   - 2.11. Special requirements: Details of services supplied by the statutory authority Results of tests to determine the precise nature of hazardous materials Site waste management plan development and proposals Structural calculations in support of method statements
3. Format of report: Electronic

120 Extent of deconstruction/ demolition

1. General: Subject to retention requirements specified elsewhere, deconstruct/ demolish structures down to Foundation level: Break up and dig out foundations.

130 Groundworks

1. Old foundations, slabs and the like: Break out in locations and to the extents stated.
2. Contaminated material: Remove, and carry out remediation required by the 'Enforcing Authority'
3. Removal of deleterious material: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil Grub up and dispose of large roots without undue disturbance of soil and adjacent areas

140 Benchmarks

1. Unrecorded benchmarks and other survey information: Give notice when found. Do not remove marks or destroy the fabric on which they are found

150 Features to be retained

1. General: Keep in place and protect the following: Gates and gate pillars.

Services affected by deconstruction and demolition

210 Services regulations

1. Work carried out to or affecting new and/ or existing services: Carry out in accordance with the by-laws and regulations of the relevant statutory authority

220 Location and marking of services

1. Services affected by deconstruction/ demolition work: Locate and mark positions
2. Mains services marking: Arrange with the appropriate authorities for services to be located and marked
    2.1. Marking standard: In accordance with Street Works UK publication 'Guidance on the Positioning and Colour Coding of Underground Utilities' Apparatus'.

230 Services disconnection arranged by contractor

1. General: Arrange with the appropriate authorities and responsible private organizations for disconnection of services, and removal of fittings and equipment owned by those authorities prior to starting deconstruction or demolition

240 Disconnection of drains

1. General: Locate, disconnect and seal disused drain connections. Agree where drains are to be sealed
2. Sealing: Permanent, and within the site

250 Live foul and surface water drains

1. Drains and associated manholes, inspection chambers, gullies, vent pipes and fittings: Leave clean and in working order at completion of deconstruction or demolition work
2. Other requirements: Post-completion camera survey.

260 Service bypass connections

1. General: Provide as necessary to maintain continuity of services to occupied areas of the site on which the deconstruction or demolition is taking place and to adjoining sites and properties
2. Minimum notice to adjoining owners and all affected occupiers: 72 hours, if shutdown is necessary during changeover
3. Timing: Complete bypass of services before demolition works start

270 Services to be retained

1. Damage to services: Give notice, and notify relevant service authorities and/ or owner/ occupier regarding damage arising from deconstruction or demolition
2. Repairs to services: Complete as directed, and to the satisfaction of the service authority or owner

Deconstruction and demolition work

310 Workmanship

1. Standard: Demolish structures in accordance with BS 6187.
2. Operatives
    2.1. Appropriately skilled and experienced for the type of work.

2.2. Holding, or in training to obtain, relevant Construction Skills certification of competence.

3. Site staff responsible for supervision and control of work: Experienced in the assessment of risks involved and methods of deconstruction and demolition to be used.

320 Gas and vapour risks

1. Precautions: Prevent fire or explosion caused by gas and vapour from tanks, pipes, etc.

330 Dust control

1. General: Minimize airborne dust by periodically spraying deconstruction and demolition works with an appropriate wetting agent. Keep public roadways and footpaths clear of mud and debris
2. Lead dust: Submit method statement for control, containment and clean-up regimes.

340 Health hazards

1. Precautions: Protect site operatives and general public from hazards associated with vibration, dangerous fumes and dust arising during the course of the works.

350 Adjoining property

1. Temporary support and protection: Provide. Maintain and alter, as necessary as work proceeds. Do not leave unnecessary or unstable projections.
2. Defects: Report immediately on discovery.
3. Damage: Minimize disturbance. Repair promptly to ensure safety, stability, weather protection and security.
4. Support to foundations: Do not disturb.

360 Structures to be retained

1. Extent: As drawings
2. Parts which are to be kept in place: Protect. Give notice and notify service authority or owner of damage arising from the execution of the works.
3. Interface between retained structures and deconstruction or demolition: Cut away and strip out with care to minimize the amount of making good needed

370 Partly demolished structures

1. General: Leave in a stable condition, with adequate temporary support at each stage to prevent risk of uncontrolled collapse. Make secure outside working hours.
2. Temporary works: Prevent overloading due to debris.
3. Access: Prevent access by unauthorized persons.

380 Dangerous openings

1. General: Provide guarding at all times, including outside of working hours. Illuminate during hours of darkness.
2. Access: Prevent access by unauthorized persons.

391 Asbestos-containing materials – unknown occurrences

1. Discovery: Give notice immediately of suspected asbestos-containing materials when discovered during deconstruction and demolition work. Avoid disturbing such materials.
2. Removal: Submit statutory risk assessments and details of proposed methods for safe removal.

410 Unforeseen hazards

1. Discovery: Give notice immediately when hazards such as unrecorded voids, tanks, chemicals, are discovered during deconstruction or demolition.
2. Removal: Submit details of proposed methods for filling, removal, etc.

442 Site surface at completion

1. Topography: Grade the site to follow the levels of adjacent areas
2. Temporary surface: Cover the site with 150 mm-thick consolidated layer of reclaimed rubble.

450 Site condition at completion

1. Debris: Clear away and leave the site in a clean, tidy and secure condition.

Materials arising

510 Contractor's property

1. Components and materials arising from the deconstruction and demolition work: Property of the contractor, except for designated items which remain the property of the employer
2. Action: Remove from site as work proceeds, where not to be reused or recycled for site use

520 Recycled materials

1. Materials arising from deconstruction and demolition work: Can be recycled or reused elsewhere in the project, subject to compliance with the appropriate specification and in accordance with any site waste management plan.
2. Evidence of compliance: Submit full details and supporting documentation.
   2.1. Verification: Allow adequate time in programme for verification of compliance.

Ω End of Section

D20
Excavating and filling

Generally/the site

110 Site investigation

1. Report: See Preliminaries section A12

145 Variations in ground water level

1. Give notice: If levels encountered are significantly different from levels in the site investigation report or previously measured.

150 Existing services, features and structures

1. Services: Locate
2. Site features to be retained: Established trees.
3. Structures: See section A34 for details of protection.

Clearance/excavating

164 Tree roots

1. Protected area: Do not cut roots within precautionary protection area.
    1.1. Size of area: Circle around each tree of radius 4 times trunk girth, measured 1.5 m above ground level
2. Excavation in protected area
    2.1. Method: By hand
    2.2. Backfill as soon as possible or temporarily line with polyethylene sheet to reduce evaporation.
3. Outside protected area: Give notice of roots exceeding 25 mm and do not cut without approval.
4. Cutting
    4.1. Make clean smooth cuts with no ragged edges.
    4.2. Pare cut surfaces smooth with a sharp knife.
    4.3. Treatment of cut roots: Not required
5. Backfill: As dug material, enriched with amelioration as section Q31

168 Site clearance

1. Timing: Before topsoil stripping, if any.
2. General: Clear site of rubbish, debris and vegetation. Do not compact topsoil.
3. Treatment: Apply a suitable non-residual herbicide to areas to receive planting

170 Removing small trees, shrubs, hedges and roots

1. Identification: Clearly mark trees to be removed.
2. Small trees, shrubs and hedges: Cut down.
3. Roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
4. Safety: Comply with Forest Industry Safety Accord safety leaflets.

175 Felling large trees

1. Definition: Girth over 600 mm.

2. Identification: Clearly mark trees to be removed.
3. Safety: Comply with Forest Industry Safety Accord safety leaflets.
4. Felling: As close to the ground as possible.
5. Stumps: Remove by stump grinding
6. Work near retained trees: Take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained, where tree canopies overlap and in confined spaces generally.

220 Stripping topsoil

1. General: Before beginning general excavation or filling, strip topsoil from areas where there will be regrading, buildings, pavings/ roads and other areas shown on drawings.
2. Depth
   2.1. Remove to an average depth of 200 mm.
   2.2. Give notice where the depth of topsoil is difficult to determine.
3. Handling: Handle topsoil for reuse or sale in accordance with clause 225.
4. Around trees: Do not remove topsoil from below the spread of trees to be retained.
5. Site storage: Not required

221 Treating topsoil

1. Treatment: Apply a suitable translocated nonresidual herbicide.
2. Timing: Not less than two weeks before excavating topsoil.

225 Handling topsoil

1. Standard: To BS 3882.
2. Aggressive weeds
   2.1. Species: Notify the presence of species included in the Weeds Act, section 2, or the appropriate Wildlife and Countryside Act for the relevant jurisdiction.
   2.2. Give notice: Obtain instructions before moving topsoil.
3. Contamination: Do not mix topsoil with:
   3.1. Subsoil, stone, hardcore, rubbish or material from demolition work.
   3.2. Other soil or material containing aggressive weeds, sharps, plastics and non soil forming materials and notifiable animal or plant diseases.
   3.3. Oil, fuel, cement or other substances harmful to plant growth.
   3.4. Other classifications of topsoil.
4. Multiple handling: Keep to a minimum. Use topsoil immediately after stripping.

240 Adjacent excavations

1. Requirement: Where an excavation encroaches below a line drawn at an angle from the nearest formation level of another higher excavation, the lower excavation, all work within it and backfilling thereto, must be completed before the higher excavation is made.
2. Angle of line below horizontal: 45°
3. Backfill material: Hardcore filling

242 Excavations adjacent to existing backfilled trenches

1. Proximity: When width of undisturbed ground between the two excavations will be less than 2m.
2. Action: Assume that the ground between the trenches is unstable and provide side support accordingly.

245 Excavations adjacent to existing foundations – Contractor's design

1. Prior to commencing excavation: Excavate trial pits adjacent to existing foundations to determine extent and formation levels.
2. Submit proposals: For ensuring the safety of the existing foundations if the formation level for the new excavation will be below the formation level of the existing foundation.
3. Backfill material to new excavation: Contractiors choice

250 Permissible deviations from formation levels

1. Beneath mass concrete foundations: ±25 mm.
2. Beneath ground bearing slabs and r.c. foundations: ±15 mm.
3. Embankments and cuttings: ±50 mm.
4. Ground abutting external walls: ±50 mm, but such as to ensure that finished level is not less than 150 mm below dpc.

255 Accuracy – linear dimensions

1. Permissible deviations from linear dimensions generally:

260 Inspecting formations

1. Give notice: Make advance arrangements for inspection of formations for foundations and filling formations.
    1.1. Notice (minimum): 4 days
2. Preparation: Just before inspection remove the last 150 mm of excavation. Trim to required profiles and levels.
    2.1. Loose material: Remove
3. Seal: Within 4 hours of inspection, seal formations with blinding concrete.

270 Foundations generally

1. Give notice if
    1.1. A natural bearing formation of undisturbed subsoil is not obtained at the depth shown on the drawings.
    1.2. The formation contains soft or hard spots or highly variable material.

280 Trench fill foundations

1. Excavation: Form trench down to formation in one operation.
2. Safety: Prepare formation from ground level.
3. Inspection of formations: Give notice before commencing excavation.
    3.1. Period of notice: Five working days
4. Shoring: Where inspection of formation is required, provide localised shoring to suit ground conditions.
5. Concrete fill: Place concrete immediately after inspection and no more than four hours after exposing the formation.

290 Foundations in made up ground

1. Depth: Excavate down to a natural formation of undisturbed subsoil.
2. Discrepancy: Give notice if this is greater or less than depth given.

310 Unstable ground

1. Generally: Ensure that the excavation remains stable at all times.

2. Give notice: Without delay if any newly excavated faces are too unstable to allow earthwork support to be inserted.
3. Take action: If instability is likely to affect adjacent structures or roadways, take appropriate emergency action.

320 Recorded features

1. Recorded foundations, beds, drains, manholes, etc.: Break out and seal drain ends
2. Contaminated earth: Remove and disinfect as required by Local Authority.

330 Unrecorded features

1. Give notice: If unrecorded foundations, beds, voids, basements, filling, tanks, pipes, cables, drains, manholes, watercourses, ditches, etc. not shown on the drawings are encountered.

350 Existing watercourses

1. Diverted watercourses which are to be filled: Before filling, remove vegetable growths and soft deposits.

370 Underground structures in landscape areas

1. Generally: Remove walls, roads, foundations, disused services, drains, manholes and the like to minimum depth.
2. Minimum depth below finished levels
    2.1. Grass, ground cover and perennial planting: 500 mm
    2.2. Shrub planting: 750 mm.
    2.3. Within 2 m of tree planting: 1000 mm.
3. Walls and slabs remaining: In every 10 m² of wall or slab, make a drainage hole at least 600 mm diameter.

Disposal of materials

415 Excavated topsoil removal

1. General: Remove from site.

450 Water

1. Generally: Keep all excavations free from water until:
    1.1. Formations are covered.
    1.2. Below ground constructions are completed.
    1.3. Basement structures and retaining walls are able to resist leakage, water pressure and flotation.
2. Drainage: Form surfaces of excavations and fill to provide adequate falls.
3. Removal of water: Provide temporary drains, sumps and pumping as necessary. Do not pollute watercourses with silt laden water.

454 Ground water level, springs or running water

1. Give notice: If it is considered that the excavations are below the water table.
2. Springs/ Running water: Give notice immediately if encountered.

457 Pumping

1. General: Do not disturb excavated faces or stability of adjacent ground or structures.
2. Pumped water: Discharge without flooding the site or adjoining property.

3. Sumps: Construct clear of excavations. Fill on completion.
   3.1. Locations: Submit proposals

460 Permanent drainage system

1. Disposal of water from the excavations through system: Select from list Not permitted

Filling

510 Hazardous, aggressive or unstable materials

1. General: Do not use fill materials which would, either in themselves or in combination with other materials or ground water, give rise to a health hazard, damage to building structures or instability in the filling, including material that is:
   1.1. Frozen or containing ice.
   1.2. Organic.
   1.3. Contaminated or noxious.
   1.4. Susceptible to spontaneous combustion.
   1.5. Likely to erode or decay and cause voids.
   1.6. With excessive moisture content, slurry, mud or from marshes or bogs.
   1.7. Clay of liquid limit exceeding 80 and/or plasticity index exceeding 55.
   1.8. Unacceptable, class U2 as defined in the 'Specification for highway works', clause 601.

520 Frost susceptibility

1. General: Except as allowed below, fill must be non frost-susceptible as defined in the 'Specification for highway works', clause 801.8.
2. Test reports: If the following fill materials are proposed, submit a laboratory report confirming they are non frost- susceptible:
   2.1. Fine grained soil with a plasticity index less than 20%.
   2.2. Coarse grained soil or crushed granite with more than 10% retained on a 0.063 mm sieve.
   2.3. Crushed chalk.
   2.4. Crushed limestone fill with average saturation moisture content in excess of 3%.
   2.5. Burnt colliery shale.
3. Frost-susceptible fill: May only be used:
   3.1. At depths below the finished ground surface greater than: 600 mm
   3.2. Within the external walls of buildings below spaces that will be heated. Protect from frost during construction.
   3.3. Where frost heave will not affect structural elements.

530 Placing fill

1. Surfaces of excavations and areas to be filled: Free from loose soil, topsoil, organic material, rubbish and standing water.
2. Freezing conditions: Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.
3. Adjacent structures, membranes and buried services
   3.1. Do not overload, destabilise or damage.
   3.2. Submit proposals for temporary support necessary to ensure stability during filling.
   3.3. Allow 14 days (minimum) before backfilling against in situ concrete structures.
4. Layers: Place so that only one type of material occurs in each layer.

5. Earthmoving equipment: Vary route to avoid rutting.

535 Compaction generally

1. General: Compact fill not specified to be left loose as soon as possible after placing.
2. After compaction: Surface of each layer must be well closed, showing no movement under compaction plant, and without cracks, holes, ridges, loose material and the like.
3. Defective areas: Remove and recompact to full thickness of layer using new material.

540 Benching in fill

1. Adjacent areas: If, during filling the difference in level between adjacent areas of filling exceeds 600 mm, cut into edge of higher filling to form benches 600 mm minimum width and height equivalent to depth of a layer of compacted filling.
2. New filling: Spread and compact to ensure maximum continuity with previous filling.

610 Compacted filling for landscape areas

1. Fill: Material capable of compaction by light earthmoving plant.
2. Filling: Layers not more than 200 mm thick. Lightly compact each layer to produce a stable soil structure.

615 Loose tip filling for landscape areas

1. Filling: Do not firm, consolidate or compact when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

700 Backfilling around foundations

1. Under oversite concrete and pavings: Hardcore as clause 710.
2. Under grassed or soil areas: Material excavated from the trench, laid and compacted in 300 mm maximum layers.

Bioremediation - Not Used

'specification for highway works: earthworks specification' appendices - Not Used

Ω End of Section

F10
Brick/ block walling

Types of walling - Not Used

Testing

400 Hard landscaping materials specification

1. Minimum BRE 'Green Guide to Specification' online rating: A+

Workmanship generally

430 Conditioning of clay bricks and blocks

1. Bricks and blocks delivered warm from manufacturing process: Do not use until cold.
2. Absorbent bricks in warm weather: Wet to reduce suction. Do not soak.

440 Conditioning of concrete bricks/ blocks

1. Autoclaved concrete bricks/ blocks delivered warm from manufacturing process: Do not use.
2. Age of nonautoclaved concrete bricks/ blocks: Do not use until at least four weeks old.
3. Avoidance of suction in concrete bricks/ blocks: Do not wet.
   3.1. Use of water retaining mortar admixture: Submit details.

460 Mortar designations

1. Mix proportions: For a specified designation select a mix from the following:
   1.1. Designation (i) (BS EN 998-2 M12 equivalent)
      1.1.1. 1:0-¼:3 (Portland cement:lime:sand with or without air entraining additive).
      1.1.2. 1:3 (Portland cement:sand and air entraining additive).
   1.2. Designation (ii) (BS EN 998-2 class M6 equivalent)
      1.2.1. 1:½:4-5 (Portland cement:lime:sand with or without air entraining additive).
      1.2.2. 1:3 (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
      1.2.3. 1:2½-3½ (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
      1.2.4. 1:3-4 (Portland cement:sand and air entraining additive).
   1.3. Designation (iii) (BS EN 998-2 class M4 equivalent)
      1.3.1. 1:1:5-6 (Portland cement:lime:sand with or without air entraining additive).
      1.3.2. 1:3½-4 (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
      1.3.3. 1:4-5 (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
      1.3.4. 1:5-6 (Portland cement:sand and air entraining additive).
   1.4. Designation (iv) (BS EN 998-2 class M2 equivalent)
      1.4.1. 1:2:8-9 (Portland cement:lime:sand with or without air entraining additive).
      1.4.2. 1:4½ (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
      1.4.3. 1:5½-6½ (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).

1.4.4. 1:7-8 (Portland cement:sand and air entraining additive).

2. Batching: Mix proportions by volume.
3. Mortar type: Continuous throughout any one type of masonry work.

500 Laying generally

1. Mortar joints: Fill vertical joints. Lay bricks, solid and cellular blocks on a full bed.
2. AAC block thin mortar adhesive and gypsum block adhesive joints: Fill vertical joints. Lay blocks on a full bed.
3. Clay block joints
   3.1. Thin-layer mortar: Lay blocks on a full bed.
   3.2. Interlocking perpends: Butted.
4. Bond where not specified: Half-lap stretcher.
5. Vertical joints in brick and concrete block facework: Even widths. Plumb at every fifth cross joint.

520 Accuracy

1. Courses: Level and true to line.
2. Faces, angles and features: Plumb.
3. Permissible deviations
   3.1. Position in plan of any point in relation to the specified building reference line and/ or point at the same level: ± 10 mm.
   3.2. Straightness in any 5 m length: ± 5 mm.
   3.3. Verticality up to 3 m height: ± 10 mm.
   3.4. Verticality up to 7 m height: ± 14 mm.
   3.5. Overall thickness of walls: ± 10 mm.
   3.6. Level of bed joints up to 5 m (brick masonry): ± 11 mm.
   3.7. Level of bed joints up to 5 m (block masonry): ± 13 mm.

535 Height of lifts in walling using cement-gauged or hydraulic lime mortar

1. Quoins and advance work: Rack back.
2. Lift height (maximum): 1.2 m above any other part of work at any time.
3. Daily lift height (maximum): 1.5 m for any one leaf.

560 Coursing brickwork

1. Gauge: Four brick courses including bed joints to 300 mm.

580 Laying frogged bricks

1. Single frogged bricks: Frog uppermost.
2. Double frogged bricks: Larger frog uppermost.
3. Frog cavity: Fill with mortar.

585 Laying cellular bricks

1. Orientation: Cavities downward.

595 Lintels

1. Bearing: Ensure full length masonry units occur immediately under lintel ends.

610 Support of existing work

1. Joint above inserted lintel or masonry: Fully consolidated with semidry mortar to support existing structure.

635 Jointing

1. Profile: Consistent in appearance.

645 Accessible joints not exposed to view

1. Jointing: Struck flush as work proceeds.

671 Fire-stopping

1. Avoidance of fire and smoke penetration: Fit tightly between cavity barriers and masonry. Leave no gaps.

690 Adverse weather

1. General: Do not use frozen materials or lay on frozen surfaces.
2. Air temperature requirements: Do not lay bricks/ blocks:
    2.1. In cement-gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising.
    2.2. In hydraulic lime:sand mortars when at or below 5°C and falling or below 3°C and rising, or as manufacturer's/ supplier's recommendations.
    2.3. In thin-layer mortars when outside the limits set by the mortar manufacturer.
3. Temperature of walling during curing: Above freezing until hardened.
4. Newly erected walling: Protect at all times from:
    4.1. Rain and snow.
    4.2. Drying out too rapidly in hot conditions and in drying winds.

Additional requirements for facework

710 The term facework

1. Definition: Applicable in this specification to brick/ block walling finished fair.
    1.1. Painted facework: The only requirement to be waived is that relating to colour.

750 Colour consistency of masonry units

1. Colour range: Submit proposals of methods taken to ensure that units are of consistent and even appearance within deliveries.
2. Conformity: Check each delivery for consistency of appearance with previous deliveries and with approved reference panels; do not use if variation is excessive.
3. Facing bricks should be blended on site from a minimum of three packs to ensure an even distribution of colour and texture variation.
4. Finished work: Free from patches, horizontal stripes and racking back marks.

760 Appearance

1. Brick/ block selection: Do not use units with damaged faces or arrises.
2. Cut masonry units: Where cut faces or edges are exposed cut with table masonry saw.
3. Quality control: Lay masonry units to match relevant reference panels.
    3.1. Setting out: To produce satisfactory junctions and joints with built-in features and components.

3.2. Coursing: Evenly spaced using gauge rods.

4. Lifts: Complete in one operation.
5. Methods of protecting facework: Submit proposals.

780 Ground level

1. Commencement of facework: Not less than 150 mm below finished level of adjoining ground or external works level.

790 Putlog scaffolding

1. Use: Not permitted in facework.

800 Toothed bond

1. New and existing facework in same plane: Bond together at every course to achieve continuity.

830 Cleanliness

1. Facework: Keep clean.
2. Mortar on facework: Allow to dry before removing with stiff bristled brush.
3. Removal of marks and stains: Rubbing not permitted.

Ω End of Section

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

Cavities

110 Concrete fill to base of cavity

1. Concrete generally: To BS EN 206 and BS 8500-2.
2. Concrete type: Designated GEN1
   2.1. Workability: High.
3. Extent: Maintain 75 mm between top of fill and external ground level and a minimum of 225 mm between top of fill and ground level dpc.
4. Placement: Compact to eliminate voids.

120 Cleanliness

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

130 Perpend joint weep holes

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

131 Bed joint weep holes

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

132 Perpend joint plastics weep holes

1. Manufacturer: Contractor's choice
   1.1. Product reference: Submit proposals
2. Locations: Through outer leaf immediately above base of cavity, at cavity trays, stepped dpcs and external openings. 75 mm above top of cavity fill at base of cavity.
3. Provision: At not greater than 1000 mm centres and not less than two over each opening.

150 Full fill cavity insulation

1. Insulation: Rock wool batts to BS EN 13162
   1.1. Product certification: British Board of Agrément (BBA) Certificate
2. Manufacturer: Contractor's choice
   2.1. Product reference: Submit proposals
3. Recycled content: Not applicable
4. Face size (nominal length x width): To suit wall tie spacing
5. Thickness (nominal): 100 mm
6. Thermal conductivity: 0.035 W/(m·K)
7. Reaction to fire class: A1
8. Additional requirements: None

9. Placement: Continuous and free of mortar and debris.

Reinforcing/ fixing accessories

214 Cavity wall ties

1. Description: FOR ALL CAVITY WALLS
2. Standard: To BS EN 845-1.
   2.1. Type: 2 (Masonry general purpose)
3. Manufacturer: Contractor's choice
   3.1. Product reference: Submit proposals
4. Material/ finish: Austenitic stainless steel - material/ coating reference 1
5. Sizes: 250 mm
6. End types: Symmetrical triangle
7. Embedment length (minimum): 50 mm
8. Movement: Tolerant
9. Additional requirements: Resistance to water crossing cavity: Resistant

225 Fixing ties in masonry cavity walls

1. Embedment in mortar beds (minimum): 50 mm.
2. Placement: Sloping slightly downwards towards outer leaf, without bending. Drip centred in the cavity and pointing downwards.
3. Spacing: Staggered in alternate courses.
   3.1. Horizontal centres: 750 mm
   3.2. Vertical centres: 450 mm
4. Provision of additional ties: Within 225 mm of reveals of unbonded openings and at the vertical reveals of unsupported masonry.
   4.1. Spacing: At not more than 300 mm centres vertically

228 Fixing ties in masonry cavity walls with full fill cavity insulation

1. Embedment in mortar beds (minimum): 50 mm.
2. Placement: Sloping slightly downwards towards outer leaf, without bending. Drip centred in the cavity and pointing downwards.
3. Spacing: Staggered in alternate courses.
   3.1. Horizontal centres: 750 mm
   3.2. Vertical centres: 450 mm
4. Provision of additional ties
   4.1. One row to support lowest row of insulation batts.
   4.2. Within 225 mm of reveals of unbonded openings and at the vertical reveals of unsupported masonry.
   4.3. Spacing: At not more than 300 mm centres vertically

Flexible damp-proof courses/ cavity trays

310 Damp-proof courses – bitumen-based

1. Standard: To BS EN 14967
   1.1. Type: Class B (fibre-based bitumen) to BS 6398
2. Manufacturer: Contractor's choice

2.1. Product reference: Submit proposals

3. Additional requirements: NONE

370 Preformed cavity trays

1. Manufacturer: Contractor's choice
   1.1. Product references and locations: Submit proposals
2. Placement: To provide a free draining and watertight installation.

Installation of dpcs/ cavity trays

415 Installation of horizontal dpcs

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

425 Installation of ground level dpcs

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

435 Installation of stepped dpcs in external walls

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

445 Installation of sill dpcs

1. Form and placement: In one piece and turned up at back when sill is in contact with inner leaf.

455 Installation of coping/ capping dpcs

1. Placement: Bed in one operation to ensure maximum bond between masonry units, mortar and dpc.
2. Dpcs crossing cavity: Provide rigid support to prevent sagging.

465 Sealing of dpcs

1. Description: PARAPET WALLS
2. Overlaps and junctions: Seal with Adhesive recommended by dpc manufacturer.

485 Installation of cavity trays over openings and other cavity bridgings

1. Length: To extend not less than 150 mm beyond ends of lintels/ bridgings.

515 Dpc/ cavity tray leading edge in facework - flush

1. Treatment at face of masonry: Finish flush and clear of mortar at the following locations: At ground level At window and door heads Generally.

560 Installation of vertical dpcs

1. Form: In one piece wherever possible.
   1.1. Joints: Upper part overlapping lower not less than 100 mm.

570 Installation of jamb dpcs at openings

1. Joint with cavity tray/ lintel at head: Full underlap.
2. Joint with sill/ horizontal dpc at base: Full overlap.
3. Projection into cavity: Not less than 25 mm.
4. Relationship with frame: In full contact.

580 Installation of jamb dpcs to built-in timber frames

1. Fixing: Securely fastened to back of frame.
    1.1. Fasteners: Galvanized clout nails or staples.

Joints

610 Movement joints with sealant

1. Description: TO EXTERNAL FACING BRICKWORK
2. Joint preparation and sealant application: As section Z22.
3. Filler: Closed cell polyethylene foam
    3.1. Thickness: To match design width of joint.
    3.2. Manufacturer: Contractor's choice
        3.2.1. Product reference: Submit proposals
    3.3. Placement: Build in as work proceeds with no projections into cavities and to correct depth to receive sealant system.
4. Sealant
    4.1. Designation: ISO 11600-F-20LM
    4.2. Manufacturer: Contractor's choice
        4.2.1. Product reference: Submit proposals
    4.3. Colour: To match adjoining brickwork

630 Unexposed contraction joints

1. Formation: Close butt as work proceeds.

650 Pointing in flashings

1. Joint preparation: Free of debris and lightly wetted.
2. Pointing mortar: As for adjacent walling.
3. Placement: Fill joint and finish flush.

660 Pinning up to soffits

1. Top joint of loadbearing walls: Fill and consolidate with mortar.

670 Head of non-loadbearing walls

1. Restraints: 75 x 100 mm channel of galvanized steel sheet to BS EN 10346 fixed to metal deck with self-tapping screws at 600 mm centres
    1.1. Fixing: Secure to soffit.
2. Joint filler: Required
    2.1. Placement: Full, no gaps.

Proprietary sills/ lintels/ copings/ dressings

735 Precast concrete lintels

1. Standard: To BS EN 845-2.
2. Manufacturer: Contractor's choice
   2.1. Product reference: Submit proposals
3. Placement: Bed on mortar used for adjacent work.
   3.1. Bearing length (minimum): 100 mm

Miscellaneous items

830 Building in frames

1. Preparation: Remove horns and provide support.
2. Fixing cramps: Fully bed in mortar.

840 Openings for frames

1. Formation: Use accurate, rigid templates to required size.

850 Wall plates

1. Placement: On full bed of mortar to correct horizontal level.

Ω End of Section

H31
Metal profiled/ flat sheet self-supporting cladding/ roof covering

Types of cladding/ covering system - Not Used

General requirements

165 Contractor's design

1. Description: OF WALL / ROOF COVERING AND IN-PLANE ROOFLIGHTS AND ALL FLASHINGS, FASCIAS AND ACCESSSORIES TO SPORTS HALL
2. Design responsibility: Determine depth and thickness of metal sheet and rooflight profile and type, sizes and number of fixings to suit the layout and details of supporting steelwork. Contractor's design of steel supports as section G10
3. Design standard: In accordance with BS 5427
4. Product specification and requirements: To BS EN 14782 for metal sheet
5. Structural and fire requirements
    - 5.1. Generally: As section B50
    - 5.2. Modifications: None
    - 5.3. Design: Complete the design in accordance with the designated code of practice to satisfy specified performance criteria
6. Functional requirements: As specified in this section and section A33, with fire-stopping to the requirements of the Building Regulations
7. Additional requirements: None
8. Design and production information: As Preliminaries section A31
9. Timing of submissions: As Preliminaries section A31

172 Thermal performance/ Bridging

1. Requirement: Complete the thermal design of the cladding/ covering system to avoid excessive thermal bridging
    - 1.1. Standard: BS 5427 and BS EN ISO 10211

Design/ performance requirements

187 Deflection of metal cladding/ roof covering

1. Roof covering: Maximum permitted deflection under distributed loads as a multiple of span and due to:
    - 1.1. Permanent load: L/500
    - 1.2. Permanent and imposed loads (or undrifted snow load): L/200
    - 1.3. Permanent and wind loads: L/90
2. Wall cladding: Maximum permitted deflection under distributed loads as a multiple of span and due to:
    - 2.1. Wind loads: L/90

200 Avoidance of interstitial condensation

1. Requirement: Determine interstitial condensation risk of cladding/ covering system using the method described in BS 5250, Annex D. If necessary, provide an air and vapour control layer and/

or revise thermal insulation to ensure that damage and nuisance from interstitial condensation does not occur

2. Outdoor psychrometric conditions (notional)
   2.1. Temperature: Winter -5°C, summer 18°C Winter -2°C, summer 18°C
   2.2. Relative humidity: Winter 95%, summer 65%
   2.3. Vapour pressure: Winter 0.36 kPa, summer 1.34 kPa

202 Avoidance of surface condensation

1. Requirement: Determine surface condensation risk of cladding/ covering system using the method described in BS EN ISO 13788. If necessary, revise thermal insulation to provide satisfactory temperature factor (fmin). Ensure that damage and nuisance from surface condensation does not occur

203 Fire performance of external wall cladding

1. Reaction to fire
   1.1. External surfaces: To BS EN 13501-1, Class A1

204 Fire performance of roof sheeting

1. External fire exposure: To BS EN 13501-5, Class Broof(t4)

205 Fire performance of substrate/ ventilated cavities/ inner linings

1. Reaction to fire
   1.1. Substrate: To BS EN 13501-1, Class A1
   1.2. Internal (cavity) surfaces: To BS EN 13501-1, Class A1
   1.3. Inner lining: To BS EN 13501-1, Class B-s3, d2 or better

206 Fire performance of cavity fire barriers

1. Standard: To BS EN 13501-2
2. Requirement: To resist the passage of flame and smoke for not less than 60 minutes' integrity, 60 minutes' insulation.

207 Insurance and warranties

1. Requirements and testing: To LPS 1581
2. Additional requirements: None

208 Fire performance of insulation

1. Reaction to fire: To BS EN 13501-1, Class A1

Fixing cladding/ roof covering

215 Painting structure

1. Sequence: Paint outer surface of supporting structure before fixing cladding/ covering

219 Fasteners

1. Unspecified fasteners: Recommended for the purpose by the cladding/ covering manufacturer

221 Fittings and accessories

1. Unspecified fittings and accessories: Recommended for the purpose by the cladding/ covering manufacturer

223 Prevention of electrolytic action

1. Isolating tape: Type recommended by cladding/ covering manufacturer
   1.1. Location: To contact surfaces of supports and sheets of dissimilar metals

Ω End of Section

J41
Reinforced bitumen membrane roof coverings

Types of roof covering - Not Used

Performance

202 Contractor's design of roof coverings

1. Design responsibility: Determine methods in attaching roof covering
2. Structural and fire requirements
   - 2.1. Generally: As sections B50 and B05.
   - 2.2. Modifications: None
   - 2.3. Design: Complete the design in accordance with the designated code of practice to satisfy specified performance criteria.
3. Functional requirements
   - 3.1. Performance: As specified in this section
4. Additional requirements: None
5. Design and production information: As Preliminaries section A31
6. Timing of submissions: As Preliminaries section A31

210 Roof performance

1. General: Secure, free-draining and weathertight.

230 Thermal performance

1. Requirement: Determine type and thickness of insulation and integral or separate overlay to satisfy the following criteria:
   - 1.1. Thermal transmittance of roof (maximum): 0.14 W/m²K
   - 1.2. Compressive strength of insulation (minimum) at 10% compression: 75 kPa
   - 1.3. Finished surface: Suitably even, stable and robust to receive roof covering.
   - 1.4. Insulation compliance: To relevant harmonized European Standard, or Agrément-certified.

240 Fire performance

1. Classification: BROOF(t4), in accordance with BS EN 13501-5

Products - Not Used

Execution generally

515 Adverse weather

1. General: Do not lay coverings in high winds, wet or damp conditions or in extremes of temperature unless effective temporary cover is provided over working area.
2. Unfinished areas of roof: Keep dry. Protect edges of laid membrane from wind action.

520 Incomplete work

1. End of working day: Provide temporary seal to prevent water infiltration.
2. On resumption of work: Cut away tail of membrane from completed area and remove from roof.

530 Applying primers

1. Coverage per coat (minimum): 0.2 L/m²
2. Surface coverage: Even and full.
3. Coats: Fully bond. Allow volatiles to dry off thoroughly between coats.

Substrates/ air and vapour control layers/ warm deck roof insulation

610 Suitability of substrates

1. Substrates generally: Secure, clean, dry, smooth, and free from frost, contaminants, voids and protrusions.
2. Preliminary work. Complete, including:: Formation of upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
3. Moisture content and stability of substrate: Must not impair roof integrity.

660 Joints in rigid board substrates

1. Cover strip: Lay centrally over substrate joints before laying vapour control layers or coverings. Adhere to substrate with bonding compound along edges only.

670 Laying air and vapour control layer

1. Attachment: Securely bond or nail to substrate.
2. Side and end laps: 100 mm and 150 mm respectively. Seal using materials and method recommended by bitumen membrane manufacturer
3. Joints in second layer (where applicable): Stagger by half a membrane.
4. Penetrations: Fully seal using bonding or taping methods recommended by manufacturer.
5. Edges of insulation at roof edges, abutments, upstands, kerbs, penetrations and the like: Dressed up sufficiently, providing 50 mm (minimum) seal when overlapped by the roof covering.

680 Laying warm deck roof insulation

1. Setting out
    1.1. Long edges: Fully support and run at right angles to Direction of span.
    1.2. End edges: Adequately support.
    1.3. Joints: Butt together.
    1.4. End joints: Stagger.
2. Bedding: Full bed of bonding compound.
3. Mechanical fixing: Determined by contractor
4. Protection to exposed edges of insulation: Reduced thickness treated timber batten, outer edge chamfered at changes in level.
5. Completion: Boards must be in good condition, well-fitting and stable.

Waterproof membranes/ accessories

710 Laying reinforced bitumen membranes generally

1. Direction of laying: Unrolled up the slope.
    1.1. Where practicable, install so that water drains over and not into laps.
2. Side and end laps: As recommended by bitumen membrane manufacturer
3. Head and side laps: Offset.
4. Intermediate and top layer/ capsheet: Fully bond.

5. Successive layers: Apply without delay. Do not trap moisture.
6. Strips of bitumen membrane for 'linear' details: Cut from length of roll.
7. Completed coverings: Firmly attached, fully sealed, smooth, weatherproof and free-draining.

730 Partial bonding of reinforced bitumen membranes

1. Venting first layer: Loose-lay, align and cut to length. Do not carry up angle fillets and vertical surfaces or through details.
   1.1. Long edges: Overlap minimum 50 mm.
   1.2. Ends: Butt together.
2. Intermediate layer: Fully bond to first layer and through to substrate.

740 Torch-on bonding of reinforced bitumen membranes

1. Bond: Full over whole surface, with no air pockets.
2. Excess compound at laps of top layer/ capsheet: Leave as continuous bead.

750 Laying mineral-faced reinforced bitumen membranes

1. Lap positions and detailing of ridges, eaves, verges, hips, abutments, etc: Submit proposals.
2. Setting out: Neat, with carefully formed junctions.
3. Lap bonding: Carry out only at prefinished margins or prepared 'black to black' edges.
4. Excess bonding compound at laps: Remove whilst still warm.

775 Skirtings and upstands

1. Angle fillets: Fix by bitumen bonding or nailing.
2. Venting first layer of bitumen membrane: Stop at angle fillet. Fully bond in bitumen for 300 mm strip around perimeters. Overlap onto upstand with strips of BS 8747, Class S1P1 bitumen membrane, fully bonded.
3. Other layers of bitumen membrane: Carry in staggered formation up upstand, with each layer fully bonded. Where practicable, carry top layer over top of upstand.
4. Upstands
   4.1. At ends of rolls: Form with bitumen membrane carried up without using separate strip.
   4.2. Elsewhere: Form with matching strips of bitumen membrane, maintaining laps.
   4.3. Additional fixing of bitumen membranes: As recommended by bitumen membrane manufacturer

785 Fixing perimeter trims

1. First/ Intermediate layers bitumen membrane: Lay over roof edge upstand. Project free edge 25 mm from wall or fascia.
2. Trim
   2.1. Setting out (minimum): 3 mm clear from wall or fascia.
   2.2. Fasteners: 65 mm stainless steel countersunk wood screws
   2.3. Fixing: 30 mm from ends and at 300 mm (maximum) centres.
   2.4. Jointing sleeves: Fix one side only.
   2.5. Corner pieces: Purpose-made.
3. Completion
   3.1. Contact surfaces: Prime.
   3.2. Joints: Cover with 150 mm-long pads of bitumen membrane, bonded to trim.
4. Completion of bitumen membrane

4.1. Top layer/ capsheet: Butt joint to rear edge of trim.

4.2. Cover strip: Fully bond to trim and top layer/ capsheet of bitumen membrane. Carry over roof edge upstand and lap 75 mm onto roof.

4.2.1. Cover strip material: As top layer/ capsheet bitumen membrane

Surfacing - Not Used

Completion

910 Inspection

1. Interim and final roof inspections: Submit reports.

940 Completion

1. Roof areas: Clean.
2. Outlets: Clear.
3. Work necessary to provide a weathertight finish: Complete.
4. Storage of materials on finished surface: Not permitted.
5. Completed membrane: Do not damage. Protect from chemicals, traffic and adjacent or high-level working.

Ω End of Section

K21
Wood strip/ board fine flooring/ linings

Types of flooring/ lining

111 Wood floating floor systems Type A

1. Contact details
   1.1. Address: 5 Warren Yard, Warren Park
   Stafford Road
   Wolverton
   Milton Keynes
   Buckinghamshire
   United Kingdom
   MK12 5NW
   1.2. Telephone: +44 (0)1376 534700
   1.3. Web: www.junckers.co.uk
   1.4. Email: sales@junckers.co.uk
2. Strips/ Boards
   2.1. Manufacturer/ Supplier: Junckers Ltd
   2.2. Product reference: Sport and activity solid hardwood floors with floating clip system
   2.3. System performance: To EN 14904, class A3.
   2.4. Vapour control layer: Junckers SylvaThene.
   2.5. Underlay: 10 mm Junckers SportsFoam.
   2.6. Flooring
      2.6.1. Board type: Beech SylvaSport.
   2.7. Perimeter flanking seal: Junckers Expansion strip.
   2.8. System accessories: Skirting.
   2.9. Appearance: Club.
   2.10. Finish as delivered: UV light cured lacquer plus Junckers polyurethane Isolacquer - Ultra matt.
   2.11. Additional site applied: 1 coat Junckers High Performance sports seal. Court line markings, in Junckers HP SportsLine paint.
   2.12. Method of fixing: Clip System.
   2.13. Third-party certification: FSC, PEFC and Danish Indoor Climate certified, EN 15804 EPD.

General/ preparation

210 Workmanship generally

1. Moisture content of timber supports: 12-14%.
2. Methods of fixing and fasteners: As section Z20 where not specified.
3. Protection: Protect from dirt, stains and damage using suitable coverings and boards laid as the work proceeds.

220 Environmental conditions

1. General requirements prior to starting work specified in this section: Building weathertight, wet trades completed and affected areas dried out.
2. Temperature and humidity before, during and after installing strips/ boards: Maintained at levels approximating to those which will prevail after building is occupied.

230 Heating system

1. Operating mode: Intermittent
2. Room temperatures for which the system has been designed: 20
3. Operation up to Completion: Submit proposals

250 Fixtures

1. Fixtures around which strip flooring is to be fixed: Installed before starting work specified in this section.

260 Dryness of concrete/ screed substrates for flooring

1. Relative humidity above substrate when tested with a hygrometer to BS 8201, Appendix A (maximum): 75%.
   1.1. Test points: All corners, around perimeter, and random points over area being tested.
2. Drying aids: Turned off for not less than four days before testing.

270 Strip/ Board moisture content testing

1. Test regime and equipment: Submit proposals.
2. Test results: Submit record of tests and results.

Fixing/ finishing

325 Flooring battens

1. Quality of timber: Free from decay, insect attack (except ambrosia beetle damage) and with no knots wider than half the width of the section.
2. Preservative treatment: As section Z12 and Wood Protection Association Commodity Specification C8.
3. Moisture content at time of laying: 12-14%.

330 Fixing battens

1. General: Battens spaced evenly, packed or adjusted as necessary to give a true, level, finished surface, and fixed securely.

335 Treated timber

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

340 Access panels

1. Size and position: Agree before strips/ boards are fixed.
2. Additional noggings/ dwangs (Scot), battens, etc.: Provide and fix as necessary.

350 Fixing strips/ boards

1. Strips/ Boards: Fixed securely to each support with flat, true surfaces free from undulations, splits, hammer marks, scratches and protruding fastenings.
2. Movement of timber: Allowed for when positioning strips/ boards and fastenings to prevent cupping, springing, opening of joints or other defects.
3. Heading joints (where permitted): End matched, butted and, where applicable, positioned centrally over supports and distributed across the flooring to achieve a random effect.

360 Expansion provision

1. Expansion gaps
   1.1. Edges of flooring: Parallel to lie of strips/ boards and 1.5 mm wide.
   1.2. Ends of flooring: 10 mm wide.
2. Spacer blocks and debris: Removed before fixing skirtings/ cover fillets.
3. Intermediate expansion/ movement joints: Formed as recommended by flooring manufacturer/ supplier.

Ω End of Section

K40
Demountable suspended ceilings

To be read with preliminaries/ general conditions. - Not Used

Components

31 Standards

1. Steel panels: To BS EN 10346.
2. Aluminium sheet, strip and plate: To BS EN 485-1 and -2.
3. Aluminium bars, tubes and sections: To relevant parts of BS EN 515, BS EN 573, BS EN 755 and BS EN 12020.

Execution

40 Workmanship generally

1. Fixing: Secure. In accordance with manufacturers' recommendations and in accordance with BS EN 13964. Provide additional bracing and stiffening to give a stable ceiling system.
2. Setting out: Accurate. Provide level soffits free from undulations and lipping.
3. Infill and access units, integrated services: Fitted correctly and aligned.
4. Lines and joints: Straight and parallel to walls, unless specified otherwise.
5. Edge infill units size (minimum): Half standard width or length.
6. Corner infill units size (minimum): Half standard width and length.
7. Grid: Position to suit infill unit sizes. Allow for permitted deviations from nominal sizes of infill units.
8. Infill joints and exposed suspension members: Straight, aligned and parallel to walls, unless specified otherwise.
9. Suitability of construction: Give notice where building elements and features to which the ceiling systems relate are not square, straight or level.

50 Installing hangers

1. General: Straighten and tension before use.
2. Installation: Install vertical without bends or kinks. Do not allow hangers to press against fittings, services, or insulation covering ducts/ pipes.
3. Obstructions: Where obstructions prevent vertical installation, either brace diagonal hangers against lateral movement, or hang ceiling system on an appropriate rigid sub-grid bridging across obstructions and supported to prevent lateral movement.
4. Extra hangers: Provide as necessary to carry additional loads.
5. Fixing
    - 5.1. Wire hangers: Tie securely at top and bottom with tight bends to loops to prevent vertical movement.
    - 5.2. Angle/ Strap hangers: Do not use rivets for top fixing.

51 Installing perimeter trims

1. Jointing: Neat and accurate, without lipping or twisting.
    - 1.1. External and internal corners: Mitre joints generally. Overlap joints at internal corners are acceptable.
    - 1.2. Intermediate butt joints: Minimize. Use longest available lengths of trim. Align adjacent lengths.

52 Installing board-suspended ceiling systems

1. Cut boards: Neat and accurate.
2. Fixing to grid
   2.1. Board edges: Fully support. Screw to grid members. Set heads of screws below surface of boards and fill flush with surface.
   2.2. Boards applied in two or more layers: Stagger joints.
3. Movement joints: Provide as appropriate for the area of ceiling system and/ or to coincide with movement joints in surrounding structure.

53 Openings in ceiling materials

1. General: Neat and accurate. To suit sizes and edge details of fittings. Do not distort ceiling system.

65 Integrated services

1. General: Position services accurately, support adequately. Align and level in relation to the ceiling and suspension system. Do not diminish performance of ceiling system.
2. Small fittings: Support with rigid backing boards or other suitable means. Do not damage or distort the ceiling.
   2.1. Reaction to fire rating of additional supporting material: Not less than ceiling material.
3. Services outlets
   3.1. Supported by ceiling system: Provide additional hangers.
   3.2. Independently supported: Provide flanges to support ceiling system.

66 Ceiling-mounted luminaires

1. Support: By ceiling system
   1.1. Ceiling supported luminaires: Modifications and/ or extra support required: To each luminaire.
   1.2. Independently supported luminaires: Suspension adjusted to line and level of ceiling.
2. Surface mounted luminaires: Units installed so that in the event of fire, the designed grid expansion provision is not affected.
3. Modular fluorescent recessed luminaires: Compatible with ceiling module. Extension boxes must not foul ceiling system.
4. Recessed rows of luminaires: Provide flanges for support of grid and infill units, unless mounted above grid flanges. Retain in position with lateral restraint.
5. Fire-protecting/ resisting ceiling systems: Luminaires must not diminish protection integrity of ceiling system.
6. Access: Provide access for maintenance of luminaires.

67 Mechanical services

1. Fan coil units
   1.1. Inlet and outlet grilles: Trim ceiling grid and infill units to suit.
   1.2. Space beneath: Sufficient for ceiling system components.
   1.3. Suspension and connections: Permit accurate setting out and levelling of fan coil units.
2. Air grilles and diffusers
   2.1. Setting out: Accurate and level.
   2.2. Linear air diffusers: Retain in place with lateral restraint. Provide flanges for support of grid and infill units.
   2.3. Grille/ diffuser ceiling joints: Provide smudge rings and edge seals.

3. Smoke detectors and PA speakers
    3.1. Ceiling infill units: Scribe and trim to suit.
    3.2. Independent suspension: Required
    3.3. Flexible connections: Required.
4. Sprinkler heads: Carefully set out and level.

Completion - Not Used

Ω End of Section

L10
Windows/ rooflights/ screens/ louvres

General

110 Evidence of performance

1. Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

115 Timber procurement

1. Timber (including timber for wood-based products): Obtained from well managed forests and/ or plantations in accordance with:
   1.1. The laws governing forest management in the producer country or countries.
   1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. Documentation: Provide either in accordance with chain of custody certification scheme requirements:
   2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
   2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Chain of custody certification scheme: In accordance with UK Government Timber Procurement Policy (UKTPP), i.e. FSC, GiB or PEFC
   3.1. Other evidence: None

155 View out

1. Windows/ opening sizes and position: Design to meet BREEAM 'View out' criteria for relevant building type.
2. Submit design plan and elevation drawings showing the following
   2.1. All BREEAM defined 'relevant areas' dependent on building type and room depths.
   2.2. Actual or notional workstation/ desk layouts.
   2.3. Window/ open areas.
3. Submit site plan showing: Building location and proximity to external obstructions.

Products

205 Window materials specification

1. Minimum BRE 'Green Guide to Specification Online' rating: A

335 Aluminium windows

1. Standard: Non-fire and/ or smoke-rated windows to BS EN 14351-1 and BS 4873
2. Exposure category to BS 6375-1/ design wind load: Manufacturer's standard
3. Finish as delivered: Polyester powder coating to BS EN 12206-1
4. Thermal performance (U-value maximum): 0.7 W/m²K
5. Acoustic performance rating: Not required
6. Glazing details: Manufacturer's standard
   6.1. Beading: Internal
7. Ironmongery/ accessories: Manufacturer's standard

8. Fixing: Screwed to masonry reveal

460 Rooflights

1. Manufacturer: Contractor's choice
   1.1. Product reference: Submit proposals
2. Type: Square
3. Frame: Integral with rooflight
4. Kerb: Manufacturer's standard
5. Thermal performance (U-value maximum): 0.7 W/m²K
6. Fire performance
   6.1. Fire resistance: BS EN 13501-5, Class Broof(t4)
   6.2. Reaction to fire: BS EN 13501-1, Class A1
7. Glazing details: Manufacturer's standard
8. Other requirements: Manufacturer's standard
9. Fixing: Manufacturer's standard

510 Glazed wood screens

1. Location: Generally
2. Timber: Generally to BS EN 942.
   2.1. Species: Softwood as Table NA.1
   2.2. Appearance Class: J2
   2.3. Moisture content on delivery: 9-13%
3. Panels: Manufacturer's standard
4. Assembly adhesive: Manufacturer's standard
5. Joinery workmanship: As section Z10.
6. Finish as delivered: Prepared and primed as section M60
7. Fire performance: FR30
8. Glazing details: Hardwood beads fixed with brass cups and screws Propriety intumescent glazing system
9. Special features/ other requirements: None
10. Fixing: Screw-fixed and pelleted

Execution

710 Protection of components

1. General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry floored and covered storage.
2. Stored components: Stack vertical or near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

730 Priming/ sealing

1. Wood surfaces inaccessible after installation: Prime or seal as specified before fixing components.

750 Building in

1. General: Not permitted unless indicated on drawings.
   1.1. Brace and protect components to prevent distortion and damage during construction of adjacent structure.

765 Window installation generally

1. Installation: Into prepared openings.
2. Gap between frame edge and surrounding construction
   2.1. Minimum: 5mm
   2.2. Maximum: 10mm
3. Distortion: Install windows without twist or diagonal racking.

766 Location of openable windows in naturally ventilated buildings

1. Location: Over 10 m from sources of external pollution.

770 Damp-proof courses in prepared openings

1. Location: Ensure correct positioning in relation to window frames. Do not displace during fixing operations.

782 Fixing of aluminium frames

1. Standard: As section Z20.
2. Fasteners: Stainless steel wood screws
   2.1. Spacing: When not pre-drilled or specified otherwise, position fasteners not more than 250 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 600 mm centres.

790 Fire-resisting frames

1. Gap between back of frame and reveal: Completely fill with intumescent mastic or tape.

810 Sealant joints

1. Sealant
   1.1. Manufacturer: Contractor's choice
      1.1.1. Product reference: Submit proposals
   1.2. Colour: To match surrounding masonry
   1.3. Application: As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

820 Ironmongery

1. Fixing: In accordance with any third-party certification conditions applicable. Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
2. Checking/ adjusting/ lubricating: Carry out at Completion and ensure correct functioning.

Ω End of Section

L20
Doors/ shutters/ hatches

General

110 Evidence of performance

1. Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

112 Timber procurement

1. Timber (including timber for wood-based products): Obtain from well managed forests and/ or plantations in accordance with:
   1.1. The laws governing forest management in the producer country or countries.
   1.2. International agreements such as the 'Convention on International Trade in Endangered Species of wild fauna and flora (CITES)'.
2. Documentation: Provide either in accordance with chain of custody certification scheme requirements:
   2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied, or
   2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Chain of custody certification scheme: In accordance with UK Government Timber procurement policy (UKTPP), i.e. FSC, GiB or PEFC
   3.1. Other evidence: UK Government Timber procurement policy Category B

115 Fire-resisting and smoke control pedestrian doors/ door assemblies/ doorsets

1. UKCA/ UKNI/ CE marked fire-resisting and smoke control pedestrian doorsets: To BS EN 16034 and in conjunction with BS EN 13241, BS EN 14351-1 and BS EN 14351-2.
2. Door products: As defined in BS EN 12519.
3. Evidence of fire performance: Provide certified evidence, in the form of a product conformity certificate, directly relevant fire test report or engineering assessment, that each door/ door assembly/ doorset supplied will comply with the specified requirements for fire-resisting and/ or smoke control if tested to BS 476-22, BS EN 1634-1, BS EN 1634-3 or is UKCA/ UKNI/ CE marked to BS EN 16034. Specified values should not be a combination of both standards. Such certification must cover door and frame materials, glass and glazing materials and their installation, essential and ancillary ironmongery, hinges and seals.
4. Components, assemblies or sets will be marked to the relevant UKCA/ UKNI/ CE marking European product standard (hEN), national product standard and/ or third-party certification rating.

120 Non-fire-resisting pedestrian doors/ door assemblies/ doorsets

1. Provide certified evidence, in the form of a product conformity certificate or engineering assessment, that each pedestrian door/ doorset/ assembly supplied will comply with the specified requirements to BS EN 14351-1. Such certification must cover door and frame materials, glass and glazing materials and their installation, essential and ancillary ironmongery, hinges and seals.
2. Components and assemblies will be marked to the relevant UKCA/ UKNI/ CEI marking European product standard (hEN), national product standard and/ or third-party certification rating.

Products - Not Used

Execution

710 Protection of components

1. General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry, floored and covered storage.
2. Stored components: Stacked on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

730 Priming/ sealing

1. Wood surfaces inaccessible after installation: Primed or sealed as specified before fixing components.

750 Fixing doorsets

1. Timing: After associated rooms have been made weathertight and the work of wet trades is finished and dried out.

760 Building in

1. General: Not permitted unless indicated on drawings.

770 Damp-proof courses associated with built-in wood frames

1. Method of fixing: To backs of frames using galvanized clout nails.

780 Damp-proof courses in prepared openings

1. Location: Correctly positioned in relation to door frames. Do not displace during fixing operations.

790 Fixing of wood frames

1. Spacing of fixings (frames not predrilled): Maximum 150 mm from ends of each jamb and at 600 mm maximum centres.

800 Fixing of loose thresholds

1. Spacing of fixings: Maximum 150 mm from each end and at 600 mm maximum centres.

809 Fire-resisting and smoke control doors/ door assemblies/ doorsets/ roller shutters and curtains – accredited installer

1. Installation: By a firm currently registered under a third-party-accredited fire door installer scheme in accordance with instructions supplied with the product conformity certificate, test report or engineering assessment.

810 Fire-resisting and smoke control doors/ door assemblies/ doorsets/ roller shutters and curtains – contractor installed

1. Gaps between frames and supporting construction: Filled as necessary in accordance with requirements for certification and/ or door/ doorset manufacturer's instructions.

820 Sealant joints

1. Sealant
    1.1. Manufacturer: Contractor's choice
        1.1.1. Product reference: Submit proposals

1.2. Colour: White

1.3. Application: As section Z22 to prepared joints. Triangular fillets finished to a flat or slightly convex profile.

830 Fixing ironmongery generally

1. Fasteners: Supplied by ironmongery manufacturer.
   1.1. Finish/ corrosion resistance: To match ironmongery.
2. Holes for components: No larger than required for satisfactory fit/ operation.
3. Adjacent surfaces: Undamaged.
4. Moving parts: Adjusted, lubricated and functioning correctly at completion.

840 Fixing ironmongery to fire-resisting door assemblies

1. General: All items fixed in accordance with door leaf manufacturer's recommendations ensuring that integrity of the assembly, as established by testing, is not compromised.
2. Holes for through fixings and components: Accurately cut.
   2.1. Clearances: Not more than 8 mm unless protected by intumescent paste or similar.
   2.2. Lock/ latch cases for fire doors requiring > 60 minutes integrity performance: Coated with intumescent paint or paste before installation.

850 Location of hinges

1. Primary hinges: Where not specified otherwise, positioned with centre lines 250 mm from top and bottom of door leaf.
2. Third hinge: Where specified, positioned with centre line 250 mm below centre line of top hinge .
3. Hinges for fire-resisting doors: Positioned in accordance with door leaf manufacturer's recommendations.

860 Installation of emergency exit devices

1. Standard: Unless specified otherwise, install panic bolts/ latches in accordance with BS EN 1125.

Ω End of Section

L40
General glazing

To be read with preliminaries/ general conditions.

10 Workmanship and positioning generally

1. Glazing
   1.1. Generally: In accordance with BS 6262 series.
   1.2. Integrity: Wind and watertight under all conditions. Make full allowance for deflections and other movements.
2. Glass
   2.1. Standards: Generally to BS 952 and to the relevant parts of:
      2.1.1. BS EN 572 for basic soda lime silicate glass.
      2.1.2. BS EN 1096 for coated glass.
      2.1.3. BS EN 12150-2 for thermally toughened soda lime silicate glass.
      2.1.4. BS EN ISO 12543 for laminated glass.
   2.2. Quality: Free from scratches, bubbles and other defects.
   2.3. Dimensional tolerances: Panes/ sheets to be accurately sized.
   2.4. Material compatibility: Glass/ plastics, surround materials, sealers primers and paints/ clear finishes to be compatible. Comply with glazing/ sealant manufacturers' recommendations.
   2.5. Protection: Keep materials dry until fixed. Protect insulating glass units and plastics glazing sheets from the sun and other heat sources.

20 Removal of glass/ Plastics for reuse

1. Existing glass/ plastics, glazing compound, beads, etc.: Remove carefully, avoiding damage to frame, to leave clean, smooth rebates free from obstructions and debris. Clean glazing, beads and other components that are to be reused.
2. Deterioration of frame/ surround: Submit report on defects revealed by removal of glazing.
   2.1. Affected areas: Do not reglaze until instructed.

30 Preparation

1. Surrounds, rebates, grooves and beads: Clean and prepare before installing glazing; ensure compliance with any certified installation requirements.

Ω End of Section

M10
Cement based levelling/ wearing screeds

To be read with preliminaries/ general conditions.

21 Suitability of substrates

1. General
   1.1. Suitable for specified levels and flatness/ regularity of finished surfaces. Consider permissible minimum and maximum thicknesses of screeds.
   1.2. Sound and free from significant cracks and gaps.
2. Concrete strength: In accordance with BS 8204-1, Table 2.
3. Cleanliness: Remove plaster, debris and dirt.
4. Moisture content: To suit screed type. New concrete slabs to receive fully or partially bonded construction must be dried out by exposure to the air for minimum six weeks.

22 Proprietary levelling/wearing screeds

1. General: Materials, mix proportions, mixing methods, minimum/ maximum thicknesses and workmanship must be in accordance with recommendations of screed manufacturer.
2. Standard: In accordance with BS 8204-3

30 Fully bonded construction

1. Preparation: Generally in accordance with BS 8204-1.
2. Removing mortar matrix: Shortly before laying screed, expose coarse aggregate over entire area of hardened base.
3. Texture of surface: Suitable to accept screed and achieve a full bond over complete area.
4. Bonding coat: Polymer modified cement slurry

35 Partially bonded construction

1. Preparation: Generally in accordance with BS 8204-1.
2. Substrate surface: Brushed finish with no surface laitance.
   2.1. Texture of surface: Suitable to accept screed and achieve a bond over complete area.
3. Bonding coat: Polymer modified cement slurry

37 Unbonded construction

1. Separation: Lay screed over a suitable sheet dpm or a separating layer.
   1.1. Type: Polyethylene dpm, as section J40
2. Installation of separating layer: Lay on clean substrate. Turn up for full depth of screed at abutments with walls, columns, etc. Lap 100 mm at joints.

40 Floating construction

1. Insulation
   1.1. Type: 40 mm polyurethane (PU) foam boards to BS EN 13165
   1.2. Installation: Lay with tight butt joints. Continue up at perimeter abutments for full depth of screed.
2. Separating layer
   2.1. Type: Polyethylene sheet
   2.2. Installation: Lay over insulation and turn up at perimeter abutments. Lap 100 mm at joints.

45 Aggregates and cements

1. Sand: To BS EN 13139.
    1.1. Grading limits: In accordance with BS 8204-1, Table B.1.
2. Coarse aggregates
    2.1. Standard: To BS EN 12620.
    2.2. Lightweight aggregates: In accordance with BS 8204-1, Annex A.
    2.3. Designation 4/10.
3. Cement
    3.1. Cement types: In accordance with BS 8204-1, clause 5.1.3.

46 Proprietary polymer modified screeds

1. Cement types: In accordance with BS 8204-3.
2. Sand: To BS EN 13139:
    2.1. Grading limits: 0/4 mm (MP) category 1
3. Aggregates: In accordance with BS 8204-3.

47 Admixtures

1. Standards; In accordance with BS 8204-1, Table 1.
2. Calcium chloride: Do not use in admixtures.

50 Mixing

1. Water content: Minimum necessary to achieve full compaction, low enough to prevent excessive water being brought to surface during compaction..
2. Mixing: Mix materials thoroughly to uniform consistency in a suitable forced action mechanical mixer. Do not use a free fall drum type mixer.
3. Consistency: Use while sufficiently plastic for full compaction.
4. Ready-mixed retarded screed mortar: Use within working time and site temperatures recommended by manufacturer. Do not retemper.

52 Compaction

1. General: Compact thoroughly over entire area.
2. Screeds over 50 mm thick: Lay in two layers of equal thickness. Roughen surface of compacted lower layer then immediately lay upper layer.

53 General reinforcement

1. Steel fabric: In accordance with BS 4483.
    1.1. Type: A142
2. Installation: In accordance with BS 8204-1.

55 Joints in levelling screeds

1. Laying screeds: Lay continuously using 'wet screeds' between strips or bays. Minimize defined joints.
2. Daywork joints: Form with vertical edge.

60 Joints in polymer modified wearing screeds

1. Bay sizes (maximum): 4.5 m
2. Location of bay joints: Over construction/ movement joints in base slab.

65 Strip movement joints

1. Description: FOR DOOR THRESHOLDS FOR UPPER FLOORS
2. Manufacturer: Contractor's choice
   2.1. Product reference: Submit proposals
   2.2. Size: 5 mm
3. Installation: Set securely into screed to exact finished level of floor. Extend joints through to substrate.
   3.1. Secure fixing to substrate: To manufacturer's recommendation.

70 Smooth floated finish

1. Finish: Even texture with no ridges or steps.

75 Trowelled finish to levelling screeds

1. Floating: To an even texture with no ridges or steps.
2. Trowelling: To a uniform smooth surface, free from trowel marks and other blemishes, and suitable to receive specified flooring material.

80 Trowelled finish to wearing screeds

1. Floating: To an even texture with no ridges or steps.
2. Trowelling: Successively trowel at intervals, applying sufficient pressure to close surface and give a uniform, smooth finish free from trowel marks and other blemishes.

85 Finishing generally

1. Timing: Carry out all finishing operations at optimum times in relation to setting and hardening of screed material.
2. Prohibited treatments to screed surfaces
   2.1. Wetting to assist surface working.
   2.2. Sprinkling cement.

90 Curing

1. General: Prevent premature drying. Immediately after laying, protect surface from wind, draughts and strong sunlight. As soon as screed has set sufficiently, closely cover with polyethylene sheeting.
2. Curing period (minimum): As soon as screed has set sufficiently, closely cover with polyethylene sheeting for period recommended by screed manufacturer.
3. Drying after curing: Allow screeds to dry gradually. Do not subject screeds to artificial drying conditions that will cause cracking or other shrinkage related problems.

Ω End of Section

M20
Plastered/ rendered/ roughcast coatings

To be read with preliminaries/ general conditions.

60 Cements for mortars

1. Cement: To BS EN 197-1.
   1.1. Types: Portland cement, CEM I.
2. Portland slag cement, CEM II.
3. Portland fly ash cement, CEM II.
   3.1. Strength class: 32.5, 42.5 or 52.5.
4. Sulfate resisting cement: To BS EN 197-1.

61 Lime for cement gauged mortars

1. Standard: To BS EN 459-1.
   1.1. Type: CL 90S.

62 Admixtures for cement gauged mortars

1. Suitable admixtures: Select from:
   1.1. Air entraining (plasticizing) admixtures: To BS EN 934-2 and compatible with other mortar constituents.
   1.2. Other admixtures: Submit proposals.
2. Prohibited admixtures: Calcium chloride and admixtures containing calcium chloride.

63 Sand for cement gauged mortars

1. Standard: To BS EN 13139.
   1.1. Grading: 0/2 or 0/4 (CP or MP); category 2 fines.
2. Colour and texture: Consistent. Obtain from one source.

65 Mixing

1. Render mortars (site-made)
   1.1. Batching: By volume using gauge boxes or buckets.
   1.2. Mix proportions: Based on damp sand. Adjust for dry sand.
   1.3. Lime:sand: Mix thoroughly. Allow to stand, without drying out, for at least 16 hours before using.
2. Mixes: Of uniform consistence and free from lumps.
3. Contamination: Prevent intermixing with other materials.

67 Cold weather

1. General: Do not use frozen materials or apply coatings on frozen or frost bound substrates.
2. Internal work: Take precautions to prevent damage to internal coatings when air temperature is below 3°C.
3. External work: Avoid when air temperature is at or below 5°C and falling or below 3°C and rising.

69 Ready prepared lime putty

1. Type: Slaked directly from CL 90 quicklime to BS EN 459-1, using an excess of water.

1.1. Maturation: In pits/ containers that allow excess water to drain away.

1.2. Density of matured lime putty: 1.3-1.4 kg/L.

2. Maturation period before use (minimum): 90 days.

3. Storage: Prevent drying out or wetting. Protect from frost.

71 Suitability of substrates

1. General: Suitable to receive coatings. Sound, free from contamination and loose areas.

2. Cutting, chasing, making good, fixing of conduits and services outlets and the like: Completed.

3. Tolerances: Permitting specified flatness/ regularity of finished coatings.

4. Cleanliness: Free from dirt, dust, efflorescence and mould, and other contaminants incompatible with coatings.

79 Gypsum plasterboard backings

1. Type: To BS EN 520 Type A.

1.1. Core density (minimum): 650 kg/m³.

2. Exposed surface and edge profiles: Suitable to receive specified plaster finish.

80 plasterboard backings

1. Description: WITH METAL FURRINGS

2. Fixings, accessories and installation methods: As recommended by board manufacturer.

3. Fixing: At the following centres (maximum):

3.1. Nails: 150 mm.

3.2. Screws to partitions/ walls: 300 mm. Reduce to 200 mm at external angles.

3.3. Screws to ceilings: 230 mm.

4. Position of nails/ screws from edges of boards (minimum)

4.1. Bound edges: 10 mm.

4.2. Cut/ unbound edges: 13 mm.

5. Position of nails/ screws from edges of supports (minimum): 6 mm.

6. Nail/ screw heads: Set below surface. Do not break paper or gypsum core.

7. Additional framing supports

7.1. Fixtures, fittings and service outlets: Accurately position to suit fasteners.

7.2. Board edges and perimeters: To suit type and performance of board.

8. Joints

8.1. Ceilings

8.1.1. Bound edges: At right angles to supports and with ends staggered in adjacent rows.

8.1.2. Two layer boarding: Stagger joints between layers.

8.2. Partitions/ walls

8.2.1. Vertical joints: Centre on studs. Stagger joints on opposite sides of studs.

8.2.2. Two layer boarding: Stagger joints between layers.

8.2.3. Horizontal joints:

8.2.4. Two layer boarding: Stagger joints between layers by at least 600 mm. Support edges of outer layer.

8.3. Joint widths (maximum): 3 mm.

8.4. End joints: Stagger between rows.

8.5. Two layer boarding: Stagger joints between layers.

9. Joint reinforcement tape: Apply to joints and angles except where coincident with metal beads.

81 Beads/ stops for internal use

1. Standard: In accordance with BS EN 13914-2.
2. Material: Plastics/ PVC

82 Beads/ stops for external use

1. Standard: In accordance with BS EN 13914-1.
2. Materials: Plastics/ PVC
3. Fixing: Secure and true to line and level.
   3.1. Beads/ stops to external render: Fix mechanically.

86 Crack control at junctions between dissimilar solid substrates

1. Locations: Where defined movement joints are not required. Where dissimilar solid substrate materials are in same plane and rigidly bonded or tied together.
2. Crack control materials
   2.1. Isolating layer: Building paper to BS 1521.
   2.2. Metal lathing: Externally: Stainless steel ribbed expanded metal
3. Installation: Fix metal lathing over isolating layer. Stagger fixings along both edges of lathing.
4. Width of installation over single junctions
   4.1. Isolating layer: 150 mm.
   4.2. Lathing: 300 mm.
5. Width of installation across face of dissimilar substrate material (column, beam, etc. with face width not greater than 450 mm)
   5.1. Isolating layer: 25 mm (minimum) beyond junctions with adjacent substrate.
   5.2. Lathing: 100 mm (minimum) beyond edges of isolating layer.

87 Application of coatings

1. General: Apply coatings firmly and achieve good adhesion.
2. Appearance of finished surfaces: Even and consistent. Free from rippling, hollows, ridges, cracks and crazing.
   2.1. Accuracy: Finish to a true plane, to correct line and level, with angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square.
3. Drying out: Prevent excessively rapid or localized drying out.
4. Keying undercoats: Cross scratch plaster coatings and comb render coatings. Do not penetrate undercoat.

92 Curing and drying non-hydraulic lime render

1. General: Prevent premature setting and uneven drying of each coat.
2. Curing coatings: Keep each coat damp by covering with sheeting hung clear of coating. Spray with water until sufficiently firm.
   2.1. Sheeting: Damp hessian and polyethylene sheeting
3. Shrinkage: Thoroughly consolidate/ scour each coat one or more times as necessary to control shrinkage.

93 Curing and drying of render coatings

1. General: Prevent premature setting and uneven drying of each coat.

2. Curing: Keep each coat damp by covering with polyethylene sheet and/ or spraying with water.
   2.1. Curing period (minimum): Four days
3. Drying: Allow each coat to dry thoroughly, with shrinkage substantially complete before applying next coat.

94 Flatness/ surface regularity

1. Sudden irregularities: Not permitted.
2. Deviation of plaster surface: Measure from underside of a straight edge placed anywhere on surface.
   2.1. Permissible deviation (maximum) for plaster not less than 13 mm thick: 3 mm in any consecutive length of 1800 mm.

97 Render final coat – scraped finish

1. Finish: Scraped to expose aggregate and achieve an even texture.

99 Render final coat – plain floated finish

1. Finish: Even, open texture free from laitance.

Ω End of Section

M50
Rubber/ plastics/ cork/ lino/ carpet tiling/ sheeting

To be read with preliminaries/ general conditions.

40 Laying coverings on new wet laid bases

1. Base drying aids: Not used for at least four days prior to moisture content test.
2. Base moisture content test: Carry out in accordance with BS 5325, Annexe A or BS 8203, Annexe A.
3. Commencement of laying coverings: Not until all readings show 75% relative humidity or less.

60 Setting out tiles

1. Method: Set out from centre of area/ room so that wherever possible:
   1.1. Tiles along opposite edges are of equal size.
   1.2. Edge tiles are more than 50% of full tile width.

65 Laying coverings

1. Base/ substrate condition: Rigid, dry, smooth, free from grease, dirt and other contaminants.
2. Use a primer where recommended by adhesive manufacturer. Allow to dry thoroughly.
3. Adhesive: As specified, as recommended by covering manufacturer or, as approved.
4. Conditioning of materials prior to laying: As recommended by manufacturer.
5. Environment: Before, during and after laying, provide adequate ventilation and maintain temperature and humidity approximately at levels which will prevail after building is occupied.
6. Finished coverings: Accurately fitted, tightly jointed, securely bonded, smooth and free from air bubbles, rippling, adhesive marks, stains, trowel ridges and high spots.

70 Edgings and cover strips

1. Manufacturer: Contractor's choice
   1.1. Product reference: Submit proposals
2. Fixing: Secure (using matching fasteners where exposed to view) with edge of covering gripped.

75 Rigid stair nosings Type A

1. Manufacturer: Gradus
   1.1. Contact details
      1.1.1. Address: Chapel Mill
      Park Green
      Macclesfield
      Cheshire
      SK11 7LZ
      1.1.2. Telephone: +44 (0)1625 428922
      1.1.3. Web: www.gradus.com
      1.1.4. Email: imail@gradus.com
   1.2. Product reference:
2. Fixing: Secure, level with mitred joints. Adjusted to suit thickness of covering with continuous strips of hardboard or plywood. Packing strips and nosings bedded in gap-filling adhesive.
   2.1. Screw fixing with matching plugs: Required

85 Waste

1. Spare covering material: Retain suitable material for patching. On completion submit pieces for selection. Hand over selected pieces to Employer.

Ω End of Section

M60
Painting/ clear finishing

To be read with preliminaries/ general conditions.

22 Handling and storage

1. Coating materials: Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number.
2. Materials from more than one batch: Store separately. Allocate to distinct parts or areas of the work.

25 Surfaces not to be coated

1. Radiator valves and stop valves.

28 Protection

1. 'Wet paint' signs and barriers: Provide where necessary to protect other operatives and general public, and to prevent damage to freshly applied coatings.

30 Preparation generally

1. Standard: In accordance with BS 6150.
2. Refer to any pre-existing CDM Health and Safety File and CDM Construction Phase Plan where applicable.
3. Risk assessments and method statements for suspected hazardous materials: Prepare for operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
4. Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
5. Substrates: Sufficiently dry in depth to suit coating.
6. Efflorescence salts, dirt, grease and oil: Remove. Give notice if contamination of surfaces/ substrates has occurred.
7. Surface irregularities: Provide smooth finish.
8. Organic growths and infected coatings
    8.1. Remove with assistance of biocidal solution.
    8.2. Apply residual effect biocidal solution to inhibit regrowth.
9. Joints, cracks, holes and other depressions: Fill with stoppers/ fillers. Provide smooth finish.
10. Dust, particles and residues from preparation: Remove and dispose of safely.
11. Water-based stoppers and fillers
    11.1. Apply before priming unless recommended otherwise by manufacturer.
    11.2. If applied after priming: Patch prime.
12. Doors, opening windows and other moving parts
    12.1. Ease, if necessary, before coating.
    12.2. Prime resulting bare areas.

32 Previously coated surfaces generally

1. Preparation: In accordance with BS 6150.
2. Contaminated or hazardous surfaces: Give notice of:
    2.1. Coatings suspected of containing lead.

2.2. Substrates suspected of containing asbestos or other hazardous materials.

2.3. Significant rot, corrosion or other degradation of substrates.

3. Risk assessment and method statement for hazardous materials: Prepare for operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
4. Removing coatings: Do not damage substrate and adjacent surfaces or adversely affect subsequent coatings.
5. Loose, flaking or otherwise defective areas: Carefully remove to a firm edge.
6. Alkali affected coatings: Completely remove.
7. Retained coatings
   7.1. Thoroughly clean.
   7.2. Gloss-coated surfaces: Provide key.
8. Partly removed coatings
   8.1. Apply additional preparatory coats.
   8.2. Junctions: Provide flush surface.
9. Completely stripped surfaces: Prepare as for uncoated surfaces.

35 Fixtures and fittings

1. Risk assessment and method statement for hazardous materials: Prepare for operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
2. Removal: Before commencing work: Ironmongery, cover plates, grilles, wall clocks, and other surface mounted fixtures.
3. Replacement: Refurbish as necessary, refit when coating is dry.

36 Ironmongery

1. Removal: Before commencing work remove ironmongery from surfaces to be coated.
2. Hinges: Do not remove
3. Replacement: Refurbish as necessary; refit when coating is dry.

37 Wood preparation

1. General: Provide smooth, even finish with lightly rounded arrises.
2. Degraded or weathered surface wood: Take back surface to provide suitable substrate.
3. Degraded substrate wood: Repair with sound material of same species.
4. Heads of fasteners: Countersink sufficient to hold stoppers/ fillers.
5. Resinous areas and knots: Apply two coats of knotting.
6. Defective primer: Take back to bare wood and reprime.

39 Steel preparation

1. Areas of defective primer, corrosion and loose scale: Take back to bare metal. Reprime as soon as possible.
2. Defective paintwork: Remove to leave a firm edge and clean bright metal.
3. Sound paintwork: Provide key for subsequent coats.
4. Corrosion and loose scale: Take back to bare metal.
5. Residual rust: Treat with a proprietary removal solution.
6. Bare metal: Apply primer as soon as possible.
7. Remaining areas: Degrease.

41 Masonry and rendering preparation

1. Loose and flaking material: Remove.

43 Plaster preparation

1. Nibs, trowel marks and plaster splashes: Scrape off.
2. Overtrowelled 'polished' areas: Provide suitable key.
3. Depressions around fixings: Fill with stopper/ filler.

52 Sealing of internal movement joints

1. General: To junctions of walls and ceilings with architraves, skirtings and other trims.
2. Sealant: Water-borne acrylic.
    2.1. Manufacturer: Contractor's choice
        2.1.1. Product reference: Submit proposals
    2.2. Preparation and application: As section Z22.

61 Coating generally

1. Application: In accordance with BS 6150,
2. Conditions: Maintain suitable temperature, humidity and air quality.
3. Surfaces: Clean and dry at time of application.
4. Thinning and intermixing: Not permitted unless recommended by manufacturer.
5. Overpainting: Do not paint over intumescent strips or silicone mastics.
6. Priming coats: Apply as soon as possible on same day as preparation is completed.
7. Finish
    7.1. Even, smooth and of uniform colour.
    7.2. Free from brush marks, sags, runs and other defects.
    7.3. Cut in neatly.
8. Doors, opening windows and other moving parts: Ease before coating and between coats.

65 Concealed joinery surfaces

1. General: After priming, apply additional coatings to surfaces that will be concealed when component is fixed in place.
    1.1. Components: External door frames
    1.2. Additional coatings: One undercoat

70 External doors

1. Bottom edges: Prime and coat before hanging.

75 Bead glazing to coated wood

1. Before glazing: Apply first two coats to rebates and beads.

Ω End of Section

N14
General internal signage systems

General - Not Used

Products - Not Used

Execution

610 Fixing signs generally

1. Installation: Secure, plumb and level.
2. Strength of fasteners: Sufficient to support all live and dead loads.
3. Fasteners and/ or adhesives: As section Z20.
4. Fixings showing on surface of sign: Must not detract from the message being displayed.

620 Fixing signs for the visually impaired

1. Protection of users
    1.1. Fasteners for tactile/ Braille signs must not have sharp edges or protrusions that would cause confusion or injury to users.

Completion

910 Documentation

1. Submit
    1.1. Manufacturer’s maintenance instructions.
    1.2. Guarantees, warranties, test certificates, record schedules and log books.

Ω End of Section

N15
Internal fire and safety signage systems

General

110 Fire and safety signage systems

1. Description: FOR ESCAPE ROUTE FOR FIRE EQUIPMENT FOR PROHIBITION/ DANGER
2. System manufacturer: Contractor's choice
   2.1. System reference: Submit proposals
3. Location and layout: Submit proposals
   3.1. Language: English.
4. Material: Aluminium plate
   4.1. Other properties: Submit proposals

System performance - Not Used

Products - Not Used

Execution

610 Fixing signs generally

1. Installation:
2. Secure, plumb and level.
3. Fasteners and adhesives: As section Z20.
4. Strength of fasteners: Sufficient to support live and dead loads.
5. Fixings showing on surface of sign: Must not detract from the message being displayed.

Completion

910 Documentation

1. Submit
   1.1. Manufacturer's maintenance instructions.
   1.2. Guarantees, warranties, test certificates, record schedules and logbooks.

Ω End of Section

P20
Unframed isolated trims/ skirtings/ sundry items

To be read with preliminaries/ general conditions.

10 Softwood

1. Description: SKIRTINGS GENERALLY
2. Quality of wood and fixing: To BS 1186-3.
   2.1. Species: European whitewood
   2.2. Class: 1
3. Moisture content at time of fixing: 9 -13%
4. Preservative treatment: Not required
5. Reaction to fire rating: Not applicable
6. Profile: Pencil rounded edges
   6.1. Finished size: 19 x 70 mm
7. Finish as delivered: Prepared and primed, as section M60

35 Medium-density fibreboard

1. Description: SKIRTING BOARDS WINDOW SILL BOARDS
2. Manufacturer: Contractor's choice
   2.1. Product reference: Submit proposals
3. Standard: To BS EN 622-5.
   3.1. Type: MDF.H
   3.2. Formaldehyde class: To BS EN 622-1, Class E1.
4. Reaction to fire rating: Not applicable
5. Thickness: 15 mm
6. Edges: Quarter-rounded
7. Finish: Prepared and primed
8. Recycled content: Submit proposals
9. Support/ Fixing: Fix to softwood grounds with lost head nails at 600 mm centres

80 Installation generally

1. Joinery workmanship: As section Z10.
2. Metal workmanship: As section Z11.
3. Methods of fixing and fasteners: As section Z20 where not specified.
4. Straight runs: To be in one piece, or in long lengths with as few joints as possible.
5. Running joints: Location and method of forming to be agreed where not detailed.
6. Joints at angles: Mitre, unless shown otherwise
7. Position and level: To be agreed where not detailed.

Ω End of Section

P21
Door/ window ironmongery

To be read with preliminaries/ general conditions.

4 Ironmongery range selected by contractor

1. Source: Single coordinated range.
2. Notification: Submit details of selected range, manufacturer and/ or supplier.
3. Principal material/ finish: Satin stainless steel, grade 1.4401 (316)
4. Items unavailable within selected range: Submit proposals.

6 Samples

1. General: Before placing orders with suppliers submit labelled samples of the following: door ironmongery.
   1.1. Conformity: Retain samples on-site for the duration of the Contract. Ensure conformity of ironmongery as delivered with labelled samples.

Ω End of Section

R10
Rainwater drainage systems

To be read with preliminaries/ general conditions.

50 Installation generally

1. Electrolytic corrosion: Avoid contact between dissimilar metals where corrosion may occur.
2. Discharge of rainwater: Complete, and without leakage or noise nuisance.
3. Components: Obtain from same manufacturer for each type of pipework and guttering.
4. Allowance for thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
5. Fixings and fasteners: As section Z20.
6. Protection
   - 6.1. Fit purpose made temporary caps to prevent ingress of debris.
   - 6.2. Fit access covers, cleaning eyes and blanking plates as the work proceeds.

60 Gutters laid to fall

1. Setting out: To true line and even gradient to prevent ponding or backfall. Position high points of gutters as close as practical to the roof and low points not more than 50 mm below the roof.
2. Joints: Watertight.
3. Roofing underlay: Dressed into gutter.

65 Gutters laid level

1. Setting out: Level and as close as practical to roof.
2. Joints: Watertight.
3. Roofing underlay: Dressed into gutter.

70 Pipework

1. Fixing: Securely, plumb and/ or true to line with additional supports as necessary to support pipe collars, particularly at changes in direction.
2. Cut ends of pipes and gutters: Clean and square with burrs and swarf removed.

75 Fixing insulation to internal pipelines and gutters

1. Fixing: Secure and neat. Provide continuity at supports and leave no gaps. Fix split pipe insulation with the split on 'blind' side of pipeline.
   - 1.1. Method: Mechanical fasteners
2. Timing: Do not fit insulation until completion of pipe airtightness or leakage testing.

80 Internal pipework test –England,Wales,IrelandandNorthern Ireland

1. Preparation: Temporarily seal open ends of pipework with plugs.
2. Test apparatus: Connect a 'U' tube water gauge and air pump to pipework via a plug.
3. Testing: Pump air into pipework until gauge registers 38 mm.
4. Required performance
   - 4.1. Allow a period for temperature stabilization, after which the pressure of 38 mm is to be maintained without loss for not less than 3 minutes.

92 Gutter test

1. Preparation: Temporarily block all outlets.
2. Testing: Fill gutters to overflow level and after 5 minutes closely inspect for leakage.

Ω End of Section

R12
Below ground drainage systems

To be read with preliminaries/ general conditions.

3 Existing drains

1. Setting out: Before starting work, check invert levels and positions of existing drains, sewers, inspection chambers and manholes against drawings. Report discrepancies.
2. Protection: Protect existing drains to be retained and maintain normal operation if in use.

4 Concrete

1. Description: Generally
2. Standard: To BS 8500-2
3. Concrete: Designated, GEN1, as section E10

14 Pipes, bends and junctions – PVC-U – solid wall

1. Description: - FOUL DRAINAGE - SURFACE WATER DRAINAGE
2. Standard: To BS EN 1401-1, with flexible joints.
3. Class: Submit proposals
4. Manufacturer: Contractor's choice
   4.1. Product reference: Submit proposals
5. Recycled content: None permitted
6. Sizes: DN 110
7. Application area code: UD.

17 Lower part of trench – general

1. Trench up to 300 mm above crown of pipe: Vertical sides, width as small as practicable.
   1.1. Width (minimum): External diameter of pipe plus 300 mm.

18 Type of subsoil

1. General: Where type of subsoil at level of crown of pipe differs from that stated for the type of bedding, surround or support, give notice.

19 Formation for beddings

1. Timing: Excavate to formation immediately before laying beddings or pipes.
2. Mud, rock projections, boulders and hard spots: Remove. Replace with consolidated bedding material.
3. Local soft spots: Harden by tamping in bedding material.
4. Inspection of excavated formations: Give notice.

21 Laying pipelines

1. Laying pipes: To true line and regular gradient on even bed for full length of barrel with sockets (if any) facing up the gradient.
2. Ingress of debris: Seal exposed ends during construction.
3. Timing: Minimize time between laying and testing.

22 Jointing pipelines

1. Connections: Durable, effective and free from leakage.
2. Junctions, including to differing pipework systems: With adaptors intended for the purpose.
3. Cut ends of pipes: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting into ring seal sockets.
4. Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.
5. Allowance for movement: Provide and maintain appropriate clearance at ends of spigots as fixing and jointing proceeds.
6. Jointing material: Do not allow to project into bore of pipes and fittings.

41 Concrete surround for pipe runs near foundations

1. Class Z surround: Provide in locations where bottom of trench is lower than bottom of foundation and as follows (horizontal clear distance between nearest edges of foundations and pipe trenches):
    1.1. Trenches less than 1 m from foundations: Top of concrete surround not lower than bottom of foundation.
    1.2. Trenches more than 1 m from foundations: Top of concrete surround not lower than D mm below bottom of foundation, where D mm is horizontal distance of trench from foundation, less 150 mm.

44 Bends at base of soil stacks

1. Type: Nominal 90° rest bends
2. Radius to centreline of the pipe (minimum): 800 mm
3. Height of invert of horizontal drain at base of stack below centreline of lowest branch pipe (minimum): 450 mm
4. Bedding: Do not impair flexibility of pipe couplings.
    4.1. Material: Concrete.

47 Direct connection of ground floor wcs to drains

1. Drop from crown of WC trap to invert of drain (maximum): 1.5 m
2. Horizontal distance from the drop to a ventilated drain (maximum): 6 m.

54 Access points – plastics

1. Description: - FOUL DRAINAGE - SURFACE WATER DRAINAGE
2. Standard: To BS 4660 and Kitemark-certified, to BS EN 13589-1, or Agrément-certified.
3. Manufacturer: Contractor's choice
4. Bases
    4.1. Product reference: Submit proposals
5. Raising pieces
    5.1. Product reference: Contractor's choice
    5.2. Heights: 100 mm
6. Access covers and frames
    6.1. Product reference: Contractor's choice
    6.2. Loading grades to BS EN 124: C250

58 Installation of access covers and frames

1. Seating: Brickwork as section F10

2. Bedding and haunching of frames: Continuously.
    2.1. Material: 1:3 cement:sand mortar
    2.2. Top of haunching: 30 mm below surrounding surfaces.
3. Horizontal positioning of frames
    3.1. Centred over openings.
    3.2. Square with joints in surrounding paving.
4. Vertical positioning of frames
    4.1. Level; or
    4.2. Marry in with levels of surrounding paving.
5. Permissible deviation in level of external covers and frames:: +0 to -6 mm.

64 Inspection chambers – plastics

1. Description: Generally
2. Standard: To BS EN 13598-1, BS EN 13598-2 or Agrément-certified.
3. Diameter: 450 mm
4. Manufacturer: Contractor's choice
    4.1. Bases
        4.1.1. Product reference: Contractor's choice
    4.2. Shaft units
        4.2.1. Product reference: Submit proposals
5. Access covers and frames
    5.1. Product reference: Contractor's choice
    5.2. Loading grades to BS EN 124: C250

69 Laying conventional channels, branches and benching

1. Main channel: Bed solid in 1:3 cement:sand mortar.
    1.1. Branches: Connect to main channel at or slightly above invert level, but not higher than half channel level, so that discharge flows smoothly in direction of main flow.
    1.2. Branches greater than nominal size 150 mm: Connect the branch soffit level with the main drain soffit.
    1.3. Connecting angles more than 45° to direction of flow: Use three-quarter section channel bends.
2. Benching
    2.1. Material: concrete.
    2.2. Profile: Rise vertically from top of main channel to a level not lower than soffit of outlet pipe, then sloping upwards at 10% to walls.
    2.3. Topping
        2.3.1. Material: 1:3 Cement:sand mortar
    2.4. Application: Before benching concrete has set, and with dense smooth uniform finish.

71 Laying preformed plastics channels, branches and benching

1. Main channel: Bed solid in 1:3 cement:sand mortar.
    1.1. Branches: Connect to main channel at or slightly above invert level, but not higher than half channel level, so that discharge flows smoothly in direction of main flow.
    1.2. Connecting angles more than 45° to direction of flow: Use three-quarter section channel bends.

2. Bedding: 1:3 cement:sand mortar. Use clips or ensure adequate mechanical key.
3. Benching
   3.1. Material: Concrete.
   3.2. Profile: Rise vertically from top of main channel to a level not lower than soffit of outlet pipe, then slope upwards at 10% to walls.
   3.3. Topping
      3.3.1. Material: 1:3 Cement:sand mortar
   3.4. Application: Before benching concrete has set, and with dense smooth uniform finish.

84 Testing and inspection

1. Dates for testing and inspection: Give notice.
   1.1. Period of notice: 1 week

85 Initial testing of pipelines

1. Before testing
   1.1. Cement mortar jointing: Leave 24 h.
   1.2. Solvent welded pipelines: Leave 1 h.
2. Method: Block open ends of pipelines to be tested and pressurise. Air test short lengths to BS EN 1610.

88 Final testing of private gravity drains and sewers up to dn 300

1. Before testing
   1.1. Cement mortar jointing: Leave 24 h.
   1.2. Solvent welded pipelines: Leave 1 h.
2. Standard: To Building Regulations.
3. Method: Contractor's choice

89 Water testing of manholes and inspection chambers

1. Timing: Before backfilling.
2. Standard
   2.1. Exfiltration: To BS EN 1610.
   2.2. Method: Testing with water (method W).
   2.3. Infiltration: No identifiable flow of water penetrating the chamber.

91 Backfilling to pipelines

1. Backfilling above top of surround or protective cushion: Material excavated from trench, compacted in layers 300 mm (maximum) thick.
2. Heavy compactors: Do not use before there is 600 mm (total) of material over pipes.

94 Backfilling under roads and pavings

1. Backfilling from top of surround or protective cushion up to formation level: Granular sub-base material, laid and compacted in 150 mm layers.

97 Removal of debris and cleaning

1. Preparation: Lift covers to manholes, inspection chambers and access points. Remove mortar droppings, debris and loose wrappings.

1.1. Timing: Before cleaning, final testing, CCTV inspection if specified, and immediately before handover.

2. Cleaning: Thoroughly flush pipelines with water to remove silt and check for blockages. Rod pipelines between access points if there is any indication that they may be obstructed.
3. Washings and detritus: Do not discharge into sewers or watercourses.
4. Covers: Securely replace after cleaning and testing.

Ω End of Section

Z20
Fixings and adhesives

Products

310 Fasteners generally

1. Materials: To have:
   1.1. Bimetallic corrosion resistance appropriate to items being fixed.
   1.2. Atmospheric corrosion resistance appropriate to fixing location.
2. Appearance: Submit samples on request.

320 Packings

1. Materials: Non-compressible, corrosion proof.
2. Area of packings: Sufficient to transfer loads.

340 Masonry fixings

1. Light duty: Plugs and screws.
2. Heavy duty: Expansion anchors or chemical anchors.

350 Plugs

1. Type: Proprietary types to suit substrate, loads to be supported and conditions expected in use.

390 Adhesives generally

1. Standards
   1.1. Hot-setting phenolic and aminoplastic: To BS 1203.
   1.2. Thermosetting wood adhesives: To BS EN 12765.
   1.3. Thermoplastic adhesives: To BS EN 204.

410 Powder actuated fixing systems

1. Types of fastener, accessories and consumables: As recommended by tool manufacturer.

Execution

610 Fixing generally

1. Integrity of supported components: Select types, sizes, quantities and spacings of fixings, fasteners and packings to retain supported components without distortion or loss of support.
2. Components, substrates, fixings and fasteners of dissimilar metals: Isolate with washers/ sleeves to avoid bimetallic corrosion.
3. Appearance: Fixings to be in straight lines at regular centres.

620 Fixing through finishes

1. Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

630 Fixing packings

1. Function: To take up tolerances and prevent distortion of materials and components.
2. Limits: Do not use packings beyond thicknesses recommended by fixings and fasteners manufacturer.

3. Locations: Not within zones to be filled with sealant.

640 Fixing cramps

1. Cramp positions: Maximum 150 mm from each end of frame sections and at 600 mm maximum centres.
2. Fasteners: Fix cramps to frames with screws of same material as cramps.
3. Fixings in masonry work: Fully bed in mortar.

670 Pelleted countersunk screw fixing

1. Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
2. Pellets: Cut from matching timber, match grain and glue in to full depth of hole.
3. Finished level of pellets: Flush with surface.

680 Plugged countersunk screw fixing

1. Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
2. Plugs: Glue in to full depth of hole.
3. Finished level of plugs: Projecting above surface.

690 Using powder actuated fixing systems

1. Powder actuated fixing tools: To BS 4078-2 and Kitemark certified.
2. Operatives: Trained and certified as competent by tool manufacturer.

700 Applying adhesives

1. Surfaces: Clean. Adjust regularity and texture to suit bonding and gap filling characteristics of adhesive.
    1.1. Support and clamping during setting: Provide as necessary. Do not mark surfaces of or distort components being fixed.
2. Finished adhesive joints: Fully bonded. Free of surplus adhesive.

Ω End of Section

Z21
Mortars

Cement gauged mortars

110 Cement gauged mortar mixes

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

120 Sand for site made cement gauged masonry mortars

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

131 Ready-Mixed lime:sand for cement gauged masonry mortars

1. Standard: To BS EN 998-2.
2. Lime: Nonhydraulic to BS EN 459-1.
    2.1. Type: CL 90S.
3. Pigments for coloured mortars: To BS EN 12878.

135 Site made lime:sand for cement gauged masonry mortars

1. Permitted use: Where a special colour is not required and in lieu of factory made ready-mixed material.
2. Lime: Nonhydraulic to BS EN 459-1.
    2.1. Type: CL 90S.
3. Mixing: Thoroughly mix lime with sand, in the dry state. Add water and mix again. Allow to stand, without drying out, for at least 16 hours before using.

160 Cements for mortars

1. Cement: To BS EN 197-1 and CE marked.
    1.1. Types: Portland cement, CEM I.
2. Portland limestone cement, CEM II/A-L or CEM II/A-LL.
3. Portland slag cement, CEM II/B-S.
4. Portland fly ash cement, CEM II/B-V.
    4.1. Strength class: 32.5, 42.5 or 52.5.
5. White cement: To BS EN 197-1 and CE marked.
    5.1. Type: Portland cement, CEM I.
    5.2. Strength class: 52.5.
6. Sulfate resisting Portland cement
    6.1. Types: To BS EN 197-1 Sulfate resisting Portland cement, CEM I/SR and CE marked.
7. To BS EN 197-1 fly ash cement, CEM II/B-V and CE marked.
    7.1. Strength class: 32.5, 42.5 or 52.5.

8. Masonry cement: To BS EN 413-1 and CE marked.
    8.1. Class: MC 12.5.

180 Admixtures for site made cement gauged mortars

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

190 Retarded ready to use cement gauged masonry mortars

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

210 Making cement gauged mortars

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

Lime:sand mortars

310 Lime:sand mortar mixes

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

320 Sand for lime:sand masonry mortars

1. Type: Sharp, well graded.
    1.1. Quality, sampling and testing: To BS EN 13139.
    1.2. Grading/ Source: As specified elsewhere in relevant mortar mix items.

345 Admixtures for hydraulic lime:sand mortars

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

360 Making lime:sand mortars generally

1. Batching: By volume. Use clean and accurate gauge boxes or buckets.
2. Mixing: Mix materials thoroughly to uniform consistency, free from lumps.
3. Contamination: Prevent intermixing with other materials, including cement.

390 Knocking up nonhydraulic lime:sand mortars

1. Knocking up before and during use: Achieve and maintain a workable consistency by compressing, beating and chopping. Do not add water.
   1.1. Equipment: Roller pan mixer or submit proposals.

400 Making hydraulic lime:sand mortars

1. Mixing hydrated hydraulic lime:sand: Follow the lime manufacturer's recommendations for each stage of the mix.
   1.1. Water quantity: Only sufficient to produce a workable mix.
2. Working time: Within limits recommended by the hydraulic lime manufacturer.

Ω End of Section

Z22
Sealants

Products - Not Used

Execution

610 Suitability of joints

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

620 Preparing joints

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

630 Applying sealants

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

Ω End of Section

Specification created using NBS Chorus

Title:	3 Court Sports Hall
Project:	Jewellery Quarter Sports Hall
Date:	10/23/2023
Sheet No:	1

PinnacleESP
consulting engineers

Walls		
1	Decoration	Silk emulsion paint finish – colour to be agreed.
Floors		
2	Hardwood sprung	Junkers Unobat 50 (Or similar) high performance sports flooring.
	Skirting	Junkers hardwood skirting.
	Markings	Line markings for four badminton courts as well as basketball, netball and handball courts.
Ceilings		
3	Ceiling	Open
Woodwork		
4	Internal Doors	Solid core, laminate – colour to be agreed. Marine grade Stainless steel kickplates, push plates and ironmongery No vision panel. Colour to be agreed.
	Frame	Finished in satin emulsion – colour to be agreed.
	Architrave	18 x 68mm (or greater if required) timber moulded square edge. Finished in satin emulsion – colour to be agreed.
	Window frames	Finished in satin emulsion – colour to be agreed.
Fixtures and Fittings		
5	Mandatory Signage	Screw-fixed aluminium to denote the area.
	Basketball goals.	Side folding match play basketball goals.
	Nets	Complete track system for division nets, including nets.
		Statutory Fire Signage
Electrical		
6	Electrical	In accordance with M&E Requirements
Heating		
7	Heating	In accordance with M&E Requirements

Title:	Equipment Storage
Project:	Jewellery Quarter Sports Hall
Date:	10/23/2023
Sheet No:	2

Walls		
1	Decoration	Silk emulsion paint finish – colour to be agreed.
Floors		
2	Vinyl	Hard wearing non-slip vinyl flooring - Colour to be agreed.
	Skirting	18x68 MRMDF Square edged skirting - finished in satin emulsion.
Ceilings		
3	Ceiling	Open
Woodwork		
4	Internal Doors	Solid core, laminate – colour to be agreed. Marine grade Stainless steel kickplates, push plates and ironmongery No vision panel. Colour to be agreed.
	Frame	Finished in satin emulsion – colour to be agreed.
	Architrave	18 x 68mm (or greater if required) timber moulded square edge. Finished in satin emulsion – colour to be agreed.
	Window frames	Finished in satin emulsion – colour to be agreed.
Fixtures and Fittings		
5	Mandatory Signage	Screw-fixed aluminium to denote the area.
		Statutory Fire Signage
Electrical		
6	Electrical	In accordance with M&E Requirements
Heating		
7	Heating	In accordance with M&E Requirements

Title:	Plant Room
Project:	Jewellery Quarter Sports Hall
Date:	10/23/2023
Sheet No:	3

Walls		
1	Decoration	Silk emulsion paint finish – colour to be agreed.
Floors		
2	Vinyl	Watco Chemi-Coat® - one coat high build epoxy resin coating.
Ceilings		
3	Ceiling	Open
Woodwork		
4	Internal Doors	Solid core, laminate – colour to be agreed. Marine grade Stainless steel kickplates, push plates and ironmongery No vision panel. Colour to be agreed.
	Frame	Finished in satin emulsion – colour to be agreed.
	Architrave	18 x 68mm (or greater if required) timber moulded square edge. Finished in satin emulsion – colour to be agreed.
Fixtures and Fittings		
5	Mandatory Signage	Screw-fixed aluminium to denote the area.
		Statutory Fire Signage
Electrical		
6	Electrical	In accordance with M&E Requirements
Heating		
7	Heating	In accordance with M&E Requirements

CORE EDUCATION TRUST

EMPLOYERS REQUIREMENTS FOR:

CITY ACADEMY - SPORTS HALL TENDER ISSUE –OCTOBER 2023

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Preamble

City Academy School is an educational establishment situated in Langley Walk, Birmingham, B15 2EF.

The school has been developed by conversion of an existing office development into educational usage. The school is well established in the community and its success is a testament to the commitment of the Trust to ensure the provision of the highest quality education provision within that community.

Although the school has adequate accommodation for its core education function, it lacks the provision of an important element namely a sports and assembly hall. The continued growth in the local population has resulted in the school being at capacity and increased the need for a full complement of educational infrastructure to ensure the Trust can achieve and maintain its high educational provision.

A feasibility study has been undertaken which has identified an adjacent vacant site which would be suitable for such a development.

The partners to this project are: CORE EDUCATION TRUST (Authority) including the Board of Governors.

The CORE EDUCATION TRUST (The Employer) has developed proposals to construct additional accommodation on the adjacent site in the form of additional sports facilities which are described in further detail later within this document.

The contents of these Employers Requirements and the standards referred to therein have been specifically agreed with the project partners.

It is essential that the Contractors tender submission and the final product does not deviate from any of the standards referred to in these documents, and that the Reviewable Design Data process is strictly adhered to.

1.0 EMPLOYERS BRIEF

The aim of the project is to provide the additional infrastructure required to provide a new 4 Court Sports Hall and Studio, complete with supporting infrastructure and landscaping by August 2025.

This contract is for the detailed design, construction, fitting out and commissioning of all works (internal and external and including mechanical and electrical) and infrastructure development / alterations as required in order to achieve this aim. The works are to be undertaken and finished to a high standard befitting of a Secondary School and to comparable standards for the existing School.

The contract will be let on a Design and Build basis. The Contractor is referred to the Preliminaries Section and Contract Amendments which are appended to this document.

Contractor's Responsibilities:

The level of design provided is commensurate with RIBA Stage C.

The basis for the design shall be as per the drawings listed on the attached drawing register.

The Contractor shall submit proposals for the development of the whole site as defined Within these requirements, comprising the detailed design, site clearance, de-contamination/site remediation where applicable, demolition of existing structures, construction, completion, and defects rectification of a new sports hall and associated external works including hard and soft landscaping.

Any designs for the Works prepared prior to the date of its appointment whether or not included within the Employer's Requirement has been checked and adopted by the Contractor and the Contractor undertakes to be fully liable to the Employer for such design (and to be responsible for resolving any discrepancies and ambiguities therein) together with all design prepared or to be prepared by or on behalf of the

Contractor, the Consultants and all sub-contractors or suppliers in connection with this Contract, all such design being referred to in this set of ER's as the "Contractor's Design."

The Contractor shall, prior to their use in the construction of the Works, submit to the Employer all drawings, details, documents or information which the Employer reasonably requires to see to explain and / or amplify the Contractor's Proposals, and / or to enable the Contractor to execute and complete the Works or to comply with any instruction issued by the Employer or the Employer's Agent.

The Contractor shall:

Complete any part of the Contractor's Design not completed at the date of this Contract of his appointment;

Ensure the proper integration and compatibility of the various elements of the Contractor's Design, one with another and with each Section (if applicable) and the Works as built; and Ensure that the design shall fully comply with and be carried out in accordance with all relevant Statutory Requirements.

The Contractor accepts entire responsibility for having investigated and satisfied himself in all respects as to any requirements in any documents forming part of the Employers Requirements concerning access to and use of the Site to be made available to him and to the relevant site conditions and facilities, including precautions to prevent nuisance, trespass, pollution and risks to health and safety and for ascertainment of the ground and all other site conditions, the ground to be excavated

and built upon and / or existing buildings to be altered and / or have works constructed in including any conditions above and / or below ground and / or airspace, and the load bearing and other relevant properties of the ground and / or existing buildings, and the Contractor shall not be entitled to any extension of time or to any addition to the Contract Sum or to reimbursement of any loss and / or expense by reason or in consequence of any inadequacy in such requirements concerning access to and use of the Site or of any unforeseen or latent site conditions or of the existence, non- existence or inadequacy of any facilities whether or not expressly referred to in any documents forming part of the Employer's Requirements.

The basis for the design shall be as per the drawings listed on the attached drawing register.

The level of design provided is commensurate with RIBA Stage C and all design development beyond this point will be the responsibility of the Contractor.

Where requested, the Employer may provide to the Contractor:

i) A collateral warranty in favour of the Contractor from PinnacleESP Ltd in respect of the Architectural and Mechanical and Electrical engineering Services for RIBA stages A-D and

ii) A collateral warranty from xxxxxxx in favour of the Contractor in respect of the Structural Engineering Services for RIBA stages A-D.

The Contractor is to produce the detailed design drawings and specification for the building and its component parts to enable the design to be executed on site.

The design shall include but is not limited to:

The Building Structure

The Foundations

The Building Fabric

The Mechanical and Electrical Services

Fixed Furniture and Equipment

Hard and Soft Landscaping including boundary treatments.

Highways Works

Infrastructure Works

Ensuring compliance with predicted BREEAM ratings (where applicable)

Other than where specific choices have been made by the Employer's Agent in this document, the Contractor shall propose his own design and technical solutions to satisfy entirely the works described in this document.

The drawings provided are for illustrative purposes only and should not be used in any way for construction.

Construction drawings shall be produced by the Contractor's design team who shall remain responsible for them. The visual appearance of the building, its room sizes and internal layout, and the position of any fixed furniture and equipment

shall remain unchanged from the design drawings unless otherwise agreed by the Employer's Agent.

The Contractor is to make full allowance for all works described within these documents and appendices within their Contractors proposals. In the event of a dispute arising, the contents of the Employers Requirements will take precedence over that of the Contractor's proposals.

Any reference to Employers Requirements should be deemed to include this document, all drawings and appendices.

Management of the Project:

The Contractor is required to appoint competent Designers who shall act in accordance with current Construction (Design & Management) Regulations throughout the life of the project.

The designers should prepare detailed information to demonstrate that the requirements of this specification are incorporated into the scheme.

The appointed Designers will be required to liaise with the Employer's representative(s) on all design related issues. Drawings shall be prepared to a professional level of detail and be submitted to the Employers representatives in reasonable time to enable a considered judgement to be made, prior to the relevant section of work being commenced on site. The minimum amount of time that is to be provided for a decision is 2 weeks and it is the Contractors responsibility to ensure the information required to make decisions is provided in a timely and programmed manner in order to enable works on site to continue in line with the intended programme.

The Contractor is to provide professional, competent design and management skills throughout the contract period. Direct liaison with the School and Employer's Agent will be required on all matters relating to the specification of items referred to in the appended RDD schedule, colour schemes and the exact positioning of fixed items of furniture and equipment. The Contractor must allow for all costs and time involved with such liaisons.

Throughout the design and construction of the scheme, the Contractor is required to take into account all existing ground conditions, site restrictions, statutory requirements etc. which may materially affect the design, construction and delivery of the completed scheme and make full allowances for them in the Contract Sum. Claims for want or lack of knowledge will not be accepted.

The design should incorporate access and other facilities for disabled users as required by the Building Regulations Part M, BS 8300 and the relevant DCSF Building Bulletins.

Generally

The Contractor is to note that the area outside of the designated site boundary for each phase is strictly forbidden. The Contractor is to develop a joint travel / emergency access plan to ensure that access for emergency services is always maintained.

The Contractor is to allow for undertaking noisy works outside of school teaching hours. Any works likely to cause disruption are to be undertaken in close liaison with the school. (For the avoidance of doubt, noisy works are considered to include any

works to the structure of the building, including drilling or works likely to reverberate sound through the structure or fabric).

The Contractor is to allow within the proposals for solid 2.4m high ply hoarding to the perimeter of the site and all access routes including secure temporary gates. This hoarding is to be decorated and maintained in good condition for the duration of the contract, be dismantled and re-erected in accordance with the phasing plan.

Access routes to the site and surrounding roads are to be kept clear of construction debris at all times with mechanical road sweeping undertaken as and when necessary.

The Contractor is to provide detailed written proposals which outline how the works are to be phased and how disruption from noise, dust, deliveries and general access to and from the site will be minimised. The written proposals are also to include details of how the relationship with the adjoining owners will be managed and maintained.

The Contractor is to include within their tender submission a detailed phasing plan for the management of the sections, including proposals to identify how pedestrian access to the school will be maintained throughout the contract period.

Statutory Obligations and Approvals / Handover:

The Employer will obtain Planning Approval for the project and has submitted a planning application under reference number xxxxxx A decision is due to be made on xxxxxx

The Contractor will be responsible for completing the design in line with the approved drawings and is to provide assistance and the necessary information to the EA as and when required to discharge conditions attached to the approval. This is to include all data required in order to obtain the final BREEAM certification.

The Contractor is to take sole responsibility for the discharge of the said conditions. If there are any remaining conditions after those discharged by the Contractor this information is to be provided to the Employer to enable them to discharge the planning conditions.

Where amendments to the approved planning drawings as required, the Contractor shall be responsible for providing all information required to enable the amendments to be approved by the Local Planning Authority, and for ensuring that any Conditions imposed in the Decision Notice are discharged to the satisfaction of the Planning Authority.

The scheme is to be designed and executed in full compliance with all current Building Regulations.

The Contractor will be responsible for obtaining certification to prove that the proposals comply with current Building Regulations and for obtaining Fire Officer's approval. All costs associated with obtaining such consents are to be met by the Contractor.

The Contractor is responsible for arranging workshop meetings with the Local Authority Fire Officer as required to satisfy this requirement.

The Contractor will be responsible for all costs associated with and for arranging to provide an updated fire strategy document to capture any variations during the construction phase. The drawings submitted in conjunction with this updated strategy shall clearly indicate proposals for compartmentation, protection of escape routes, fire resistance of doors, and statutory fire signage.

The Contractor is to provide copies of all statutory consents to the Employer within 10

days of Practical Completion.

The Contractor is to allow for arranging and facilitating extensive training programmes for the proposed Premises Team, to allow the Premises team to confidently operate and programme the buildings services without need for further intervention from the contractor. This is to be fully documented and signed off by the Employer.

Drawings and documentation:

The Room Data Sheets should be read in conjunction with all drawings provided by the Employer and will form part of the contract documents. The contractor is to ensure that all items scheduled within the room data sheets are incorporated into the design.

The Contractor is to ensure that the programme allows sufficient time for the production of drawings and specifications by their designers and/or Sub-Contractors. The contractor is also to ensure that the programme allows time for the assessment of these drawings and specifications by the EA, so that any comments raised can be incorporated into the scheme without causing un-due delay or out-of-sequence working.

The Contractor is to take progress photographs of the works at regular intervals and provide electronic copies to the Employer's Agent. Positions are to be agreed with the EA.

As stated above, the contractor is to make full allowance for all works described within these documents and appendices within their Contractors proposals. In the event of a dispute arising, the contents of the Employers Requirements will take precedence over that of the contractor's proposals.

Any reference to Employers Requirements should be deemed to include this document, all drawings and appendices.

Progress Meetings and Reports

The Contractor shall submit monthly reports to the Employers Agent in a format to be agreed, 5 working days prior to monthly Progress Meetings. The Progress Reports shall include a comprehensive statement of the Contractor's true perception of the quality and progress of the Works to date. Appropriate representatives from the Contractor's team shall be present at these meetings to explain and clarify any aspects of the quality and progress of the design and construction.

As a minimum standard, the Report shall contain the following information:

- Details of the progress of design and construction elements and sections.
- The status of approvals.
- All Health and Safety issues.

- Details of progress of any variation works.
- Any outstanding RFI's.
- Any grounds for dispute that have occurred or are foreseeable including their progress and measures made on items which the Authority has deemed or suspect as being non-compliant.

- A summary record of the issue and status of each design document
- The anticipated dates for completion of the works incorporating any

variations.

RDD Meetings and Reports

In addition to the normal progress meetings, it will be necessary to hold fortnightly design workshop meetings with the schools management team. The Contractor is to ensure facilities are available to hold these meetings on site from the outset of the project. The Contractor will be responsible for providing information in line with their RDD programme in time to allow these meetings to continue.

The Contractor is to submit with their tender details of how the RDD process will be managed and produce on request, a detailed programme which schedules when RDD submittals will be made and when workshops will be held.

Progress Reporting / Communications

The Contractor shall ensure systems and procedures are put in place and maintained to allow regular and constant communication between all parties of the project team.

Project Management Plan

Prior to the commencement of the detailed design, the Contractor shall prepare and present to the Employers Agent a copy of the Project Management Plan which will detail the intended communication procedures for the scheme. As a minimum, this plan shall include:

- Roles and responsibilities and all parties
- Lines of communication between all parties including the school.
- Project organogrammes.
- Meetings – Site, progress, liaison committee, School and governors, planning committees.
- Contractual procedures – design development, change orders (variations), handovers and dispute resolution.
- Reports – progress reporting by relevant parties.
- Authority representation – Site visits, meetings and correspondence.

P4719 City Academy

PinnacleESP

City Academy - Sports Hall

Employers Requirements

2.0 SCOPE OF THE WORKS

The works comprise the complete design, construction and completion of a new sports hall facility, including landscaping and boundary treatments as detailed within these Employers Requirements.

The building is to be constructed complete with all services, associated external works and connections to mains drainage and services, all as listed in the Employers Requirements and as included in the appendices to the Employers Requirements.

The Works also include but are not limited to:

- Complying with and/or satisfying "Conditions" and "Informatives" attached to any Planning Permissions;
- Complying with The Environment Act 1995 Section 34 of the Environmental Protection Act 1990 and DOE Circular 19/91 Code of Practice - Environmental Protection (Duty of Care) Regulations 1991

Obtaining and complying with, as appropriate, all necessary additional Planning Permissions and Conditions;

- Complying with any requirements of the `Building Over Notice` with Thames Water.
- Obtaining and complying with, as appropriate, all Section 33, 38, 104, 106 and 278 Agreements (where applicable);
- Obtaining Building Regulations Approvals including payment of all fees etc;
- Obtaining Fire Officer's and any other statutory bodies approvals and complying with all Fire Officer's requirements and recommendations.
- Preparing Party Wall and/or Fence Awards and serving associated notices; paying Employer's and Adjoining Owner's Surveyor's fees in connection therewith;
- Preparing and serving 3m and 6m Notices; paying Employer's and Adjoining Owner's Surveyor's fees in connection therewith;
- Carrying out all works agreed in connection with Party Walls, Party Fence Walls and Adjoining Owner's walls;
- Agreeing boundary fence details with LA, Employer and Adjoining Owners and carrying out all works arising therefrom and in connection therewith;
- Obtaining approval of LA and/or Adjoining Owners for work to existing trees on or off the site consequent upon the development; checking whether any of the existing trees are covered by TPO
- Obtaining approval of Adjoining Owners / Leaseholder / Tenants and Licences/Agreements to access on or over their land or airspace to erect scaffolding on their land, to traverse over their land with crane, all as necessary for the construction of the development;
- The temporary and/or permanent relocation of street lighting, road signs, etc to satisfaction of LA;
- Constructing new junctions, extinguishing crossovers and reinstatement of public footpaths consequent upon the development to satisfaction of LA;
- Negotiating with Statutory Authorities over possible diversion/lowering of services

in roads and footpaths and where crossing the site; negotiating and obtaining and/or co-ordinating any Easements, Wayleaves or leases required by Statutory Authorities; determining need for electrical substation and if required re-planning site layout as necessary and obtaining Planning Approval for same; provision of brick built enclosure to substation if required;

- Ascertaining the need to maintain, divert and/or extend existing land drainage on and around the site and carry out all works in connection therewith;
- The preparation of all necessary drawings, specifications, provisions of samples etc;
- Carrying out all applicable Section 106 works and obligations.
- It is a requirement that as much as possible of the roads, street lighting, public footpaths, all drainage thereunder and surface water sewers are adopted by the LA, subject only to the LA's outright refusal to adopt on policy grounds.
- Ascertain the presence of any asbestos containing materials, notify the HSE where necessary and remove all ACM's which would likely to be disturbed as a result of the works
- Liaison and co-ordination with separate contractors carrying out other works at the school during the contract period
- Establish existing capacity of all services including, electric, water, gas and drainage to ensure sufficient capacity exits, and subsequently carry out necessary works should existing supplies be insufficient
- Carry out all works necessary to satisfy the previous Site Waste Management Plan Regulations
- Satisfy the CDM Regulations 2015

2.0 GENERAL MATTERS

3.1. Preliminaries

The Contractor should allow for all matters covered by the Preliminaries document enclosed in Appendix A in addition to all other matters covered by the following Employers Requirements.

3.2. Existing Mains Services/Sewers

The Contractor is required to make their own enquiries with all applicable Statutory Authorities. The Contractor shall allow for all costs and charges levied by the various Statutory Authorities in respect of the development.

The Contractor shall make the necessary enquiries to establish whether existing mains on site are live and make the necessary allowance for safe disconnection, and relocation of all buried services as necessary to enable the development to proceed.

The Contractor shall make the necessary enquires to locate and establish whether the existing data cables on and to the site are of sufficient age, quality and capacity to enable the development and connection of the new facilities onto the existing networks.

The Contractor shall notify the various Statutory Authorities that work will be proceeding and shall enquire the exact positions of all their services/sewers etc. It is the Contractor's responsibility to arrange any diversions of existing services/sewers, plant/equipment etc., whether public or private, which interfere with the proposed scheme, all in accordance with the requirements of the relevant owner or authority as requisite.

The Contractor shall allow for all costs associated with the provision of new power, water, gas and data mains to serve the new primary buildings including upgrading the capacity of services where necessary.

3.3. Development Control Requirements - Planning Permission

Any relevant information that becomes available during the tender period regarding planning consents will be issued as a Tender Addendum.

The Contractor's attention is drawn to the conditions/informatives which, subject to Planning consent, will be attached to the said Permission which is the Contractor's responsibility to satisfy and/or comply with, after the Base Date, except insofar as they relate to maintaining the site after Completion of the Contract or occupying the site after Practical Completion. The Contractor will be required to satisfy all the conditions/informatives and is to specifically note those matters which require approval of the LA prior to commencement of development works. The Contractor is to allow in his programme sufficient time for obtaining the approval of the LA to all matters reserved for their approval under the aforementioned Permissions/Consents to enable commencement and completion of Works in accordance with the Contract Period.

The Contractor shall allow for all costs in connection with obtaining all additional permissions/approvals from Planning Authorities and costs arising therefrom.

3.4. Party Wall Etcetera Act 1996

The Contractor is responsible for dealing with any and all matters under the Party Wall etc., Act 1996 in relation to the proposed works, including the obtaining of a Letter of Appointment from the Client, serving of Notices and organising Party Wall Agreements. In addition, the Contractor is responsible for carrying out all works occasioned thereby, and meeting all costs in connection therewith including Building Owners and Adjoining Owners Surveyor's fees, Structural Engineer's fees and security of expenses. The Employer will give authority directly to Surveyor appointed by the Contractor to act on their behalf as necessary.

The Contractor's attention is drawn to the demanding programme for the contract and therefore, should progress party wall matters immediately upon the Contract being entered in to. The Employer will not accept any claim, or delay on the grounds of late progression of party wall matters on the part of the Contract, all timescales included in the Party Wall etc Act 1996 are to be strictly adhered to.

3.5. Unexploded Ordnance (UXO)

The Contractor is responsible for identifying any UXO'S. If any UXO's are identified on the site the Contractor is responsible for evacuating the site, contacting the appropriate authorities and instructing a specialist to remove any such device(s). The Contractor will be liable for all associated costs. The Employer will not pay any additional costs in this respect.

3.6. Planning Constraints

The Contractor will be required to satisfy and obtain full discharge of all "Conditions" that shall form part of the Planning Permission and will have the opportunity to review these upon Planning Permission being granted. Maintain clearance margins as required by Statutory Authorities to their sewers and service mains.

Setting out of the building in relation to levels and proximity to nearby properties to be to approval of Employer and LPA if different from that indicated on drawings which have received Planning Approval.

The Contractor is advised to verify and satisfy all the foregoing points.

3.7. Constraints Imposed by Statutory Authorities

The Contractor is to verify and accommodate Statutory Authority's requirements, if any, to repair and/or carry out maintenance work to their installations etc., before Development is completed.

The Contractor is to co-operate and co-ordinate in all respects, including providing information, drawings, paying costs, etc., as required to enable Easements and/or Wayleaves and/or Licences to be granted to various Statutory Bodies that are necessary for the development including where new and existing services/sewers etc., pass under "private" land and for extinguishing any existing rights of way. The Contractor is to co-ordinate this activity to suit their construction programme, including allowing Employer and their legal advisers to carry out their legal work in connection therewith.

The Contractor is responsible for agreeing with Statutory Authorities their requirements for diversion of existing sewers, services etc., connections to existing sewers, service mains, etc, "building over" licences etc.

The Contractor will be deemed to have fully understood all the conditions and constraints imposed by Statutory Authorities, and comply therewith, and meet all costs, charges and expenses, etc., in so doing. No claims arising out of a want of knowledge in regard to any matter will be considered.

3.8. Constraints Imposed by Adjoining Owners

The Contractor shall obtain approval of any Adjoining Owners, including LA, Leaseholders or tenants and adhere to all existing Licences/Agreements to access on or over their land or airspace to erect scaffolding on their land, to traverse over their land with crane, all as necessary for the construction and completion of the Works including paying all fees, charges and other expenses in connection therewith.

The Contractor is to co-operate in all respects, including providing information, drawings, paying costs, etc., as required to enable Easements and/or Wayleaves and/or Licences to be granted to various Adjoining Owners that are necessary for the development including where new and existing services/sewers etc., pass under 'private' land and for extinguishing any existing rights of way. The Contractor is to co-ordinate this activity to suit their construction programme, including allowing the Employer and their legal advisors to carry out their legal work in connection therewith.

The Contractor is responsible for agreeing with Adjoining Owners their requirements for diversion of existing sewers, services, etc., connections to existing sewers, service mains, etc., 'building over' licences, etc.

The Contractor will be deemed to have fully understood all the conditions and constraints imposed by Adjoining Owners and comply therewith, and meet all costs, charges and expenses, etc., in so doing. No claims arising out of a want of knowledge in regard to any matter will be considered.

3.9. Section 38 and 104 Agreements

The Contractor shall allow for all design works and costs, including inspection fees, bonds, legal fees and enter into and obtain any Section 38 Agreement or Section 104 Agreement as may be required for each scheme. Insofar as the organisations will only provide a Bond on Section 38 Agreements where the Landowner provides a counter indemnity, the Contractor is to note that this is not an acceptable arrangement and they will therefore be expected to provide a Bond through another agreed source. Alternatively in the event that the adopting authorities will not accept the Contractor being named as "the Developer" the Contractor shall enter into the Agreement as "the Contractor" and shall in addition enter into a supplementary agreement with the Employer undertaking to maintain the adoptable works until such times as the relevant Certificates are issued under the Section 38/104 Agreements discharging the Employer from their maintenance responsibilities. The maintenance periods in respect of these adoptable works shall be extended as necessary until the Employer is discharged from their maintenance responsibilities by the relevant authorities.

Irrespective of which method applies the Contractor shall obtain these Agreements to suit their construction programme, including allowing time for the Employer and their legal advisers to carry out their work in connection therewith. The Contractor should note that the Practical Completion statement will not be issued until the relevant Certificate under the Agreements has been issued by the LA confirming that the adoptable works have entered the maintenance period.

The Contractor shall be responsible for and pay all charges in connection with the Advanced Payment Code pursuant to the Highways Act 1980 in the event that these are required by the LA.

3.10. Section 33 Agreements

Sewers under "private" roads (if LA will not adopt roads) are to be adopted wherever possible. LA may want to cover the construction of private roads/parking areas (if not to be adopted) by an appropriate Section 33 Agreement. The Contractor is required to check out this matter at an early date. In such cases the Contractor shall allow for constructing the roads/parking areas and sewers to adoption standards.

The Contractor shall allow for all design works and costs including inspection fees, bonds, legal fees and enter into and obtain a Section 33 Agreement as necessary as the Developer and be responsible for executing all covenants relating thereto as a Developer. Alternatively in the event that the adopting authorities will not accept the Contractor being named as "the Developer" the Contractor shall enter into the Agreement as "the Contractor" and comply with all terms and conditions imposed upon the Employer thereby.

Irrespective of which method applies the Contractor shall obtain this Agreement to suit their construction programme, including allowing time for the Employer and their legal advisers to carry out their work in connection therewith. The Contractor shall note that the Practical Completion statement will not be issued until the relevant Certificate under the Agreement has been issued by the LA confirming that the works have been carried out to their satisfaction.

3.11. Section 106 Agreement

The Contractor shall comply on behalf of the Employer with all relevant terms and conditions of any applicable Section 106 Agreement including allowing for all design, works and costs in connection therewith, if a Section 106 Agreement is required. The Contractor shall identify any such costs within their tender submission.

The Employer shall be responsible for financial contributions required under any applicable Section 106 Agreement.

3.12. Building Regulations Approval

The Contractor is required to obtain Building Regulations Approval using either an Approved Building Control Inspector or the LA. All references in the Employer's Requirements to approval of the LA Building Control shall be deemed to read "LA and/or Approved Building Control Inspector".

The Contractor shall supply the Employer with two copies of all drawings and calculations approved by the LA, covering the structural works prior to carrying out the particular elements.

The Notice of Practical Completion will not be issued until the Final Certificate/Cover Note is received from the LA Building Control.

3.13. The Environment Act 1995

The Contractor shall be solely responsible for all matters governed by The Environment Act 1995, Environmental Protection Act 1990 and Wildlife and Countryside Act 1981 and all subsequent Amendments thereto, insofar as they affect the design, construction or ultimate use and purpose of the Works, and shall indemnify the Employer against any claim or proceedings whatsoever arising under these provisions.

3.14. Drawing & Sample Approval Process

In addition to the RDD process outlined above, the Employers Agent will examine material put forward by the Contractor for compliance with these Employer's Requirements. No approval or comment or failure to approve or comment on any matter on the part of the Employer shall in any way affect any duties, responsibilities or liabilities of the Contractor, any sub-contractor or supplier.

A preliminary issue of co-ordinated design drawings should be provided in accordance with the latest version of the Contractor's Design & Construction Programme.

Drawings Issue & Approvals Register

In addition to the RDD programme, the Contractor will be required to produce a Drawings Issue & Approvals Register and update this every month from the contract being let for issue to the EA for information.

Samples Approval Process

The Employer or their representative will examine material put forward by the Contractor for compliance with the Employer's Requirements. No approval or comment or failure to approve or comment on any matter on the part of the Employer shall in any way affect any duties, responsibilities or liabilities of the Contractor, any sub-contractor or supplier

3.15. Samples for Employer / Choices by Employer

The Contractor is to furnish the Employer with all necessary information/samples twenty working days before they require the requisite instructions to be issued regarding all items where the Employer retains a specific selection approval with regard to colour, type, design and/or specification including:

Internal Joinery	Manufacturer and type
External Joinery	Manufacturer and type
Kitchen Fittings	Manufacturer and range.
Ironmongery	Manufacturer and type.
Balustrade & handrails	Design and colour
Sanitary Fittings	Manufacturer and range.
Central Heating	Manufacturer and technical details of boiler, programmer, thermostat, radiators, manifolds, under-floor heating and valves.
White Goods	Manufacturer and models
Special Equipment	Manufacturer and models
Light Fittings	Type of fitting and location
Floor Tiling	Manufacturer, specification and 4No colours
Floor Vinyl Sheet	Manufacturer, specification and at least 4No colours.
Floor Carpets	Manufacturer and at least 4No colours

Wall Tiling	Manufacturer and at least 4No colours
Obscure Glass	Pattern
Wall Colours	Colours minimum 4No, matched to provision in existing building.

3.16. Use of Unacceptable Materials

The Contractor shall ensure that none of the following unacceptable materials are used in the construction of the works comprising the development and shall confirm same in writing to the Employer on or after Practical Completion of the development:

- High alumina cement in structural elements;
- Woodwool slabs used as permanent shuttering or formwork to concreting or in structural elements:
- Calcium chloride in add mixtures for use in reinforced concrete;
- Asbestos or asbestos products;
- Asbestos substitutes, crocidolite or any naturally occurring or manmade mineral fibres (for example, Rockwool or Slagwool) with a thickness of 3 microns or less and a length of 200 microns or less unless appropriately sealed to prevent migration of fibres;
- Ready Mix concrete containing aggregate apt to cause "mundic concrete";
- Aggregates for use in reinforced concrete which do not comply with British Standard Specification BS882 1992 and aggregates for use in concrete which do not comply with the provisions of British Standard Specification BS8110 1985;
- Polyisocyanate and urea formaldehyde foam or other materials which may release formaldehyde in quantities which may be hazardous with reference to any limits set by the Health and Safety Executive;
- Calcium silicate bricks or tiles;
- Vermiculite unless it is fibre-free;
- Chlorofluorocarbons included in the manufacture of insulation;
- Products containing cadmium referred to in the Environmental Protection (Controls of Injurious Substances)(No 2) Regulations 1993;
- Lead paint or any materials containing lead which (in any case) may be ingested, inhaled or absorbed except where copper alloy fittings containing lead are specifically required in drinking water pipework by any relevant statutory requirement;
- Timber treated with Pentachlorophenol;
- Iberian Slate;
- Colliery waste as fill material;
- PTFE fabrics, the use of PTFE as jointing tape in plumbing installations is permitted;
- Any other substances generally known to be deleterious including but not limited to substances not in accordance with British Standards and Codes of Practice or which are published in the Building Research Establishment Digest as being deleterious at the time of incorporation within the project.
- Not to use sea-dredged aggregates other than:
  Strictly in accordance with all relevant British Standards and Codes of Practice and in particular (but without prejudice to the generality of the foregoing) on condition that the chloride content within the completed concrete shall not exceed the level permitted by British Standard ("BS") 82110: 1985;

  On condition that all such aggregates shall be thoroughly and properly washed and;

  On condition that the Building Contractor and Structural Engineer shall establish and implement procedures for the periodic and random testing of aggregates and of

concrete members and reporting to the Employers Agent upon the results of such tests in accordance with the testing procedures hereinafter set out or upon such other bases as the Employers Agent may from time to time agree, such agreement not to be unreasonably withheld or delayed.

3.17. Supply of Timber

All timber should be supplied from an independently certified source such as the Forest Stewardship Council (FSC), which provides an internal forest certification and timber labelling scheme. This is to ensure that the timber comes from a sustainable source.

3.18. Acoustics

The Contractor is to endeavour to comply with the requirements of Building Bulletin 93 with regard to airborne, impact sound transmissions and reverberation times. The design of any new flat roofs shall allow for limiting the additional ambient noise level from heavy rain.

Calculations to demonstrate compliance shall be provided if so required by the Building Control Authority.

3.19. Daylighting

The Contractor shall endeavour ensure that all occupied spaces are provided with as much natural daylight as possible, and that the existing daylight levels are not reduced as a result of the proposed works.

3.20. Contractor's Proposals

This section shall be read in conjunction with Section 9.0, the Contractor's Proposals shall comprise:

- Comprehensive written specification set out in format reflective of Employer's Requirements including amplification of any notes contained on Contract drawings and product specifications.
- Design drawings
- List of all drawings it is intended to produce indicating proposed scale of drawing.
- Details of Quality Assurance systems.
- Method Statement and Management Strategy for works including CV's of management/supervisory personnel.
- Project programme
- Detailed contract sum analysis

This Employer's Requirements document shall not be amended by the Contractor nor shall the Contractor's Proposals contradict what has been stated herein.

Any amendments which the Contractor wishes to make must be conveyed to the Employer via his Agent for consideration. Any such proposed amendments must be fully detailed to show all implications including time and cost. Once a decision has been made no further consideration of time or cost will be made by the Employer in respect of the relevant amendment. Should the Employer reject the proposed amendment the Contractor shall comply with the Employer's Requirements in respect of which the amendment was sought without any change in the Contract Sum.

3.21. Contract Sum Analysis

The Contract Sum Analysis shall be fully priced and supported with the derivation of the figures in the form of "builders quantities". The accuracy of the Contract Sum Analysis is the responsibility of the Contractor.

The Contract Sum Analysis shall be submitted with the Contractor's Tender. (See Appendix Q)

3.22. Client Variations – Change Orders and Other Instructions

Client variations shall be accommodated by the Contractor wherever practicable provided they are requested within a reasonable timescale for inclusion into the construction works.

Cost information and any time implications shall be provided within 2 weeks of a request being made. The Client will confirm that the additional cost is acceptable within one week thereafter prior to an instruction being issued by the EA in accordance with Contract conditions.

The Contractor shall comply with and submit requests for change in accordance with the Employers established change control procedure. All variations are to be confirmed in writing by the EA. Electronic communication from the EA to confirm acceptance of a change shall be acceptable to the contractor for the purposes of maintaining programme.

3.23 Commissioning, Testing Snagging & Final Inspection

In good time before handover the Contractor shall arrange for a representative or representatives of the Employer, together with the Employer's Agent, to undertake snagging, witness the operation of the central heating installation, all electrical equipment, plumbing, showers, etc. At the same time a final or penultimate inspection should be made of all parts of the building, including the roof space. In order to carry out these tasks, the Contractor should allow in his costings for the following:-

- Provision must be made in the Contractor's programme to leave sufficient time for the final inspections and testing progress.
- All services to be connected at the time of inspection.
- Representatives of the plumbing/heating and electrical sub-contractors must be on site.
- Sufficient access to be made available i.e. property clear of finishing trades etc.
- Adequate plant to be made available i.e. loft ladders, inspection lights, light bulbs etc.

A minimum of 7 days before handover, the Contractor shall provide the Employer with the relevant completed S.38 and S.104 Agreements and the following 'as built' drawings and information in the form of maintenance manuals in a ring binder:-

- 2 No. copies of 1:100 plans detailing all drainage, incoming service mains and external electrical cabling
- 2 No. copies of 1:100 plans detailing all mechanical and electrical installations in the development (including fire alarms).
- All Manufacturer's warranties if they extend beyond the twelve-month maintenance period and operating instruction booklets shall be handed to the client's representative at the final site meeting.
- Health and Safety file in accordance with CDM regulations.

Shall deem the term 'Practical Completion' as used in the contract to mean the following:-

- All areas of work are to be clean, complete and functioning without the need for further making good, additional fixing, additional decorating or further adjustment (subject to any minimum adjustment that maybe deemed necessary by the Contractor during the defects period to allow for any shrinkage, bedding in etc).
- All materials/equipment are fixed and functioning in accordance with the agreed specification as outlined in the Employers Brief/Requirements and Contractors Proposals (as amended by agreement by both parties during the Contract if applicable).

- That all materials/equipment have been inspected and approved by the Employer or their agent and that reasonable notice together with appropriate access has been given by the Contractor.

- That all gas and electric test certificates have been completed and handed to Employer

On handover all works are to be presented thoroughly cleaned out, including interior and exterior surfaces of all glass, with all debris removed from site. Clearly label all stopcocks and provide the client with any special tools or keys needed for services or plant.

The Contractor shall include for the provision of maintenance and operation manuals and operator's instructions and provide such instruction/supervision as is necessary to end user staff before handover and to the tenants during or after handover.

Where it transpires after handover that any element/material is not in accordance with the Employer's Requirements or the Contractors Proposals, and that no prior 'variation' agreement has been made, then that element will be replaced as soon as practicably possible and that no further payments under the contract will be made until the matter has been resolved.

3.23. Defects Notification Requirements

Ensure that an efficient maintenance service will operate throughout the defects liability period which shall be 12 months, and that all serious defects are dealt without delay. Provide a system for dealing with urgent defects that arise out of normal working hours.

The following min. standard of action is required to rectify defects :-

Emergency	Urgent	Priority
Within 1 day	Within 2 days	Within 5 days

Contractors who fail to rectify defects within these timescales must accept that the Employer will reserve the right to have the work carried out by another Contractor and that the cost be deducted from any outstanding retention.

Contractors tendering must accept as an Employer's requirement that all outstanding defects as recorded at the end of the 12 months' defects period must be cleared within one month. Also, it must be accepted as a condition that any work that is outstanding after one month will be rectified by another Contractor, and that the cost (+25% administration costs) will be deducted from the outstanding retention

The Contractor must nominate a responsible person, and an alternative contact (defects manager) who must ensure that all defects are dealt with promptly and appropriately.

The Contractor must provide the contact details in the form of an email address and phone number. The employer also requires contact details of the responsible person when an escalation is required.

The Contractor shall be formally notified by the employer of any defects which arise during the defects liability period. Notification will include the address/contact details of the affected property. A copy must be sent to the EA for their records and monitoring purposes.

The Contractor must log the time, date and nature of the defect and generate a Defects Notification sheet for the reported defect. The Contractor must make the necessary arrangements with the end user to gain access to the property concerned within the agreed timescales.

If a Contractor attends at a pre-arranged time but cannot gain access, the operative must leave a calling card stating the date, time and nature of the visit, along with a contact number for making alternative appointment. The contractor must call from site if they are unable to access the property. If a Contractor is unable to attend a pre-arranged appointment they must inform the person they are meeting in good time and organise an alternative visit. All such events should be recorded in the Defects Log.

When a defect is rectified the contractor must obtain the end user's satisfaction signature on the Defects Notification Sheet, counter-sign and date. If the end user will not sign, the contractor must sign to confirming the works are complete adding a note stating the end user has declined to sign. Where the end user refuses to sign then the EA needs to investigate the reasons and make a final decision based on the findings. The Contractor's defects manager shall check the Defects Notification Sheet has been correctly completed and enter the details into the Contractor's Defect Log.

The Contractor shall be required to provide a service to all mechanical and electrical systems at the end of year 1 prior to the expiry of the Defects Liability Period. This shall include the re-testing of the gas systems to issue renewed certificates. The Contactor undertakes to attend to all reported defects at their own cost, regardless of the outcome of any investigation.

The Contractor and EA (with the employer) shall undertake an inspection of the works, for either part of or the entire project as applicable, prior to the end of the Defects Liability Period to compile a list of outstanding items requiring rectification.

The Contractor will have 28 days to remedy defects noted during the End of Defects Liability Inspection. If the works are not completed within the specified timescale an alternative contractor may be instructed to carry out the works and all costs including all client side administrative charges will be deducted from sums otherwise due to the contractor. Re-inspection of the outstanding items by the above parties will take place to ensure that they have all been cleared prior to the issue of the Notice of Making Good Defects and the settlement of the final account.

Outstanding items which have not been resolved prior to the end of the Defects Liability Period will not be considered as Latent Defects and the contractor shall be fully responsible for ensuring that any on-going problems are completely resolved to the satisfaction of the employer.

The Final Completion Certificate must not be issued by the EA if there are any outstanding defects items remaining unresolved on the project.

3.24 Snagging of Construction Works and the Defects Liability Procedures

The Contractor is to note that all snagging is to be completed within 20 working days of the practical completion date.

Any snags within areas which are deemed un-accessible during school hours are to be completed within timeframes specifically agreed with the Employers Agent. The contractor is to note that the employer reserves the right to appoint alternative contractors to make good snags within areas should the contractor be deemed to be failing to make reasonable efforts to remedy outstanding snags, deducting associated costs from the retention.

Management of Construction Works

The Employers Agent expects that curriculum continuity and minimising disruption to Schools will depend on the effective management of the overall programme by the Contractor.

Operation of Existing School Buildings

When working in or adjacent to existing school buildings, the Contractor shall ensure that its activities do not affect the existing environmental conditions or take steps to ensure that these are satisfactorily maintained at all times.

Adjoining Properties, Roads, Paths, Boundaries

For roads, paths and boundaries the Contractor shall prepare and agree with the employers agent and any adjoining property owners and occupiers, prior to commencement of the Works, a schedule of conditions of adjacent buildings, roads, hard standings, paths, pavings and boundaries and other Site features to remain in position during execution of the Works.

The Contractor will provide full maintenance for all existing public and private roads, paths and pavings affected by the Works for the duration of the Works, and include for keeping all existing public and private roads, paths and pavings surfaces clear of mud and debris in the vicinity of the Sites and the maintenance of existing live services (drainage, water, gas, electricity, telephone, data/telecoms and other public services over the work zone). Where the Contractor carries out enabling works or alterations to any services on the Site they shall be responsible for these works until handover.

The Contractor shall ascertain the location and routes of all services on or over or in the vicinity of the Site. A copy of the underground services scan is contained within the contract drawings however the contractor is to satisfy himself prior on the locations of underground services prior to the commencement of works.

The Contractor should ascertain the condition imposed by any BAPA with Networks Rail and ensure to protect and prevent any damage occurring within 3.0m of the boundary wall to the Network Rail property and Railway lines contained within

during the course of the works.

It is possible that there may be services on the Site which are not correctly or fully identified on existing records. The Contractor shall take all reasonable precautions to minimise the risk of damage to any such services.

Should it be deemed necessary to cross any services during the execution of the works, allowances are to be made for all necessary temporary cross-over points to the satisfaction of the competent authorities and the Authority and clear away on completion.

Any existing drainage systems and services within the Sites to be retained are to be fully maintained during the progress of the Works. The Contractor shall take all necessary steps to prevent any interruption to existing services and shall be responsible for any alterations made to the existing services during the construction phase.

The Contractor shall adequately protect, uphold, maintain and prevent damage to all services until handover.

If any damage to existing services results from the execution of the Works, the Contractor shall immediately:

- Notify the service authority and Employers Agent
- Make arrangements for the work to be made good without delay to the satisfaction of the Relevant Authority and the Employers Agent.
- The Employers Agent may make such other arrangements as reasonably required to repair rapidly any service essential to the Educational Services damaged during the execution of the Works and charge the Contractor for any costs incurred.
- The Contractor shall notify the Employers Agent when new services are to be connected to the existing supplies and shall allow the Employers Agent to be present for such operations. A minimum of 7 working days notification is required for any such works.

Route Signs

The Contractor shall provide adequate route signs to be erected in positions to display the accepted route by persons or vehicles requiring access to and about the Sites. These should clearly delineate vehicles from pedestrians. Details are to be agreed with the Relevant Authority.

Site Name board

The Contractor shall provide a professionally manufactured nameboard from the Commencement Date until handover.

The board shall contain:

- Project name
- Project description
- Authority's name
- Contractor's name
- Names of professional consultants

The Contractor shall allow for fixing any removing this professional nameboard on completion of the Works and for all maintenance and cleaning throughout the construction phase as necessary.

Access within the Site

The Contractor shall ensure that safe and appropriate vehicular and pedestrian access for the all users, visitors, Contractors and service providers is maintained at all times to all areas outside of the Site boundary.

The Contractor shall carry out the Works in such a manner as to cause the minimum inconvenience or disruption to the adjoining owners and users and access for emergency vehicles shall be maintained at all times.

Fire Access

Where the Works affect the current access arrangements the Contractor shall ascertain the required access routes for the fire brigade. Those routes that are affected shall be kept open and maintained throughout the Contract Period including nights and weekends by the Contractor. Work affecting existing fire hydrants and associated mains is to be kept to a minimum, notified in advance to the Fire Authority.

Emergency exit routes from existing buildings must be maintained at all times and changed as necessary following refurbishment.

Site Hazards

The Contractor must prevent fire or explosion caused by gas or vapour.

The Contractor must prevent nuisance from dust by appropriate methods of working, by the use of water as appropriate, by screening, enclosure or extraction using appropriate equipment. The Contractor shall ensure that all sensitive equipment owned by the Schools is protected from dust during such Works.

The Contractor must take adequate precautions to protect Pupils, staff, the general public and Site operatives from dangerous fumes and dust arising during the demolition works.

Control of Noise and Pollution

The Contractor's attention is drawn to statutory requirements regarding the control of noise and pollution in relation to the demolition and construction Works and to the need to obtain all necessary prior consents from the relevant authorities. All Works must be carried out in accordance with the Project Programme so as to minimise disruption to Educational Services. Noisy Works must be avoided during lessons generally and absolutely during examination periods.

Water for the Works

The Contractor will be permitted use of any existing water supplies for the purpose of the works.

Prior to the commencement of the demolition Works, the Contractor must ensure that reasonable measures for dust suppression are in place.

Should the use of water for dust suppression result in a drop in pressure to other users in the vicinity, then the Contractor shall programme the Works to prevent this, or provide an alternative means of supply.

Utilities used during the Works

The Contractor will be permitted use of any existing power supplies for the purpose of the works and is to arrange for the upgrade of any incoming mains as necessary to undertake the works and leave the building fully operational on completion. The Contractor is to attach check meters to enable the Contractor to reimburse the school upon completion of the works.

Work beyond the Boundary of the Site

Where Work is described as being executed or are required beyond the boundary of the Site or in the public highway, the Contractor shall be responsible for obtaining all agreements with adjoining owners, all watching and lighting, traffic signalling, temporary barricades, walking platforms and warning notices to ensure the safety of all persons and removing the same on completion, giving all notices to the Relevant Authorities, paying their fees and charges and carrying out the work to their satisfaction.

Working Hours

In carrying out the Works, the Contractor shall comply with any restrictions imposed on working hours by the Local Authority.

In the event that the Authority receives complaints in relation to the Works (for example complaints by neighbours relating to noise/disruption during the night) the employer reserves the right to restrict the Contractor's working hours.

Working hours are normally 7.00 am to 6.00 pm, Monday to Friday and 0800-1300 on Saturdays. The Contractor shall also be prevented from starting machinery prior to 8 am unless specifically agreed otherwise.

No Work shall be executed outside these times unless in exceptional circumstances and then only with the written approval of the Employers Agent. Planning restrictions may also apply.

Where the Contractor intends to work outside of the normal working hours a minimum of 2 working days notice is required for consideration by the Employers Agent.

Exam periods shall have significant restrictions on the type and nature of work to be carried out.

The Contractor and School Representative and/or the Employers Agent shall liaise prior to the commencement of exam periods to ensure no disruption occurs.

The Project Management Plan must be implemented to ensure any Works which may cause disruption are restricted to periods outside of exam periods.

Deliveries

Deliveries to existing Sites shall be restricted to outside of the times set out below, unless otherwise agreed with the School Representative:

- 30 minutes before and 15 minutes after school opening time.
- 15 minutes before and after break times – morning and afternoon.
- 15 minutes before and after lunch break.
- 15 minutes before and 30 minutes after school closing time.

Trees, Hedges, Shrubs and Lawns

The Contractor shall adequately protect and preserve all trees, hedges, shrubs and lawns on the Site, except those which are to be removed and shall replace or treat any species or areas damaged or removed by the Works.

Surplus soil, materials etc must not be stored within the branch spread of retained trees, neither shall the topsoil be disturbed or excavated and the works are to be undertaken in strict accordance with the arboricultrual impact assessment and tree protection plans contained therein.

Traffic Arrangements

Temporary and permanent access to and from the Sites, internal highway arrangements and movement and parking of traffic within the Sites shall be agreed with the Relevant Authorities prior to commencing work on Site.

The Contractor shall provide all temporary roads, footpaths, crossovers and walkways as deemed necessary during the phasing sequences and maintain such temporary provisions at all times.

The Contractor shall allow for undertaking awareness training with Pupils of all Site risks, in particular construction traffic / vehicular risks through the attendance and presentation at an assembly.

Surveys

The Contractor shall make its own investigations into existing buried services and routes.

Topographical Surveys

The Contractor is to undertake topographical surveys and needs to obtain permission from the Employer to do so. The Contractor shall have included for the risk of site conditions within its pricing of the Scheme Contract, and as such the Contractor shall take responsibility for any additional costs or variations relating to unknown ground conditions in accordance with the Scheme Contract.

Ground Investigation Reports

The Contractor is to undertake ground investigation once it has determined the potential location of new building footprints, and needs to agree the scope of such surveys with the Employer to ensure that they are not overly intrusive and damaging to the building's grounds. The costs shall be included in the Contractor's pricing. The Contractor takes full responsibility for the ground conditions under the terms of the Scheme Contract.

Health and Safety - General Requirements

The Contractor shall be responsible for complying with all Legislation and Site specific Health and Safety Requirements in connection with the Works.

Hazardous Materials

If any hazardous materials are found, they must be treated in accordance with the planning conditions and with the agreement of the Environmental Health Officer.

Protective Clothing

The Contractor shall provide and maintain protective clothing, footwear and head protection as required by the Health and Safety Executive for the sole use of 4 no. persons acting on behalf of the Employers Agent and Employer.

Dust and Debris

The Contractor shall comply with the dust control referred to above. The Contractor's attention is also drawn to the "Code of Practice for the Control of Noise, Vibration and Dust from Major Civil Engineering Projects" April 1996 published by Environmental Protection Services.

The Contractor shall provide and remove on handover such screens, dust sheets, etc as it considers necessary to minimise the nuisance caused by the distribution of dust. Particular care must be taken in practical teaching areas and all areas where there are computers.

The Contractor must take all necessary measures to prevent damage, loss, injury or nuisance caused by Mud, dirt stones or other materials used or generated whilst

carrying out demolitions. This includes, but is not limited to, ensuring that no fuel or lubricant, mud, dirt, stones or other material is spilled or deposited on the highway or adjoining grounds whether or not it is open to traffic.

Precautions

Precautions shall be taken to avoid infestation of the Works by rats, mice and other vermin. When drains are being laid, precautions shall be taken to avoid the entry of rodents, including providing temporary stoppers to pipe ends and setting manhole covers in position as the work proceeds. Pipes and cables passing through the foundation walls shall be properly built in.

Fire Precautions

The Contractor shall take all necessary precautions to prevent the outbreak and spread of fire and shall provide and maintain suitable and adequate fire fighting equipment at points adjacent to the Works and unfixed materials and shall observe strict fire prevention measures throughout the Works.

Potential hazards shall be discussed and fire precautions shall be agreed with an appropriate fire officer from the Fire Authority prior to commencement of work.

The Contractor shall allow facilities for any visits the Fire Officer may make, to inspect the Site and buildings in order to ensure that fire precautions are adequate.

The Contractor shall comply with any reasonable request made by the Fire Officer in this connection.

The Contractor shall be responsible for calling the fire brigade in the event of fire on the Site.

The Contractor shall liaise with the School Representative in occupied areas of existing schools adjacent to the Sites. No smoking shall be allowed in schools buildings or other operational areas. Bonfires on the Sites will not be permitted.

Demolition Works

The Contractor is not to undertake any demolition work after 1pm Saturdays, or on Sundays and Statutory Bank Holidays) without specific prior approval by the Employers Agent.

The Building Act 1984 Section 80 (Duty to give Local Authority Notice of Intended Demolition) will apply.

The Contractor's attention is drawn to the "Code of Practice for the Control of Noise, Vibration and Dust from Major Civil Engineering Projects" April 1996 published by Environmental Protection Services.

Asbestos Regulations

- The Contractor's attention is drawn to the following:
- The Control of Asbestos at work Regulations 1987;
- The Control of Pollution (Special Wastes) Regulations (1)(amended 1985);
- The Classification, Packing and Labelling of Dangerous Substances Regulations 1984 (amendments 1986 and 1988);
- The Asbestos (Licensing) Regulations 1983;
- The Approved Code of Practice issued by the Health and Safety Executive;
- The Control of Asbestos at Work;
- Work with Asbestos insulation, asbestos coating and asbestos insulation board; •

All guidance notes and booklets issued by the Health and Safety Executive.

The Contractor shall be responsible for ensuring compliance with the above regulations and codes at all times.

No materials or products containing asbestos shall be used in the Works.

The Contractor shall make due allowance for complying with all of the regulations relating to asbestos removal in respect of any asbestos encountered during the progress of the Works and any effect that this may have on the Project Programme.

Insofar as required for the purposes of the Works, the Contractor shall carry out all necessary removal or remedial works and shall allow in its pricing for undertaking the Works in accordance with its specification and all Legislation and associated Guidance, leaving the buildings safe.

Where asbestos is discovered, not removed from Site but made safe in accordance with relevant Legislation and Guidance, the Contractor will be responsible for monitoring the safety of the asbestos. Such monitoring methodology shall be devised and subsequently carried out in accordance with relevant Legislation and Guidance. When the Contractor undertakes any work forming the Works to the Existing Schools/services, it is essential that they proceed with caution, taking care to establish whether or not there is a hazard arising from the presence of asbestos.

Under no circumstances shall the Contractor be authorised to carry out any of the Works involving disturbance of asbestos without the adequate notice having been given in accordance with Legislation. In this connection, and in addition to the necessary statutory notices, the Contractor is required to give at least 14 days' notice of the actual commencement date(s) to the Employers Agent, and ensure that all parties are adequately protected from the removal of any asbestos found.

In the event of any suspected leak of the asbestos contaminated dust into adjacent areas, that area should be evacuated immediately and The Contractor is required to cooperate in this matter as maybe appropriate, including the provision of an immediate warning to the employers agent about the possible hazard and the prompt provision of suitable air and/or dust samples for laboratory examination.

The Contractor is to refer to the ALS Refurbishment and Demolition Survey undertaken at the school and to the specific conclusions and recommendations for asbestos found on the site.

Lead Water Pipes

Where the Contractor discover during the course of the Works that water pipes which are in use and serving the Existing Schools are lead, then to the extent that these are to continue in use and serve the Schools these should be removed in accordance with Guidance and Good Industry Practice and replaced with suitable alternative materials.

Vehicle Parking

All vehicles used by the Contractor including personal vehicles of operatives (whether directly employed or subcontract) and all associated delivery vehicles will not park within the curtilage of the operating site. No vehicles must be left waiting with engine running.

The Contractor shall ensure that all of its car parking areas and main access routes are surfaced with stone of a suitable depth and maintained to provide a clean surface.

The Contractor's attention is also drawn to the restricted access in and around the Sites for delivery vehicles. The Contractor should make prior arrangements with the Employers Agent and school when any articulated vehicles are making deliveries to the Sites, in order that they gain the necessary access to the storage areas for the purposes of the Works.

Road Cleaning

The Contractor shall adequately maintain approaches to the Site and keep such free from mud and debris in accordance with Legislation and British Standards. All vehicles must be cleaned, with any mud or loose debris removed, prior to the vehicle leaving the Sites. The Contractor shall provide facilities for washing down Site vehicles before leaving the Sites, to avoid contamination of the surrounding roads. Any contamination of surrounding roads by Site traffic shall be removed immediately. The Contractor is recommended to liaise with Building Control with regard to road cleaning issues.

Security of the Site

Notices

The Contractor shall post all such notices as are required by Legislation, to warn persons of the Works in progress and to indicate areas where entry is prohibited, in a position which is clearly visible at all times and adequately lit.

Site Security

The Contractor must provide Site security to their Works as required by current Legislation and in consultation with the Employers Agent.

Examples of requirements are:

- Adequate temporary hoardings and/or fencing in accordance with Good Industry Practice and Legislation shall be erected and maintained as necessary to minimise the risk of unauthorised persons from gaining access to the Sites during the Works (refer to earlier clauses for minimum standards)
- The Contractor shall ensure that tools and plant are not left unattended and are checked and locked up at night and at meal times if the Site is vacated;
- Access to scaffolds etc by means of ladders, shall be in accordance with Good Industry Practice and Legislation to minimise the risk of unauthorised persons gaining access to the scaffolds;
- The Contractor shall maintain a safe lighting installation and level of illumination in and around the Sites during the Works including all temporary power supply requirements particularly during periods of interruption to the mains power supply.

Site Security Outside of Normal Working Hours

The Contractor shall ensure that outside of School Hours the site remains secure at all times, and ensure that no unauthorised persons, for example children, gain access to the Sites.

The Contractor may deploy security guards and other security measures to ensure that there is no breach of health & safety Legislation and Guidance outside of normal working hours.

Safety of Authority Related Parties and the Public

The Contractor shall take every reasonable precaution to ensure the safety of all parties and the public from dangers associated with the Works.

The Contractor shall ensure that plant and equipment is not left unattended and is secured during periods when the Site is vacated. Access to scaffolding and entry points to the works and its buildings shall be prevented to unauthorised personnel.

In particular the Contractor shall ensure that access to the Works, whether this be via scaffolding, ladders, gates or temporary doors are not left unattended when open such that Pupils and other unauthorised parties can gain access.

Vetting of staff employed by the Contractor

During any stage of Works, all staff having access to children must have received satisfactory Criminal Records Bureau clearance.

Evidence of this clearance must be made available to the School and Employers Agent on request. A nominated officer of the School will make periodic checks of all clearances for staff with access to children.

Further details relating to this are to be incorporated into the Contractors Project Management Plan.

Photo Identity Cards

The Contractor shall provide photo identity cards for all its operatives (including Sub-Contractors). Such operatives shall wear photo identity cards at all times.

4.0 DESIGN MATTERS

4.1 General Requirements

The works shall be designed and executed in accordance with all statutory obligations, relevant EU Legislation, Town & Country Planning Legislation, Local Authority Planning, SWMP Regulations, Building Regulations, Fire Officer's Requirements, Disability Discrimination Acts, Equality Acts and other relevant construction regulations including Health & Safety Legislation including CDM Regulations, National and Local Highways and Drainage Regulations.

Design, materials and workmanship must comply with NBS Specifications, CIBSE Guidelines, BS Codes of Practice, BRE Digest and good practice guidelines.

The proposed design should ensure that it incorporates the services identified and be sufficiently flexible to allow future extension should the extent of services or spatial requirements increase in the future. The need for major internal alterations and disruptions should be avoided.

Buildings and associated works must achieve certification under the 'Secure By Design' scheme. Copies of the Stage D design proposals have been issued to the local design officer, copies of feedback are available on request.

The Contractor to register the scheme with the Considerate Constructors Scheme as an individual project. Allowances are to be made for all costs associated with achieving full compliance with the scheme, including the display of signage adjacent to the main site board.

All materials to be of the specified quality, where no quality is specified, it shall be of the best quality obtainable. All goods and materials are to be suitable for the purpose for which such goods and materials are intended.

Contractors and their consultants and sub-contractors must undertake to observe the Employers policy on racial equality.

All materials, goods and workmanship shall be in accordance with the latest British Standards, British Standards Code of Practice (including any recommendations made therein), BS EN, BS EN ISO, or appropriate Agreement Certificates, or regulations governing a trade body as amended by other clauses in this specification and shall be:-

- Of a suitable nature and quality in relation to the purposes and conditions of their use;

- Adequately mixed or prepared;

- Applied, used, or fixed so as to perform adequately the functions for which they are intended (as amended by any other clauses in this Brief).

All electrical installations to be carried out by an N.I.C.E.I.C. member in accordance with the requirements and recommendations of the I.E.E. regulations and in accordance with Part P of the Building Regulations. N.I.C.E.I.C. Completion and

Inspection and test certificates shall be provided within the health and safety file and copies should be made available for inspection prior to handover.

If, for any reason these are not available before handover, no further payments under the contract will be made until satisfactory certificates are in the hands of the Employers Agent.

Gas installation and heating systems are to be installed by specialists who are Gas Safe registered and members of BENCHMARK. Completion test certificates are required prior to handover. Handover cannot take place until these certificates are given to the Employers Agent. Commissioning certificates are required for all gas and oil boilers.

Where matters of design and choice of materials are subject to conditional approval by Local Authority planners, or where the contractor wishes to alter the approved planning layout for constructional reasons the client is to give prior approval to the contractor's proposals before submission or consultation with the Local Planning Authority.

4.2 Specialist Consultants

The Employer has appointed various specialist consultants throughout the early stages of this scheme to assist in the preparation of the feasibility Report, planning application and Stage C Design information.

The details of these specialist consultants are shown below and whilst it is not a strict requirement, the contractor is encouraged to seek quotations for detailed design services from these consultants when formulating their design team. This is given their prior knowledge of the project, site and requirements which are considered an advantage to the programme.

Structural Design and Calculation

xxxxxxxx

Tel: +xxxxx

Fax: +xxxxxx

Contact: xxxxx

The Landscape Designer and Arboriculturalists details are as follows:

xxxxxxxx

Tel: +xxxxx

Fax: +xxxxxx

Contact: xxxxx

4.3 Statutory Codes Standards & Regulations Etc

The following is a list of current statutory codes, standards, regulations etc., current at the time of printing. These are not necessarily full, accurate or complete but are included to provide bidders with details on the scope and range of compliance with advisory, legal and statutory documentation and legislation that will be required.

This list will constitute part of the contractual requirements that form part of the Employers Requirements.

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The following is a list of current statutory codes, standards, regulations etc., current at the time of printing. These are not necessarily full, accurate or complete but are included to provide bidders with details on the scope and range of compliance with advisory, legal and statutory documentation and legislation that will be required.

This list will constitute part of the contractual requirements that form part of the Employers Requirements.

4.3.1 Statutory Legislation

Educational
DCFS Constructional Standards 1997

The Educational (School Premises) Regulations 1999

Special Educational Needs and Disability Act 2001

All current Education Acts

Building
The Building Regulations of England and Wales

Occupiers Liability Act 1957 and 1984

Town and Country Planning Legislation 1990 (with 1994 amendment)

Environmental Protection Act 1990

Disability Discrimination Act 1995

Local By-laws

Health and Safety Regulations

Fire Precautions Act 1971

Highly Flammable Liquids & Liquid Petroleum Gas Regulations 1972

Highly Flammable Liquids & Liquefied Petroleum Gasses Order 1974

Health and Safety at Work Act 1974

Asbestos (Licensing) Regulations 1983

Occupational Exposure Limits - Health & Safety Executive 1984

Ionising Radiations Regulations 1985

Gas Act 1986

Noise at Work Regulations 1989

Pressure Systems and Transportable Gas Containers Regulations 1989

Electricity at Work Regulations- Health & Safety Executive 1989

Health and Safety Guidance for Schools 1989

Food Safety Act 1990

The Construction Products Regulations 1991

Personal Protective Equipment at Work Regulations 1992

Display Screen Equipment Regulations 1992

Manual Handing Operations Regulations 1992

Workplace (Health, Safety and Welfare) Regulations 1992

Simple Pressure Vessels (Safety amendment) Regulations 1994

Construction (Design and Management) Regulations 1994 (as amended)

Food Safety (General Food Hygiene) Regulations 1995

Disability Discrimination Act 1995

Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1995

Safety Signs and Signals Regulations 1996

Construction (Health, Safety and Welfare) Regulations 1996

Gas Safety (Management) Regulations 1996

Work in Compressed Air Regulations 1996

Confined Spaces Regulations 1997

Provision and Use of Work Equipment Regulations 1998

Lifting Operations and Lifting Equipment Regulations 1998

Gas Safety (Installations and Use) Regulations 1998

Control of Asbestos at Work (Amendment) Regulations 1998

Control of Lead at Work Regulations 1998

Management of Health & Safety at Work Regulations 1992 (as amended 1994 and 1999)

Fire Precautions (Workplace) (Amendment) Regulations 1999

Control of Substances Hazardous to Health Regulations (COSHH) 1994 (as amended 1999)

Pressure Systems Safety Regulations 2000

Construction (Design and Management) (Amendment) Regulations 2000

Control of Asbestos at Work Regulations 2002

Health & Safety Executive Guidance Notes HG (G) Series 150

Health & Safety in Construction

Relevant EU Directives on Health and Safety matters

Current Relevant British Standards & EU Regulations
All Relevant British Standards, codes of practice, European Standards and Agreement Certificates

4.3.2 National Guidelines

Educational
DCFS Publications by the Architect's and Building Branch including:

Building Bulletin 7: Fire and Design of Schools

Building Bulletin 58: Storage of pupil's personal belonging

Building Bulletin 67: Crime Prevention in Schools: Practical Guidance

Building Bulletin 69: Crime Prevention in Schools: Specification, installation and maintenance of intruder systems

Building Bulletin 70: Maintenance of Mechanical Services

Building Bulletin 71: The Outdoor Classroom

Building Bulletin 72: Educational Design Initiatives in City Technology Colleges

Building Bulletin 73: A Guide to Energy Efficient Refurbishment

Building Bulletin 75: Closed Circuit T.V. Surveillance systems in educational buildings

Building Bulletin 76: Maintenance of Electrical Services

Building Bulletin 77: Designing for Pupils with Special Educational Needs

Building Bulletin 78: Security Lighting

Building Bulletin 79: Passive Solar Schools: A Design Guide

Building Bulletin 80: Science Accommodation in Secondary Schools: A Design Guide

Building Bulletin 81: Design and Technology Accommodation in Secondary Schools: A Design Guide

Building Bulletin 82: Area Guidelines for Schools

Building Bulletin 83: Schools' Environmental Assessment Method (SEAM)

Building Bulletin 85: School Grounds: A Guide to Good Practice

Building Bulletin 86: Music Accommodation in Secondary Schools: A Design Guide

Building Bulletin 87: Guidelines for Environmental Design in Schools (2nd edition 2003)

Building Bulletin 88: Fume Cupboards in Schools

Building Bulletin 89: Music Accommodation in Secondary Schools

Building Bulletin 90: Lighting Design for Schools

Building Bulletin 91: Access for Disabled People to School Buildings: Management and Design Guide

Building Bulletin 92: Modern Foreign Languages Accommodation: A Design Guide

Building Bulletin 93: Acoustic in Schools

Building Bulletin 94: Inclusive School Design

Building Bulletin 95: Schools for the Future

Building Bulletin 98: Briefing Framework for Secondary School Projects (incorporating BB82)

Excellence for all children, Meeting Special Education Needs (MSO) 1997

Building Bulletin 99: Briefing Guide for Primary School Projects

Building Bulletin 100 Designing and Managing Against the Risk of Fire in Schools

Building Bulletin 101:Ventilation of School Buildings

Building Bulletin 102: Designing for children and young people with special educational needs or disabilities in mainstream and special schools

DCFS Standard Specification, Layouts and Dimensions Guidance

DCFS 0732/2001 Access to Education: for children and young people with medical needs

DCFS/0462/2002 Accessible Schools: Summary Schools – Design Note 25: Lighting and acoustic criteria for the visually handicapped and hearing impaired in Schools

A & B Paper 15: Lockers and Secure Storage Guide 7 Furniture and Equipment in Schools: A Purchasing Guide

Sport England
Turf Pitches – Synthetic 1996

A Guide to the Design, Specification & Construction of Multi Use Games Areas (MUGAs) including Multi-Sport Synthetic Turf Pitches (STPs) 2003

Design Guidance Note: Sports Halls: Sizes and Layouts 2000

Design Guidance Note: Sports Halls: Design (1999)

Natural Turf for Sport 2000

Public Lettings

All relevant legislation and Statutory Requirements / Guidance in relation to public bodies letting buildings to the general public.

5 PERFORMANCE SPECIFICATION STANDARDS AND QUALITY

5.1. Generally

The Contractor shall carry out and complete the Development in accordance with the Employer's Requirements and Contractor's Proposals and to the reasonable satisfaction of the Employer.

All Works rendered necessary in consequence of the Development hereby agreed upon, shall be deemed to be included and form part of the Contract, whether or not the same are mentioned in the Employer's Requirements and Contractor's Proposals, provided always that the Contractor shall not deviate from the Work shown or reasonably implied in the said Employer's Requirements and Contractor's Proposals without obtaining the previous agreement of the Employer's Agent, which agreement shall not be unreasonably withheld.

The Contractor shall be deemed to have satisfied himself before tendering

as to the correctness and sufficiency of his tender for the Works specified or reasonably inferred from the Contract Documents and that his tender covers all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the Works.

The contents of the Specification section are an indication of quality and specification standards to be adopted in the Contractor's design solution. They shall not detract from the Contractor's obligation to select and specify materials and design solutions fit for the purpose of the buildings specified in more detail in the Employer's Requirements. The specification provides general performance and specification criteria only. Notwithstanding the prescriptive nature of the Specification in certain respects the Contractor is to satisfy himself as to the suitability of the Specification, and where deemed unsuitable to advise the Employer accordingly and seek agreement on any changes that are necessary but without adjustment of the Contract Sum.

The Employer shall not be deemed in any way responsible for any of the design or detail of the project, whether carried out before or after the Tender date, nor for any information or reports supplied with the Employer's Requirements. The Contractor shall provide, at his own expense, any designs, tests, calculations and further drawings that may be required to enable the project to be completed.

Where materials, articles and/or workmanship are specified to be in accordance with a British Standard Specification and/or British Code of Practice, this is deemed to mean the latest issue of the British Standard Specification of British Standard Code of Practice, together with any amendments.

Where manufacturers' names are given herein these are to be taken as an indication of standards acceptable in terms of material specification and in no way reduce or limit the Contractor's liability. This shall not detract from the Contractor's responsibilities to include other products to achieve the performance standards required. Where proprietary brands are used these are to be used and/or fixed strictly in accordance with the manufacturer's instructions.

Where a recognised trade association exists for a particular trade, specification workmanship and design standards are to be in accordance with standards laid down by that organisation.

Where and to the extent that materials are not fully specified, they are to be in order of priority suitable for the purposes of the Works stated in or reasonably to be inferred from the Contract Documents, in accordance with good building practice, and complying strictly with British Standard or in general with British Standards and Codes of Practice or be certified by a British Board of Agrément Certificate.

Materials shall be as far as possible supplied from sustainable sources or non-polluting manufacturing processes.

The whole quantity of any particular product or material required to complete the works must be of the same type, manufacture and/or source unless otherwise stated.

Branded materials are to be handled, stored and used and processes are to be carried out strictly in accordance with manufacturers' instructions and recommendations. Such materials are to be obtained direct from the manufacturers or through their accredited distributors.

All materials to be incorporated in the Works shall at all times be carefully handled, stored and protected from the weather.

Wherever possible, all materials should require little maintenance and place no additional maintenance requirements on the schools FM provider, over and above what is currently required by the existing school structure.

Workmanship is to be of a high standard throughout, particularly with regard to the accuracy of dimensions, lines, planes, levels and everything necessary to ensure that the standard of finish which is hereby demanded by this Contract is achieved and, where applicable, is to comply with the relevant British Standard Specifications.

Where and to the extent that workmanship is not fully specified, it is to be, in order of priority, suitable for the purposes of the Works stated or reasonably to be inferred from the Contract Documents, in accordance with good building practice with British Standard Codes of Practice.

The quality of work is to be of a high standard throughout particularly with regard to the accuracy of dimensions, lines, planes, levels, joints and the quality of surface textures. With regard to tolerances, work shall be within dimensional limits that are suited to the structural stability and final appearance of the works and in general shall comply with the recommendations of BS5606 ‘Accuracy in Building.’

The Contractor is to establish and maintain procedures to ensure that the works, including that of all operatives and sub-contractors complies with the specified requirements. The Contractor is to do everything necessary to ensure that the high level of finish which is required by the Contractor is achieved.

All work is to be protected against frost damage and work liable to damage by frost is not to be carried out at temperatures less than 5° Celsius on a falling thermometer unless precautions are taken against low temperatures. Submit details of such precautions to the Employer's Agent.

5.2 Legislation and Basic Requirements

Undertake all works and comply with all latest publications and current requirements of, or related to, the following:-

i. Local Authority planning approval and any reserved matters and conditions.

ii. English Heritage (where applicable).

iii. Any archaeological works required by the Local Authority or other Government Department.

iv. Latest published Building Regulations.

v. The Construction (Design and Management) Regulations 2007.

vi. Any guidance or information published by the Health & Safety Executive and Health & Safety Commission relevant to the Works.

vii. Workmanship shall comply with the recommendations of British Standard 8000 or any other current relevant British Standard Code of Practice, where such exists and shall in any case be in accordance with good building practice and of a high standard suitable for the purposes of the work stated in, or reasonably to be inferred from the Contract Documents.

viii. British Standards (B.S.) and Codes of Practice (C.P.) or this requirement may be substituted by a product complying with a grade or category within a National Standard of another Member State of the European Community or an International Standard recognised in the U.K. specifying equivalent requirements and assurances in respect of material, safety, reliability and where relevant, appearance. The Contractor shall notify the Client's Representative of all such substitutions in advance of ordering and provide documentary evidence confirming that the products comply with the specified requirements.

ix. Public Health Inspectorate requirements.

x. Environmental Health Inspectorate requirements.

xi. Appropriate Local Electricity Authority.

xii. British Telecommunications.

xiii. British Gas.

xiv. Appropriate Local Water Authority.

xv. British Rail, Rail Track or other railway operating company.

xvi. Fire Officer.

xvii. The Control of Substances Hazardous to Health Regulations 1999.

xviii. Environmental Protection Act 1990.

xix. The Provision and Use of Work Equipment Regulations 1998.

xx. The Control of Asbestos at Work Regulations 1987 (as amended '92 & '98)

xxi. The Construction (Health, Safety and Welfare) Regulations 1996.

xxii. The Control of Pollution Act 1974.

xxiii. The Health & Safety at Work Etc., Act 1974.

xxiv. The Health & Safety (First Aid) Regulations 1981.

xxv. The Highly Flammable Liquids and L.P.G. Regulations 1972.

xxvi. The Management of Health & Safety at Work Regulations 1999.

xxvii. The Lifting Operations and Lifting Equipment Regulations 1998

xxviii. Reporting of Injuries, Diseases & Dangerous Occurrences Regulations 1995.

xxix. The Personal Protective Equipment at Work Regulations 1992

xxx. Education (Schools Premises) Regulations 1999.

5.3 Environment Considerations

The Contractor shall use organic weed killer and pesticides.

The Contractor is encouraged to use materials and methods which reduce detrimental effects on the environment.

The use of polystyrene products containing CFC's is to be avoided.

The use of hardwoods from anything other than a renewable source is to be avoided.

5.4 Drawings and Specification

The drawings and specification contained within the Employers Requirements are provided for information only, the Client shall not be deemed in any way responsible for the design or detail thereof. The Contractor shall provide, at his/her own expense, any designs, tests, calculations and further drawings that may be required to enable the development to be completed or as reasonably requested by the Client.

5.5 Works Necessary

All Works rendered necessary in consequence of the Development hereby agreed upon shall be deemed to be in and form part of this Contract, whether or not the same are mentioned in the drawings and Specification, provided always that the Contractor shall not deviate from the Work shown or reasonably implied in the said drawings and Specification without obtaining the previous agreement, in writing, of the Client's Representative which agreement shall not be unreasonably withheld.

5.6 Correctness and Sufficiency

The Contractor shall be deemed to have satisfied himself/herself before entering Contract as to the correctness and sufficiency of his/her offer for the Works specified or reasonably inferred from the Contract Documents and that his/her offer covers all his/her obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the Works until handover**.**

5.7 Material and Components Selection

Material selection shall be robust, attractive and easy to maintain.

Wherever possible design should incorporate the use of low maintenance products and materials. Landscaped areas shall be similarly treated.

Durability and suitability of building components, materials, fixtures, furniture and equipment must be taken into account in the selection and use of these items.

Where and to the extent that materials, products and workmanship are not fully detailed or specified they are to be:

Of a standard appropriate to the Works and suitable for the functions stated in or reasonably to be inferred from the project documents, and

In accordance with relevant good building practice.

5.8 General Quality of Products

For products specified to a British or European Standard obtain certificates of compliance from manufacturers when requested by Client's Representative.

Ensure that the whole quantity of each product required to complete the work is of consistent kind, size, quality and overall appearance.

5.9 Equal Approved Materials/Items

Where stated that materials/items are to be as specified or equal approved it is for the Employers Agent to approve, in writing, to the contractor.

The Contractor is to inform the EA of any conflict between the appendices and the Employer's Requirements, for the EA to determine which takes precedence.

5.10 General Design Principles (where not covered by the RIBA Stage D proposals). Overall Approach

The overall scheme design should be attractive and sympathetic to the local environment as far as is possible within cost constraints, the design should take advantage of existing natural features, existing trees, disposition and fall of the site and have regard to the local vernacular, in both materials and design. Consideration should also be given to sunlight, daylight and local weather conditions.

Development, Form and Layout

- Services and facilities (e.g. open space, paving, car parking) should be related to the proposed buildings.

- Consideration to be given to the provision of key features to promote the design.

- Incompatible adjacent uses of the site should be avoided.

- Full account should be taken of neighbouring site uses.

- Accessibility generally to be to mobility standards

- Minimum widths of corridors as indicated on general layout.

Structural Performance

The Contractor is fully responsible for the structural design of all elements of the building.

This includes but is not limited to: Foundations, frames, roof, cladding, stability,

fixings, fire protection, restraint to internal partitions, secondary fixings for ceilings and suspended services, staircases, balustrading, canopies, screens and balconies. The Employers Agent's design team has no responsibility for any structural design. The Contractor shall ensure that all the minimum standards are met or enhanced as necessary, so that all component parts of the completed buildings are compatible in all respects including strength, durability and dimensional co-ordination. All elements that are required to fit together and be coordinated shall do so. The Contractor is fully responsible for the design of car parking, external road surfaces, footways and play areas. This includes but is not limited to: cut and fill of appropriate areas, determining CBR values, allowing for a base and sub base as required.

Access and Car Parking

- Footpaths should be not less than 1.8m in width or otherwise of suitable width and should be designed so as to follow natural pedestrian routes and to minimise tracking across landscaped or unpaved areas.

- Paths should be given interest and character by avoiding long straight lengths.

- Paths should not exceed a maximum gradient of 1:12.

- Where steps are used, the minimum grouping shall be 3 and durable secure handrails must be provided to both sides. Paving to steps and ramps must be non-slip.

- The lighting scheme should ensure visual security and that all areas in need of supervision are particularly well lit.

- Pedestrian routes must not necessitate walking along roads.

'Barrier-Free' Access

The building shall aim to be 'barrier-free', providing full access for the integration of Pupils, and other users, who have special needs. This requirement goes beyond simply providing access and toilets for wheelchair users, but must address, for example, the needs of the hearing and visually impaired; provision of appropriate accommodation for therapy services; teaching areas appropriately sized to accommodate Pupils with special mobility and equipment needs; and so on. The following principles shall be followed:

Circulation: Provide safe access and external circulation for accessibility for people with disabilities and special needs. This will include readily ('way finding' schemes) identifiable routes with colour contrast, tactile surfaces and good quality lighting and decoration to include good visual contrast and clarity of changes in levels and surfaces;

Signage with legible lettering and visual contrast to the background installed at an appropriate height where it is clearly visible to all users, with tactile signage provided

as appropriate;

Doors which are easy to identify and user friendly to operate and allow for full wheelchair accessibility, with space for approach and operation of doors, with a single door leaf to be wide enough to allow access, with good visibility maintained on both sides of the door;

For all school premises, ramps and stairs should have a gradient and pitch in keeping with the current Approved Document Part M 2004 and BS 8300. Provide suitable handrails, balustrades and guardings. Lifts are to be adequately sized for the traffic modelled;

Designs shall allow suitable arrangements to be made for Pupils or staff who cannot escape unassisted from upper (or lower) floors in an emergency situation.

Solar Shading and Glare

Provide good quality lighting and blinds throughout the building to avoid glare for those with visual impairments. Downlighting shall be avoided at reception and in teaching spaces, where cast shadows make lip reading difficult.

For the avoidance of doubt, blackout blinds are to be provided to all external windows and doors. This clause takes precedence over the details shown in the room data sheets.

Security

The new building shall be designed to ensure the safety and security of all school users. While visitors and community users are to be encouraged, it must not be possible for visitors to enter the School Facilities unsupervised. Where separate Pupil entrances and exits to the Schools Facilities are essential, these shall not be open during teaching periods, and must be able to be controlled and secured as necessary. The completed building shall be provided with an entry system to monitor all visitors to the School Facilities.

Drainage and Services

The Contractor should refer to the site survey and other drawings provided to establish services. The Contractor is reminded that an existing main sewer by Thames Water passes below Section 2.

Where sufficient information is not provided further enquiries or surveys should be carried out by the Contractor and due allowance made within the tender figure. The Contractor will be responsible for carrying out all necessary enquiries, and obtaining any necessary permissions to provide a suitable solution for the

soil, surface water and land drainage to the new building and external works and for providing gas, electric, water, telecom, security and IT services to the new building.

Foul Drainage

In addition to the above the Contractor must allow for repairs and diversions to the existing foul drainage system as necessary to ensure the free flowing operation of the foul drainage system upon occupation of the completed building.

Landscaping

All existing landscape features, shrub planting, and trees shall be adequately protected during the construction works. Where likely to subject to damage the areas shall be fenced off. No storage of plant, materials, or the like is permitted below the canopy of any tree. Existing trees within the compound or working area shall be fenced at the limit of their canopy. Groundoworks in the RPA are to be undertaken in strict accordance with the Tree Protection Plan.

The Contractor shall seek to limit his activities to avoid the disturbance of the existing grounds and landscaping as far as is possible.

- Landscape design should be used to reinforce security and privacy and support footpaths to prevent shortcutting and erosion of edges, and avoid potential hiding places.
- Shrubs and trees should be selected which have due regard to low maintenance and to give an all year round effect.
- Trees should be positioned to have no long term effect on the structures.
- Small grassed areas should be avoided.
- With larger grassed areas, shape and gentle contours should be introduced without producing excessively high or steep mounds, but areas immediately abutting buildings should be flat. Mowing margins against walls should be provided.
- Some element of shade should be provided to hard play areas.
- The most should be made of any existing features.
- Any new landscaping work is to be maintained regularly and any failure during the first year after completion of the landscaping work is to be replaced at no cost to the Employer.

The Contractor shall follow the guidelines contained within the DfES's Building

Bulletins 71 and 85 to maximise the use of the Schools grounds.

Site Clearance and demolition:

Carry out an assessment to consider the reuse of any demolition waste generated on the site or reuse of salvaged materials and submit to the Employer's Agent for agreement.

Grub up and dispose of any existing foundations. Generally seal off and remove any redundant services and leave in a safe condition. Clear site of all unnecessary vegetation/spoil and debris. Retain sufficient spoil and topsoil to create new landscape areas as required.

Sustainable Development

In addition to achieving a minimum of a "Excellent" rating under the Building Research Establishment Environmental Assessment Method (BREEAM) the completed building shall be designed to achieve a minimum of a "B" rating using the SEAM methodology set down in Building Bulletin 83 (1996), "An environmental assessment method for schools", and achieve awareness of energy management generally and promote good standards of environmental practice.

The Schools shall be designed and constructed to minimise energy consumption. The objective in cold weather is to maintain a warm, condensation-free environment with minimal consumption of energy for heating and lighting. In order to achieve this, the

building fabric must be designed to minimise heat losses, to maximise passive solar gain and to maximise the use of available daylight all in accordance with the recommendations of the Building Bulletins.

The objective in warm weather is to maintain a cool, well-ventilated environment without resorting to mechanical refrigeration. In order to achieve this, the building fabric must be designed to absorb internal heat gains during the day, to minimise unwanted solar gain and to allow purging of excess heat at night without compromising building security.

Water Conservation

The Contractor must demonstrate within the Contractor's Proposals that they are proactively applying water efficient measures as those detailed in recommendations contained in Department for Education and Skills (DfES), Environment Agency (EA) and the Water Regulations Advisory Scheme (WRAS) guidance. These are detailed within Annex 1 (Reference Documentation).

Energy Conservation

The Contractor must demonstrate that within the Project's economic constraints the Contractor's Proposals optimise the application of energy efficient measures as those detailed in recommendations contained in the Department for Education and Skills (DfES), Government's Energy Efficiency Best Practice Programme (EEBPP) and Chartered Institution of Building Service Engineers (CIBSE) guidance as detailed within Annex 1 (Reference Documentation).

Life Expectancy

The Contractors attention is drawn to Appendix O for the Employers minimum life expectancy for mechanical and electrical services. In addition to this, the building should be designed to achieve the following minimum life expectancy for building the building fabric:

BUILDING ELEMENT	***LIFE EXPECTANCY (YEARS)***
Structure, including sub structure	*25 Years minimum*
Floor structure	*25 years minimum*
Roof structure	*25 years minimum*
Roof covering/cladding	*25 years minimum*
External wall/cladding including openings	*25 years minimum*
Windows	*15 years minimum*
External doors	*10 years minimum*
Internal partitions including openings	*10 years minimum*
Internal finishes	*5 years minimum*
Ceilings	*10 years minimum*
Internal doors	*10 years minimum*
Internal fixtures and fittings	*10 years minimum*
Sanitary and catering fittings	*10 years minimum*
Engineering servicesdistribution systems	*10 years minimum*
CCTV installations	*5 years minimum*
Fire installations	*5 years minimum*
Security installations	*5 years minimum*
Communication installations	*15 years minimum*
Lifts	*5 years minimum*
Underground drainage	*25 years minimum*
External finishes	*10 years minimum*
External fences	*5 years minimum*

The employers requirements are to be read in conjunction with the following documents:

Room Data Sheets

Employers NBS Specification

Employers Requirements Proposed Mechanical Engineering Services and Particular Electrical Specification

Tender Drawings

All Appendices

The Contractor attention is drawn in particular to Appendix DB (Design & Access Statement)

These documents are form the basis for the design and tender exercises. Any discrepancies or divergence between different sections shall be reported to the Employer's Agent. For furniture and equipment details, the Room Data Sheets shall take precedence.

A general building performance specification is appended to this document and it is important that the Contractor makes full allowance for all applicable elements described within this specification. The contractor is to note that all finishes, internal and external are to match that of the current school.

Any claims for variations which may arise through the contractor having failed to read or understand this specification will not be accepted.

A brief synopsis of the key sections has been provided below, however, this list does not negate the need for the Contractor to read or make full allowance for the more descriptive requirements set out within the performance specification.

6.1 **Substructure:** Refer to Section D20 within Appendix FB.

6.2 **Foundations and ground floor:** Refer to sections B13, B50, E05 / E60

Note: The Contractor must satisfy himself as to the correct measures to be taken to suit all existing site conditions, including control of ground water as necessary.

The foundation solution and its relationship to the building shall allow level access to be achieved at all doorways.

6.3 Volumetric Systems (where applicable): Refer to sections B13, B50,

Elevational appearance:

The elevational appearance shown on the tender drawings has formed the basis of the Planning application and shall not be changed other than by agreement with the Employer's Agent.

Separate fascia and skirting panels will not be permitted.

Cladding materials shall be applied so as to be continuous over the module joints so that the structural grid is not expressed. External cover strips between modular units will not be permitted to be visible. Any exposed steel structures are to be polyester powder coated.

Floor Construction:

The floor is to be robust and constructed to avoid undue vibration and movement when walked upon.

Ceiling heights:

Indicative section drawings are provided. Minor variations in the overall height of the building as currently designed are permitted to accommodate standard manufacturing processes or preferred modular dimensions. However, no part of any ceiling shall be less than 3 metres above finished floor level.

Insulation materials:

Insulation in walls, roofs and floors shall meet the requirements of current Building Regulations. The material may be Rockwool mineral quilt or proprietary rigid board. Where quilt is used, this shall be adequately supported to prevent slumping. In all cases insulation should cover 100% of the wall, roof and floor voids involved.

Where fully breathable construction cannot be demonstrated, then an effective vapour barrier shall be incorporated in the external wall and roof constructions.

Type approvals:

Where the volumetric manufacturer has any Type Approval under the Building Regulations which is relevant to the units required under this contract, then copies of the Approvals shall be made available to the Employer.

6.4 **Cladding:** Refer to sections F10, H20, M32 and M21

NOTE: Timber cladding to modular buildings where applicable is to be installed in vertical sections. Note: Architects Drawings to take precedent.

6.5 **Windows and Doors:** (Aluminium External Doors, Windows and Rooflights) Refer to Sections L10 and L40. Note: Architects Drawings to take precedent

6.6 **Ironmongery:** Refer to Section P21

6.7 **Internal Partitions:** Refer to Section K10

6.8 **Upper Floors:**

Where applicable, the design of upper floors shall not be less than that provided for ground floors. Ensure that all necessary acoustic and fire separation requirements are met.

6.9 **Stairs, Ramps and Balustrades:** Refer to Section L30

6.10 **Pitched Roof Construction:** Not applicable.

6.11 **Flat Roof Construction:** Refer to Section J42 and Appendix GB

6.12 **Internal Joinery:** Refer to Section L20

NOTE: For schools the design of the doors/ Door sets shall meet the requirements of DCSF document SSLD 7 Ensure that clear opening widths and other requirements of the Building Regulations Approved Document M are met.

In Primary Schools and Nurseries all doors to be fitted with full length anti-finger trap sections on the "push" side of the door. (See RDS)

Where existing doors are to be refurbished / overhauled, this is to include the full replacement of all ironmongery, the incorporation of intumescent seals and brushes in order to ensure the doors meet the requirements of the local fire officer and the full redecoration of the doorset.

6.13 **Ironmongery:** Refer to Section P21.

NOTE: All necessary fire signage to doors required by the regulations shall be included

together with all fire fighting equipment required to allow the building to be occupied upon practical completion. Also refer to Section N15.

6.14 Signage: Refer to Section N14 and N15

6.15 Demountable or Specialist Partitions: Refer to section K10

6.16 Cubicles & Ducts: Refer to Section K32

NOTE: Where WC's are to be used by nursery or reception children the cubicle heights are to be adjusted accordingly.

6.17 Ceilings: Refer to Section K10 and K40

NOTE: Ceilings generally to be minimum of 3m above ffl for classrooms.

6.18 Floor finishes: Refer to Section M50, RDS

All colours to be confirmed by Employers Agent and selected by the school. Allow for differing colours in each space and to match provision within existing school. (Unless otherwise stated).

Sit-on vinyl skirtings are not permitted.

Division strip between differing floor finishes and at each doorway comprising proprietary rubber inset strip– metal cover strips are not allowed.

Mat wells with barrier matting are to be provided to each external entrance point.

Stainless steel edgings to all internal manhole covers is required to provide neat finish to floor finishes.

6.19 Wall Finishes: Refer to Sections K10, M40 and M60

All decorations are to be undertaken using Diamond Matt paint.

6.20 Furniture, Fixtures and Fittings: Refer to Section N10, N11 and room data sheets

NOTE: Whiteboards or Nobo wipe on / wipe off boards are to be provided where

required and shown on the room data sheets. Projectors / IWB's should be procured in line with the employers ICT requirements which are appended to this specification.

6.21 Fire Fighting Equipment

The contractor is to provide sufficient fire fighting equipment to allow the immediate occupation of the premises following practical completion.

6.22 Kitchen Fittings: Refer to Section N11 and room data sheets

6.23 Sanitaryware: Refer to Section N13

6.24 Plumbing: Refer to Arch Spec Section R10, R11 and R12

6.25 Insulation and Fire Stopping: Refer to Arch Spec Section P10

NOTE: Provide compartmentation and cavity barriers in accordance with Building Regulations. Ensure that head of all fire rated walls are fire stopped to prevent passage of smoke and flame. All insulation materials to be HCFC and CFC free.

6.26 Refuse Disposal: Not applicable

6.27 Sports Equipment: Not applicable

6.28 Lifts: Refer to Electrical Specification for Lift specification to be located where indicated on the tender drawings.

6.29 Additional Design Parameters / Requirements

In addition to the Employers requirements, the requirements of the general building specification, the employers Mechanical and Electrical services performance specification and all appendices, the following design parameters apply to the scheme and the contractor is to make full allowance against each element.

Fire Protection

Fire protection materials where installed by the Contractor shall comply with all statutory requirements and recommendations and care shall be taken to ensure that fire certificate test results relating to materials and components are directly relevant to

the proposed use of such materials and components.

Fire Escape

Building layout shall comply with all relevant legislation;

The local fire officer must be further consulted on exit signage, appliance access, location of extinguishers, hydrant locations etc;

Refuge facilities for disabled person's safe evacuation are to be provided in the event of a fire.

Rainwater Goods

Rainwater pipe detailing and arrangement must be concealed and shall be designed such that it is not vulnerable to vandalism through being kicked or otherwise crushed;

Guttering detailing and arrangement must be such so as not to aid malicious persons in gaining access to the roof and must be robust enough to withstand accidental damage (e.g., From ladders) during maintenance works; and

Practical and safe means/methods of access for maintenance of the rainwater goods shall also be provided.

Windows

Particular attention shall be paid to the following:

Windows shall be designed to provide generous natural ventilation, where required, as part as of an overall heating and ventilation strategy for each school;

Windows shall be designed to be water and weather tight;

Windows must suit particular location and exposure;

Where significant areas of external glazing are exposed to direct sunlight, the contractor must accommodate measures to reduce the affects of direct sunlight in accordance with CIBSE prediction techniques and the references to solar gain and glare.

Where glazing has a high degree of exposure to south and west sunlight, measures shall be incorporated to protect the glazing externally or within the window build-up, reliance on internal blinds will not be sufficient;

Windows must not compromise the security of the building and beading shall be

internal. Any night cooling strategies must be designed to ensure that openings in the building fabric for the passage of air do not compromise security;

All windows must be safe in closed or open positions and must not be hazardous to persons passing by windows internally or externally when in use. Windows must be designed so as to prevent children from falling and/ or climbing in/ out at all levels; and provision must be made for the safe cleaning of windows.

External Walls & Cladding

External walls and cladding shall be designed to be water and weathertight;

External walls and cladding must be of low maintenance and must be so designed to be secure, robust, vandal-resistant including graffiti and suitable for the particular circumstances and superimposed loadings.

Doors

Separate doors are required for deliveries where use of general access routes would create excessive disruption to the delivery of the educational services at the schools;

All doors/gates etc shall incorporate an appropriate level of security to match the specification of the existing school;

Doors shall be designed to be sufficiently robust to withstand heavy usage with minimal maintenance causing disruption and to maintain the safety and security of the facility. Door design shall also take account of the age of pupils utilising the doors;

External doors must be watertight and weather-tight and be designed to be secure and vandal-resistant. They must incorporate appropriate controls and/ or fittings where appropriate to afford safe operation as well as locks;

All doors must be designed to allow disabled access, where appropriate, including access for motorised electric wheelchairs;

Locations and requirements for doors for building compartmentation must be agreed with the fire authority. Fire standards must be in accordance with school premises regulations, and current building regulations;

Doors across corridors must include vision panel(s) to provide visibility suitable for pupils and wheelchair users;

Doors must provide adequate sound reduction for the intended usage; and

The integrity of doors and frames to stock rooms, strong rooms and the like must be such as to withstand malicious entry.

Manifestations are to be provided to all glazed doors

Ironmongery

The contractor must allow for all doors to rooms, stores etc., to be lockable with a suited key system, to match the existing adjacent school system.

The detail of the locking and suiting requirements to individual rooms must be agreed with the individual schools;

Double doors in circulation areas must have non-rebated meeting stiles;

Letterboxes are to be anti-arson type where installed to the front entrance.

Kick plates and push plates are preferred to all corridor and classroom doors to reduce maintenance and disruption to the school.

Emergency release required for toilet cubicle door locks; and Name plates and numbers must be fitted to all rooms, together with way finding signage to corridors.

Access and Internal Circulation

The contractor shall ensure that safe and secure access for the delivery of goods including but not limited to bulk stationary, kitchen deliveries, refuse collection and deliveries to design technology and other departments, is allowed for within their detailed design.

In addition the design shall comply with the following requirements:

Access control mechanisms must be provided (see RDS).

Entry/ exit points for pupils must be strictly controlled either within the building or within the overall site.

Corridors and circulation areas must comply with fire safety requirements (see school premises regulations, DFEs constructional standards and current building regulations).

For areas of high intensity use and access, a minimum corridor width of 2.4m shall be allowed for in the design. Narrower widths depending on circumstances and traffic flow may be acceptable to access individual rooms (refer to Annex 4 (corridor width derogations) for a schedule of corridor width derogations).

The Contractor shall take cognisance of the fact that circulation areas also provide educational breakout space, social areas and locker space.

A clear circulation strategy is essential in order to orientate both familiar and new users.

Circulation spaces shall be well lit and where possible shall connect with the external environment both visually and physically.

The Contractor must assess peak loading in circulation spaces and functional relationships within the facility in order to avoid overcrowding.

This assessment must take account of safety of occupants, use patterns, functional relationships between different parts of the building, and location of staff and pupils in relation to toilet facilities.

A minimum floor to ceiling height of 3m will be used in the new facilities, though additional volume shall be provided in appropriate atrium areas such as the heart space and entrance.

Finishes (See Drawings and RDS)

Finishes shall be durable. Finishes shall be appropriate for their particular use

sympathetic and compatible materials which are comparable to the finishes of the adjacent school.

Finishes shall be chosen with a consideration of acoustics and so as to minimise adverse noise in accordance with the acoustic standards set out earlier within this document.

The contractor shall allow for using contrasting colours and textures throughout the internal spaces so as to enhance the enjoyment of the building by pupils.

Internal finishes (See RDS)

Floor, wall and ceiling finishes shall, together with the furniture and fittings, form part of an integrated design concept.

The following general points shall be complied with:

Suitable colour schemes and textures must be provided to assist people with visual or hearing impairments;

Floor finishes shall be durable and easily cleaned and have a roughness parameter (rz) of 10 or above;

All external entrance finishes shall be protected by recessed barrier matting internally and. Matting shall facilitate ease of movement for wheelchair users;

All finishes, carpets, etc., must be non static, environmentally friendly and durable; (the use of flooring materials with high voc levels is to be avoided);

All floor finishes must be appropriate for the particular location;

Wall finishes shall be durable, easily cleaned and fire resistant as required to comply with building standard regulations;

All exposed service runs, pipework, cables etc are to be concealed from view but left readily accessible for maintenance. Where it is not possible to conceal services within risers or ducts, the contractor must make full allowance for boxing in around services and for the boxing in to be finished to a high quality standard befitting a primary school, and be finished to match adjacent services. Surface mounted conduits are not considered as an acceptable means of boxing in.

All ceilings shall be light coloured and acoustically absorbent. Where this conflicts with the requirements for building fabric thermal storage, alternative acoustic absorption measures shall be taken. Fire resistant as required to comply with building standard regulations; and

Design and choice of finishes to all areas must minimise adverse noise, particularly adjacent to rooms where ambient noise levels need to be minimised. The contractor must take note of the guidance detailed in the DFEs building bulletin bb93 “acoustics in school design”, DFEs Building Design Bulletin 87 Section a - and in some areas (e.g., Corridors, changing rooms and cdt areas) particularly robust finishes are required to withstand heavy usage.

External Finishes

External walls must suit the particular location and exposure conditions.

Wall finishes shall minimise risk of weather staining that would detract from the aesthetics of the building.

Walls shall be robust and at ground level or other accessible areas be textured or formed in such a way as to discourage graffiti.

Storage

Storage provision shall comply with the following requirements:

Storage equipment shall be provided as detailed in the room data sheets;

Where materials are stored which may give off toxic gases during fire conditions, appropriate measures are to be included in compliance to the statutory requirements (e.g., PE stores where rubberised matting is stored).

Furniture, fixtures and fittings

See RDS (furniture, fixtures and fittings) of this documentation.

Additionally, the Contractor is to allow a £50,000.00 Provisional Sum to supply and fit sprt and ancillary equipment.

Toilet and changing room facilities

Toilet and changing room facilities shall comply with the following requirements:

Separate male and female toilets must be provided and one of each must have a cubicle suitable for use by disabled people (or alternatively a unisex toilet for disabled people). Toilets for pupils must be separate from those for staff including those for disabled pupils and staff. Reception and Nursery toilets are to be provided with sanitary fittings, vanity units, cubicle and partition systems set at heights appropriate for their use. Mirrors are to be provided within all WC's and changing areas.

Sanitaryware

Sanitary fittings shall comply with the following requirements:

All fittings and services must be vandal resistant as far as reasonably practicable.

Cisterns to WCs concealed where possible.

WC's must use low flush volume cisterns;

WC seats to have strong fixing to pan;

Size and fixing height of sanitary ware must be appropriate for its location (including taking into account the needs of disabled persons);

No plugs are to be installed in wash hand basins in pupils' toilets;

Robust and tamper proof mixer taps with timed delivery are to be provided for the toilet areas;

Thermostatic mixer valves shall be installed on the supply to all hot water taps so that the delivered water temperature cannot exceed 43 c. The mixer must be within close

proximity to the tap(s) to eliminate the risk of legionella;

Wash hand basins need to be fixed to a solid structure;

Layout of toilet areas must allow for supervision of open areas from the entrance door;

Showers must be self-draining and allow privacy for users;

The design of toilet facilities should balance the demands for both privacy and adequate supervision, and lobbies or modesty panels provided in order to provide privacy for users, urinals must be controlled by automatic flush control devices and shall be equipped with automatic deodorising;

All appliances must be fitted with isolating valves; and specialist fittings e.g. Change beds / showers, sluices etc shall be provided in the changing places room, and in accordance with the room data sheets.

Toilet Cubicles

Toilet cubicles shall be robust solid grade laminate. Standard height to be 2.10m for general use areas,

Emergency release mechanisms are required for all toilet cubicles.

The size of the toilet cubicles must allow sufficient space for their safe usage by the relevant age groups.

Services Containment

Pipework, cables and equipment must be easily accessible for maintenance but, wherever possible, made tamper-proof. A clear service and distribution layout is required as part of the overall design approach.

Signage

Signage is required throughout the schools and their surroundings that provides clear indications or directions for all users, and is fully integrated into the design of the buildings.

All rooms and school facilities must have appropriate signing to define their purpose and updated as necessary. Required signage includes not only that provided to identify and number rooms but also the main school sign, and any required directional and departmental signage, whether internally or externally that aids circulation around the buildings and sites.

Internal and external signage shall be provided and comply with the following requirements:

The school facilities shall have appropriate signage to define their purpose. Every room shall have appropriate signing and room numbering plates (See RDS).

All signs will be in English.

Signage shall also be provided in the schools to denote departments and generally in all schools for directional purposes whether internal or external to aid circulation around the school facilities and sites.

Internal doors require identification and room numbers, e.g. A classroom door shall have departmental identification badge and number.

All appropriate signs shall be suitable for use by the visually impaired.

The school facilities shall have a main external school sign, detailing the name of the school and other pertinent information, which the contractor are required to provide in consultation with the school and the employers agent. The sign shall be illuminated.

External signage shall also include clear signage for visitors to the schools directing them from the entry to the site to the visitor's reception area.

Due cognisance of other facilities other than the schools on the sites requirements shall also be made.

Tactile signage is required next to doors to all rooms in the special school. Tactile 'clues' in floors shall also be considered as a part of the overall finishes strategy.

7.0 EXTERNAL WORKS (See Appendix S)

7.1 Site Clearance:

The Contractor shall allow for all necessary site clearance including breaking up of all existing paving, removing trees and shrubs as indicated, and disposing of rubbish and the like. Any foundations shall be properly broken up and grubbed out.

Any voids arising shall be backfilled with the appropriate material.

7.2 External Services:

The Contractor is to satisfy himself as to the condition and capability of all existing services and make full allowances for the upgrade / replacement as necessary.

The adequacy of all mains services to serve the proposed development should be established by the Contractor making his own enquiries of all Statutory Authorities.

Allowances shall be made for the full cost of providing new mains supply via underground supply which should include the cost of negotiating with the different Authorities direct, including any development charges made by the authorities, and associated builder's work requirements.

The Contractor is reminded that all external services connections shall be allowed for including all costs associated with electric mains connection, telecommunications, gas mains connection, water mains connection including water and sewage infrastructure charges, and ducts for specialist voice and data services.

The Contractor is to allow for min 100mm dia. Service ducts for all incoming services. In all cases an additional spare duct shall be provided.

The Contractor must allow for the adaptation of and for making connections back to

the fire alarm systems, IT, data, CCTV, security, access control and telephone systems of the existing adjacent school.

7.3 Roads and Car Parking:

Refer to Arch Spec sections Q10, Q20 and Q22 and Q25 All roads and car parking shall conform to the NBS specifications and to the standard details agreed with the Employers Agent. Dropped kerbs, tactile paving and crossing humps to ensure safe access and provision for the disabled.

Access to the new building for fire appliances shall be in accordance with Part B5 of the Building Regulations and to the satisfaction of the Fire Officer.

Highways works that may become adopted will be carried out by an approved HCC Highways contractor.

7.4 Footpaths: Appendix S to take precedence

Refer to Arch Spec sections Q10, Q20, Q22 and Q25. Where footpaths intended for children cross roadways on the site, a raised crossing "hump" shall be constructed.

All footpaths are to conform to LBL Highways specifications to the standard details agreed with the Employers agent.

Handrails to steps and ramps shall be formed using 48mm welded and galvanised steel tube and finished with polyester powder coating. Balustrades to be infilled by vertical bars or safety glass. Provide tactile paving and landings to top and bottom of flights in accordance with Building Regulations Part M.

7.5 Playgrounds and Play Courts: Appendix S to take precedence

Refer to Arch Spec sections Q10, Q20 and Q22.

Bitmumatic surfacing to play areas finished against contrasting material to match existing provision. Allow for provision of paving to the perimeter of building for window cleaning access, with all finishes and specifications to match existing.

Steps and ramps from external doors and playground areas are to be are to be provided as indicated, constructed in 225mm brickwork walls with non-slip paved finish to steps, and stainless steel balustrading / handrails with glass infills where required – all complying with Part M of the Building Regulations.

The paving must be of sufficient width to accommodate wheelchair access and allow for the safe delivery and distribution of materials to the buildings.

Bitmac for playground areas shall be medium graded macadam in surface and binder coats not less than 60mm overall; formal play courts shall be open textured macadam in surface and binder coats not less than 70mm overall, and laid on an MOT sub-base of a thickness suitable for the ground conditions. Neither should be surface dressed with grit.

To ensure safe and playable surfaces, falls should be constant in each main direction; maximum fall for playgrounds in any direction 1 in 40, minimum fall 1 in 180. For non-porous games courts crossfall between 1 in 100 and 1 in 120. For

permeable games courts crossfall between 1 in 200 and 1 in 120. Fall in direction of play not exceeding 1 in 200.

Allow the provisional sum of £5,000 for the provision of new playground markings.

Mark out MUGAS and other play courts as indicated on drawings in thermo-plastic paint in accordance with FA and Sport England standards.

All existing macadam areas trafficked during the contract shall be made good on completion of the building works. Failures of the sub-base due to construction vehicle loads to be properly dug out and the sub-base renewed before resurfacing.

7.6 Artificial Playing Surfaces: Appendix S to take precedence

Not required

7.7 Retaining Structures and Banks: Appendix S to take precedence

Refer to Arch Spec Section D20

The Contractor is however required to make his own assessment of the relative levels from the site survey information provided. The Contractor should consider what measures are necessary as part of the detailed design process to retain soft ground or hard surfaces at a higher level that the indicated finished building or paving levels.

The Contractor is to provide information about the type of any retaining structure proposed for agreement by the Employer's Agent.

Retaining structures should be designed to be attractive and be built using durable materials. Where adjacent to play areas and heavily used paths, particular care is required to reduce the risk of personal injury from contact with the wall. The design must prevent ground water build up behind the structure.

Banks shall be of a suitable gradient for mowing safely and will require turfing on completion to prevent soil washdown if grass cannot be established by seeding before Practical completion. Where play areas are formed at the top of banks, barrier rails may be required for pupil safety.

7.8 Fencing: Appendix S to take precedence

Refer to Arch Spec Section Q40 and landscaping specification and drawings.

7.9 Site Furniture: Appendix S to take precedence

Refer to Arch Spec Section Q50 and landscaping specification and drawings.

Refuse bin enclosures to be hit and miss boarded fencing to a minimum height of 1800mm high with lockable gates.

7.10 Soft Landscaping: Appendix S to take precedence

Refer to Arch Spec Sections 28, Q30 and proposed landscaping plans and specification for further details.

8.0 COMPLETION AND HANDOVER

8.1 Demolitions:

Refer to Arch Spec Section C20.

8.2 Breaking Through into Existing and Work within Existing Buildings:

Refer to Arch Spec Section C20. The Contractor is to programme such works in agreement with School or during holiday periods. The Contractor is to allow for all protective screens etc. to demarcate his working area and provide safe and suitable conditions for the School to continue its operations. Existing fire escape routes must be protected whilst the building is in operation. (See drawings)

It is imperative that the contractor should visit the site during the tender stage and verify the full extent of works and submit the tendered cost accordingly.

8.3 Remedial Works and Alterations

Remedial and alteration works to the existing landscaping and building will take place as required. The Contractor must allow for resurfacing work, repointing to brickwork and replacement of damaged brickwork and all repairs required to the existing roofs.

8.4 Connection to Existing Services:

The Contractor is to ensure that all connections, extensions, modifications etc. of all existing services are to be done with the minimum of disruption to the End User. Such works should be undertaken preferably during school holidays or out of school hours.

8.5 Decant & Temporary Works

The Contractor is to ensure that they provide the school with the necessary storage containers, crates and labour to enable the decant to occur.

9.0 TENDERING APPROACH AND TENDER RETURN REQUIREMENTS

9.1 The Contractor is to provide all pertinent information for the Health & Safety File as detailed in Appendix N attached to these documents. Two copies of the O&M Manuals, in draft if necessary, will be required prior to Practical Completion being granted.

Subject to approval of the proposed record information by the Employer's Agent, the Contractor shall provide a full electronic copy of the O&M Manuals, Building Log Book and Health and Safety File, including a full set of "As Built" drawings.

The Contractor shall make arrangements to demonstrate all mechanical and electrical plant and control systems to the End User at a time agreed with them and shall confirm to the Employer's Agent when this task has been completed to the satisfaction of the End User.

The Contractor shall arrange for a final inspection to be carried out by the Building Control authority prior to Handover. A Completion Certificate will be required by the Employers Agent.

9.2 Identification of Savings:

This document is intended to provide the Contractor with details of the minimum specific requirements of the Employer.

The Contractor is to utilise his best endeavours to provide the client with all his requirements whilst at the same time offering value for money. The Employer requests however that the Contractor look closely at the whole project to identify areas for possible savings but not at the cost of an inferior design or form of construction.

Such considerations may include variations to the proposed programme for the project provided that these make no undue pressures on the Employer's own undertaking.

The tender price should be a fully compliant bid with a separate figure listed for these possible cost savings.

9.3 Pricing Alternative Proposals:

Where these requirements cannot be met, either practically or economically, the Designer should at the time of tender propose alternative solutions to the Employer for his consideration.

Any alternative proposals to those outlined in the Employer's Requirements are to put forward by the Contractor with his tender, itemising and costing each variation to these documents.

Such alternatives should not be assumed to be accepted for inclusion in any Contract unless specifically agreed by the Employer in writing. In completing the Tender documents the Contractor should cost in full the Employer's Requirements above and carry this figure to the tender summary. Separate information should be provided with the tender about possible alternative proposals.

Part 1 - Outline Design Information which should include:

- Drawings prepared to RIBA Stage D and 1:50 construction details through all major elements of the building;
- Outline specifications for all building elements, civil and structural works and mechanical and electrical installations;
- Floor plans defining new, refurbished and retained areas;
- Site plans, elevational and sectional drawings;
- Phasing plans;
- Typical room layouts;
- Fixtures and fittings specifications;
- Accommodation schedules;
- Other relevant documentation to be agreed.

Part 2 – Works Programme and Management which should include:

- A Project Management Plan incorporating contact details, roles and responsibilities, including a photographic organogram, Employee C.V's, design development procedures, control of correspondence, meeting procedures and handover procedures. In addition, indicate how many person days per week, each team member will be solely dedicated to this project.
- The Project Programme detailing the design deliverables, the Works Period, refurbishment and the Services Period for each of the Sections with sequences of operations, time limits and any dependencies; see also preliminaries clause A32 210.
- The Contractor is to indicate in his submission the dates by which he requires final Employer's information in respect of finishing's and final details.

- Other relevant documentation to be agreed.

Part 3 – Health and Safety which should include:

- General arrangements for construction operations;
- Health and Safety Policies and construction phase plan

Part 4 – Quality Plan which should include:

- The contractor's Draft Quality Plan

Upon completion of the detailed design and prior to commencement of works, the contractor is to provide the following information as part of their contractors proposals:

Part 5 - Detailed Design Information which should include:

- General arrangements drawings;
- Room layouts;
- Fixed furniture layouts;
- Finishes schedules;
- Mechanical and electrical performance specifications and schematics;
- Sustainability and efficiency proposals;
- Detailed phasing plans;
- Detailed Room Data Sheets;
- Planning information (such as school travel plans); and
- Other relevant documentation to be agreed.

Part 6 – Works Programme and Management which should include:

- Programmed Works phases for work packages with sequences of operations, time limits and any dependencies;
- Project Management Plan;
- Risk Assessments
- Method statements and methodologies;
- RDD schedules and programmes
- Construction access arrangements;
- Site security, School access routes;
- Fire and emergency plans;
- Site compound / access and details for segregating the School from the Works; and
- Other relevant documentation to be agreed.

Part 7 – Health and Safety which should include

- Detailed arrangements for Site specific construction operations;
- Pre-tender health and safety plans;
- Roles of the Principal Contractor and Planning Supervisor; and

- Health & Safety File as required under CDM Regulations
- Details of the Site Waste Management Plan (SWMP)
- Details of anticipated domestic sub contractors.

Part 8 – Quality Plan which should include:

- The Building Contractor's Quality Plan including accreditation details and design and construction policies.

  A pre-agreed procedure for the submission of the contents and receipt of comments from the Authority for the Contractor's Proposals for each of the Schools is to be agreed with the Authority based on the Design Development programme for the Works, detailed in the Agreement.

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PRELIMINARIES

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STAGE C DESIGN INFORMATION

APPENDIX C

SCHEDULE OF AMENDMENTS TO THE JCT INTERMEDIATE BUILDING CONTRACT

APPENDIX D

FORM OF TENDER

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ROOM DATA SHEETS

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MECHANICAL PERFORMANCE SPECIFICATION

APPENDIX G

ELECTRICAL PERFORMANCE SPECIFICATION

APPENDIX H

NBS PERFORMANCE SPECIFICATION

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REVIEWABLE DESIGN DATA SCHEDULE

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REVIEWABLE DESIGN DATA SUBMITTAL FORM

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PRE CONSTRUCTION INFORMATION PACK

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LIFE EXPECTANCY TABLE FOR MECHANICAL AND ELECTRICAL SERVICES

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OUTLINE STRUCTURAL DESIGN PACKAGE

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PROPOSED OUTLINE PHASING DIAGRAM

APPENDIX T

CONTRACT SUM ANALYSIS TEMPLATE