**SPECIFICATION OF WORKS**

 **to be undertaken in conjunction with the works of alteration**

**THE ELMS, N6**

*submitted in response to the request of the Camden Council of 25th September 2013 and include works, which may not require Listed Building Consent*

**GENERAL**

Safety Management Objectives

To ensure that all site facilities provide a safe working environment for all employees, visitors and contractors,

To meet all current Health, Safety and Environment management standards,

To keep records, which confirm the safe working arrangements,

To minimise the risk of exposure to hazards,

To minimise the cost of waste or loss of production due to mishandling of equipment materials or incidents.

Quality of materials and Workmanship

Materials and workmanship shall not be interior to the requirements of the Building Regulations and good building practice. Suitably trained and experienced operatives, craftsmen, site-agents and other supervisory staff shall be appropriately skilled for the type and quality of work.

Proprietary products shall be used strictly in accordance with the manufacturer’s instructions.

Except where otherwise shown in the submitted drawings, otherwise described in the Schedule of works, or otherwise stated in this specification, the works of repair shall be carried out in accordance with the technical advice contained in the relevant published guidance of English Heritage contained in:

BRERETON, Christopher, *The repair of Historic Buildings: Advice on principles and methods*, 2nd edition, English Heritage, 1995;

*English Heritage Practical Conservation, Conservation basics*, Ashgate Publishing, March, 2013 – In particular pp. 263 to 300 on ‘Managing maintenance and repair- treatment and repair’;

*English Heritage Practical Conservation, Glass and glazing*, Ashgate Publishing, March, 2012 – In relation to the repair of surviving glass of particular architectural or historic interest and significance, in particular pp. 195 to 274 on ‘Treatment and repair’;

*English Heritage Practical Conservation, Metals*, Ashgate Publishing, March, 2012 – In relation to the repair of surviving ironwork and other metalwork of particular architectural or historic interest and significance;

*English Heritage Practical Conservation, Mortars, renders and plasters*, Ashgate Publishing, March, 2012 – In particular pp. 225 to 396 on ‘Treatment and repair’;

*English Heritage Practical Conservation, Stone*, Ashgate Publishing, March, 2012 – In relation to the repair of surviving stone paving and other stonework of particular architectural or historic interest and significance, in particular pp.141 to 262 on ‘Treatment and repair’;

*English Heritage Practical Conservation, Timber*, Ashgate Publishing, March, 2012 – In relation to the repair of surviving carpentry and joinery of particular architectural or historic interest and significance, including floorboards, ironmongery and the upgrading of fire resistance, in particular pp. 281 to 440 on ‘Repair and treatment’;

*English Heritage Practical Conservation, Roofing*, Ashgate Publishing, December, 2013 – In relation to the repair of surviving slate and lead-sheet coverings of particular architectural or historic interest, in particular pp. 81 to 202 on ‘Repair’;

John and Nicola ASHURST, *English Heritage Practical Building Conservation Technical Handbook, Volume 2, Brick, terra cotta and earth*, English Heritage, 1988 – In relation to the repair of surviving brickwork of particular architectural or architectural interest, in particular pp. 46 to 65 ‘5. The repair and maintenance of brickwork’;

*Timber panelled doors and fire: Upgrading the fire resistance performance of timber panelled doors and frames: An English Heritage technical guidance note*, English Heritage, May, 1997;

*Georgian joinery, 1660-1840: The history, design, and conservation of interior woodwork in Georgian houses*, English Heritage, December, 1993;

*Timber sash windows,* English Heritage, February, 1997;

*Draughtproofing and secondary glazing*, English Heritage, June, 1994;

*Door and window furniture*, English Heritage, February, 1997;

*The use of intumescent products in historic buildings: An English Heritage guidance note*, English Heritage, May, 1997; and

*Energy Efficiency and Historic Buildings: Application of Part L of the Building regulations to historic and traditionally constructed buildings*, English Heritage, March, 2011’.

**PLASTERWORK**

**Plastering / Timber Lathes to Ceilings**

Work to be carried out in compliance with relevant section of BS 8000: Part10.

Preparing the wall

For stone and brick hack off any hollow or decayed plaster. Brush the wall to remove loose material. Do not rake out pointing to provide a key.
For plastering onto existing wooden laths check that they are firmly fixed and free of lumps of old plaster. Laths should be fixed so that the distance between them is approximately 8-10mm. This allows the right amount of space for the plaster to be pushed between the laths and flop over to form a key.

For masonry, thoroughly wet the wall with clean water.

Lime-based plaster matching the original specification is to be used on internal walls and ceilings, as well as for repairs of existing damaged plaster.

Lime plastering to be carried out in 3 coats by specialist plastering contractors.

Plaster mix as follows:

*Mixes*

*Coat Parts Lime Parts Sand Hair Thickness*

*1 1 3 0.5kg/ 100 litres 10-12mm*

*2 1 3 0.5kg/100 litres 9-11mm*

*3 3 2 none 2-3mm*

Coat 1 (Scratch Coat)

Timber lathes are to be well wetted the day before plastering and again 2 hours before.

Any holes or recesses are to be dubbed with haired plaster and allowed to dry.

Scratch coat haired plaster then to be applied with laying on trowel to thickness of 10-12mm.

Plaster surface to be scratched after a period of 1 hour to allow work to ‘steady up’. Scratching to be carried out diagonally in both directions to provide diamond shaped key for second coat.

Coat 2 (Floating Coat)

First coat must be allowed to dry for a minimum of 4-5 days before the second coat is applied.

Once dry float coat haired plaster can be applied with a laying-on trowel to a thickness of 9 -11mm.

Plaster screeds or timber battens to be used to ensure uniform and level surfaces are achieved.

Float coat to be consolidated by scouring with a devil float after initial setting of plaster.

Checks for shrinkage to be carried out for first 2 days and any cracks to be lightly dampened, scoured and re-keyed

Coat 3 (Finishing Coat)

Second coat must be allowed to dry for a minimum of 4-5 days before the third coat is applied.

Once set the finishing coat (no hair) can be applied with a laying-on trowel to a thickness of 2-3mm.

The float coat is to be dampened with water to control suction before the finishing coat is applied.

Finishing coat to be allowed to firm before scouring to compact and consolidate the surface.

Final coat to be ‘trowelled up’ with steel finishing trowel to leave smooth tight and matt surface.

Checks for shrinkage to be carried out for first 2 days and any cracks to be lightly dampened and re-trowelled.

Sand

Sand for plastering and rendering shall be sharp, hard, well graded, clean and free from adherent coatings and shall not contain any appreciable amounts of clay balls or pellets. It shall be free from any deleterious matter likely to affect adversely the hardening strength, durability or appearance of the plaster or applied decoration or to cause corrosion.

Its quality shall conform to BS 882 or BS 1200.

Lime

Lime shall be best Buxton lime putty obtained from **H J Chard & Son, Feeder Road, Bristol** or equivalent and kept in closed watertight containers.

Water

Water for mortars shall be clean and free from acids and vegetable matter and

obtained from the main supply.

Repairing damaged plaster :

Remover loose or cracked plaster. Remove stained plaster to approx. 250 mm beyond the point of visible staining. Cut back to straight edges. Rake out any loose pointing in the wall behind and repoint roughly. Thoroughly brush out loose dust and apply the render in thin coats following the guidance above and taking care to ensure that it is well pushed in beneath the undercut edges of existing plaster. Apply the final coat with a neat butt joint between the old and new and with a slight bulge in the middle of the patch so that the final consolidation will create a flat patch, flush with the surrounding render. Do not feather the edge of the patch over the surrounding plaster. Push back and consolidate the patch with a wood float. For small patches it is best to use miniature wooden floats which can be made by fixing a small handle to a short piece of batten and rounding off the edges with sandpaper.

Repairing laths:

Brush or vacuum to remove loose material and dust from the back of the lathing. Fix detached laths using wood screws with wide washers to provide key for plastering. Reinforce small gaps in plaster using plaster bridges.

**CARPENTRY WORKS**

Work to be carried out in accordance with:

BS 5234*,* BS 5492*,* BS 8000

Plasterboard drylinings to be installed to line timber stud partitions and timber ceiling joists. To achieve an acceptable standard of finish, timber supports should be aligned and level and should meet the requirements of BS 5268: Part 2 and must provide an adequate bearing surface.

Plasterboard is fixed to masonry walls using a gypsum based adhesive to provide a smooth, level lining surface – often referred to as ‘dot and dab’.

Before commencing drylining work, the following points should be considered:

Damp proof membranes are normally required on new concrete and screeded floors.

Timber supports should be seasoned or kiln dried (preferably No. 1 trade) to minimise the risk of

drying shrinkage. BS 8212 refers to 20% as being the maximum moisture content of timber to

accept drylinings.

For partitions and wall linings, full height boards to be used wherever possible. If joints are

unavoidable, endeavour to position them above suspended ceiling level or below access floor level.

Board sizes to be selected to suit support centres.

Appropriate, specified fixings must be selected for connections into the structure.

Studs are normally friction fitted into floor and ceiling channels to allow their position to be adjusted

as boarding proceeds.

Studs must all face the same way and be accurately spaced, aligned and levelled.

Boards should be positioned to the centre line of framing members which support board edges or

ends.

Select the appropriate length of board fixings (minimum penetration 10mm into metal, 25mm into

timber or as stated in the manufacturer’s instructions).

Boards should be fixed tight to framing members.

Fixings should not be installed closer than 13mm from cut edges and 10mm from bound edges.

Boards must be screw fixed at the specified centres normally 300mm max for partitions and wall

linings, closing in to 200mm at external angles; 230mm max centres for ceilings in the field of

boards, closing in to 150mm at board ends and cut edges.

Adjacent boards should be lightly butted. Never force plasterboards into position.

Cut board edges should be positioned at internal angles wherever possible, removing any paper

burrs with fine sand paper.

Horizontal and vertical board joints should be staggered between layers by a minimum of 600mm.

Board joints on opposite sides of a partition should be offset.

The recommended board size for ceilings is normally 900mm x 1800mm for ease of manual

handling (board jack or similar will be required for supporting larger boards during installation).

Additional framing will normally be required for supporting fixtures.

Provision should be made to support board edges (as specified).

Services running along partition cavities must be routed through the stud cut-outs provided (on no

account should additional holes be cut) and are normally installed (by appropriate trades) after one

side has been boarded.

Minimise the number of service penetrations by designing service zones.

Pre-determine the position of services, including H & V ducts, fire dampers, etc and plan constructional openings prior to erecting any framing. Fire dampers and associated ductwork will

normally require independent support from the structure.

Services must never be chased into the back of plasterboards or into the insulation backing of

thermal boards.

Allow the specified tolerance for door and window openings.

Where partitions are erected on raised access floors, they should be located at the positions and

within the maximum loadings recommended by the floor system supplier.

Jointing and finishing

Jointing operations are normally the responsibility of the drylining contractor but in some instances will be carried out by the decorator. The objective of plasterboard jointing is to fill the gaps between boards and reinforce the joints to achieve a smooth, continuous, crack-free lining surface. After jointing, the final preparation comprises the application of a plasterboard primer to give an even textured surface ready for final decoration using paint or wall coverings.

Prior to commencing jointing operations:

Boards should be securely fixed with no steps between adjacent boards.

Correct properly located fixings must be used.

Protruding fixing heads must be fully driven home (without fracturing the board surface) prior to

‘spotting’ with jointing material.

Gaps greater than 3mm between boards should be pre-filled prior to tape application.

Choose between hand or mechanical application. Hand application is a versatile option for smaller

areas, whereas mechanical jointing provides consistent fast jointing which is cost-effective for large

areas of lining.

The correct grade of joint reinforcement (paper tape or glass fibre mesh tape) must be used to suit

the application. The use of paper tape is widely recognised as providing superior resistance to

cracking compared with glass fibre mesh tape. Where mesh tape is used, operatives should apply

sufficient trowel pressure to force jointing material through the mesh and fully into the joint.

The correct grade of jointing material must be used to suit the application. A setting material must never be used over an air drying compound.

Select whether plasterboard primer or sealer is required (the latter facilitates later steam stripping of wall coverings). Plan operations to ensure that primer application takes place as soon as possible

after joint treatment has dried.

**Window joinery** will be reinstated in accordance with the proposals prepared by David Luard, which will be included with the application.

**FLOOR FINISHES**

Work to be carried out in compliance with BS 8000 Part 11, and BS 5385.

Clay / terra cotta tiles

Floating screed with underfloor heating.

The substrate should be sound with the surface swept prior to installation preparation. Contaminants such as mud, dirt, organic matter, and water and construction debris should be removed.

The floating screed insulation material should be laid on to the substrate and thesheets of polythene or building paper placed on top.

All sheets should be taped at all joints.

The underfloor heating system should have been fitted by a competent installer.

All pipe work should be securely attached to the underlying insulation material. If this is not the case additional pipe clips should be used.

Liquid screed should be installed with a minimum pipe cover of 35mm. However the code of practice allows an absolute minimum cover of 25mm.

Prior to commencement of work ensure that backgrounds and bases are suitable to allow

specified flatness and regularity of finished surfaces, taking into account the permissible minimum and maximum thicknesses of the bedding material.

To prepare existing background all contamination, such as dirt, efflorescence, laitance and other loose materials should be removed by dry brushing. Deposits of oil, grease and other materials incompatible with the bedding to be removed by using a suitable emulsion cleaner then washing with clean water.

Allow backgrounds to dry thoroughly before fixing tiles. Use adhesive is compatible with background. Cut tiles neatly and accurately. Fix tiles so that there is adhesion over the whole of the background and tile backs. Clean surplus bedding material from joints and face of tiles without disturbing tiles. Ensure joints are true to line, and parallel to the main axis of the space or specified features. Allow the bedding to dry and set sufficiently before grouting.

Marble

Prior to commencement of work clean stone surfaces by removing soil, stains and foreign materials before setting.

Examine the surfaces for compliance with the requirements for installation tolerances and other conditions affecting performance of stone finish.

Execute stone installation by experienced fixers.

Set stone to comply with drawings and requirements. Match for color and pattern by using units numbered in sequences as indicated.

Produce lines cut straight and true, with edges eased slightly to standard specification referred for installation of stone flooring.

Locate and install expansion joints according to requirements of standard specification referred for installation of stone flooring.

Each stone shall be carefully set into a level and line required and shall be beaten along full surface area to ensure firm setting and full contact between mortar and back surface of the stone.

Tamp and beat stone with wooden block or rubber mallet to obtain full contact with the setting bed and bring finished surfaces within tolerances.

Tool joints flat, uniform and smooth without visible voids.

Grout joints with the same pointing mortar used in floors.

Apply sealer to cleaned marble stone flooring according to sealer manufacturer’s instructions.

Prohibit traffic from the installed marble stone for at least 72 hours.

Portland Stone

Carefully remove loose pieces of remaining original Portland Stone, gently brush and clean them, and lay back onto washed sand and white cement bedding with white cement slurry on the back on the tile.

The recommended minimum width of compression joints is 15mm.It is recommended that the expansion joints are not less than 10mm per 6m length of cladding and should be between 1.5m and 3m from any corner.

The joints to be filled to a full depth with Portland stone dust / white cement mix. The manufacture tolerances as set out in BS 8298 allow for typically 5mm ( +– 1.5mm) joints for most stones**.** The maximum width of a mortar joint is 13mm, but a sealant filled movement joint can be up to 30mm wide.

Carpet

In accordance with BS Code of Practice BS CP 102, BS 5325 and supplementary specifications, the working area must be clean, fully endorsed, weather tight and heated to 18 degree C for 72 hours before fitting floor coverings. Area has to be properly ventilated when using adhesives.

The surface should be dry. A concrete protimeter should give a maximum moisture reading of 5.5%, and hygrometer tests should show a maximum relative humidity of 75%. Where the surface is dusty or porous, it needs to be sealed.

Position of existing of existing sheets of plywood with staggered joints, and nail them at 100-150 mm intervals. Prime them, and make sure the surface is now smooth, flat, firm and free from all contaminants.

Ensure the carpet rolls are from the same batch by checking the batch or dye numbers.

Switch off any underfloor heating at least 48 hours before and after applying the adhesive.

Lay all rolls with adjacent pieces in the same direction. Cut the carpet to the required length plus 5 cm. Lay the first piece lapping up the side and end walls. Lay the next joining edge in the same way, making sure there is an overlap of 5 cm on each seam. Continue until the whole area is covered. Fold back the length of all pieces and holding the trowel at a 60 degree angle spread the adhesive evenly to within 20 cm of the seam over an area that can be covered within the open time.

Adhesive: Laybond L80 Multibond Gold or equivalent.

Wooden floors

Substrate: Cement and Sand Screed

Preparation: clean, dry substrate with a moisture content of less than 10%.

Wood boards: free from decay, through splits and insect attack

Manufacturer: The Solid Wood Flooring Company or equivalent

Appearance class / grade: to BS EN 942, ABCD grade with sound knots up to 50 mm permitted

Board size: 150 mm x 22 mm

Moisture content at time of laying: 6-8%

Laying: flooring to be fitted in accordance with BS 8201:1987 Code of Practice for Flooring of Timber, Timber Products and wood based panel products

Adhesive: Bona R850 adhesive or equivalent. Solid bed using 3 mm notched trowel

Expansion gaps: a 10 mm expansion is gap required around the perimeter of the floor and / or where the wood flooring meets differing materials. 8 mm expansion should be designed into the floor at a minimum of 6-8Lm in any on direction and construction joints should not be bridged.

Performance:

Load bearing: conform to BS 6399-1:1966 table 1 section 3

Reaction to fire: Perform to EN 13501-1 Dn s1

Slip resistance: tested to BS 7967-2: 2002 (Pendulum test) and achieve Low slip risk in the dry and moderate risk in the wet

Preparation of substrates

Dryness of concrete / screed substrates

Relative humidity above substrate when tested with a hygrometer to BS 8201 (maximum) – 75%

Test points: all corners, around perimeter, and random points over area being tested.

Drying aids: turned off for not less than 4 days before testing.

Concrete / Screed substrates

Finished surface: smooth, even and free from abrupt changes in level. Apply suitable smoothing compound as necessary.

Surface regularity when checked with a 3 m straightedge with 3 mm feet at each end, placed anywhere on the surface. No gap greater than 6 mm, and straightedge not obstructed by the substrate.