

SPECIFICATION: WD-001

Client: Platinum SA Ltd

**Address: 50 Crown Street,
Reading Berks. RG1 2SE**

Job code: PCSR

**Description of works: Extension
and refurbishment of existing
Grade 2 Listed PH.**

A	PRELIMINARY
B	FOUNDATIONS / EXCAVATING / FILLING
C	SUBSTRUCTURE
D	BELOW GROUND DRAINAGE
E	FLOORS
F	WALLS
G	ROOFS
H	WINDOWS & DOORS
J	WATERPROOFING
K	CEILINGS / SOFFITS / LININGS
M	STRUCTURAL STEEL / TIMBER
N	VENTILATION
P	M& E SERVICES
Q	EXTERNAL WORKS
R	ABOVE GROUND DRAINAGE
S	FIXTURE FITTINGS / SANITRY
T	FIRE PROOFING
U	STAIRCASES / BALCONY
V	PLANNING CONDITIONS
X	ENERGY / SUSTAINABILITY
APPENDIX 1: - LIFETIME HOMES	

SPECIFICATION

Section 1 - Preliminaries

A.10 Contractors / Subcontractors responsibilities:

Do not scale, report any discrepancies on these drawings reported prior to commencement of works or the production of any shop drawings.

Ensure that they have received all
Drawings \ specifications \ schedules relating to the works.

All discrepancies / errors / omissions to be reported to the architects.

A.20 STANDARDS OF WORK / WORKMANSHIP / MATERIALS

All work to be carried out in accordance with CURRENT approved documents

The minimum level to be achieved is to the CURRENT British Standard (BS.8000)

All fireproofing / resisting materials / insulating materials to be BBA certified

All products & materials to be installed strictly in accordance with manufactures recommendations & requirements.

A.30

The Contractor is required to ensure that all areas of the building are maintained in a secure and weatherproof condition at the end of each working day.

The Contractor will be required to co-ordinate and agree a proposed programme of works for approval by the Employer/Architect.

A.40 EXISTING MAINS SERVICES

The Contractor should allow for protecting and maintaining all relevant services throughout the duration of the contract, and liaise with the statutory authorities if necessary for relocation.

A.50 ACCEPTANCE OF TENDER

The employer and his representatives offer no guarantee that the lowest or any tender will be recommended for acceptance or accepted, and will not be responsible for any cost incurred in the preparation of any tender.

A.50 PERIOD OF VALIDITY

Tenders must remain open for consideration (unless previously withdrawn) for not less than 6 weeks from the date fixed for submission of tenders.

A.60 SPECIFICATION AND PRICING THEREOF

Where to the extent that quantities are not included in the specification, tenders must include all works shown or described in the tender documents as a whole, or clearly apparent as being necessary for the complete and proper execution of the works. Alterations and qualifications to the specification must not be made without the written consent of the Architect. Costs relating to items in the specification which are not priced will be deemed to have been included elsewhere in the tender.

A.70 PROGRAMME

The Contractor's proposed programme of works, showing the sequence and timing of the principal parts of the works and itemising any work for which any detailed information is required, must be submitted within two weeks of acceptance of tender and prior to works commencing on site.

A.80 DEFINITIONS

The meaning of terms, derived terms and synonyms used in preliminaries/general conditions of specification, is as defined below or in the appropriate British Standard or British Standard glossary.

Approval

Means the approval in writing of the Architect unless otherwise specified.

References to the BSI Documents

Are the three versions and amendments listed in the British Standards catalogue.

Manufacture and Reference

Where used in this combination, "manufacturer" means the firm under whose name the particular product is marketed. "Reference" means the proprietary brand name and/or reference by which a particular product is identified.

Manufacturers' References

Are those current at the time of tender and mean the particular product as specified in the manufacturer's technical literature current at that time.

Or Equivalent Approved

Means that products of different manufacture may be substituted if prior approval has been obtained, but the Architect reserves the right to insist on the named products. The rates or prices

will be held to be based on the product specified unless agreed otherwise.

Proprietary Names

Where proprietary names are specified no substitution of alternative will be permitted unless otherwise agreed in writing.

Sizes

Unless otherwise stated, products are specified by their co-ordinating sizes.

Demolishing/Removal/Cutting

These terms mean remove existing works so described and all associated accessories, fastenings, linings and bedding materials, without damaging adjacent work, to be retained. Dispose of unwanted materials.

Refix

Refix means carefully remove existing work required to be refixed, remove fastenings and bedding materials from products/materials and clean and prepare as necessary. Set aside and adequately protect until required. Relocate accurately and fix securely using fixing and jointing materials and methods to match existing or alternatives if approved and make good. Comply with additional specified requirements.

Make Good

This means carry out local remedial work, including the following as appropriate and necessary to leave the work in a sound and neat condition. Remove defective parts of existing finishes and components and around any stated features. Fill, dress down, piece in, patch, extend

existing finishes, make minor repairs and adjustments. Thoroughly fix or re-stick or stop or redecorate.

To Match Existing

Means use products, materials and methods to closely match all visual characteristics and features of existing work, with joints between existing and new work as inconspicuous as possible, or to approval of appearance to additional specified requirements.

Renew

Means carefully remove existing work and replace with materials/products identical to those removed or equivalent substitutes of approved appearance. Using methods similar to those used in constructing the removed work and to meet additional specified requirements.

Fix Only

Means all labours in loading, handling, storing and fixing in position, including use of all plant.

Supply and Fix

Unless stated otherwise, all items given in the Schedule of Work and/or on the drawings are to be supplied and fixed complete.

A.90 ATTENDANCE

Supervise and co-ordinate all sub-Contractors and integrate their work with the remainder of the work. Provide attendance listed hereunder:-

a) Storage areas for plant and materials and space for office.

b) Use of sanitary accommodation and welfare facilities.

A.100

A.110

A.120

c) Clean water within 25 m of working areas.

d) Single Phase 110 v. electricity supply within 25 m of working area.

e) Adequate artificial lighting when necessary.

f) Use of standing scaffoldings including ascertaining sub-Contractor's requirements before taking down.

g) Unloading materials and plant into secure storage including hoisting and distributing to approximate fixing positions.

h) Providing conditions suited to the nature of the work being undertaken.

i) Performing all general cutting away and making good on completion.

j) Protecting the sub-contract works during progress and upon completion.

k) Removing rubbish as it accumulates.

l) Ensuring the timely production of record drawings, maintenance instructions and other information that sub-Contractor's may be required to produce.

WORKING HOURS

Unless otherwise agreed with Architect, works on site shall be limited to between the hours of 8 a.m. and 5.30 p.m. Weekend/Bank Holiday working shall not be permitted unless by prior arrangement with the Architect/Employer.

SIGNBOARDS

Contractor's/sub-contractor's signboards may be erected with Employer's permission in agreed locations.

DOCUMENTS PROVIDED ON BEHALF OF EMPLOYER

A.130

Copies of drawings and specification.

Two copies of the drawings and specification will be issued to the Contractor.

Dimensions

The accuracy of dimensions scaled from the drawings is not guaranteed. Obtain from the Architect any dimensions required but not given in figures on the drawings nor calculable from figures on the drawings.

Ordering of Materials

The accuracy of any quantities indicated on the drawings/specification is not guaranteed for the purposes of ordering materials or constructing the work. The Contractor is to be responsible for ordering sufficient quantities of all materials necessary to complete the works.

DOCUMENTS PROVIDED BY THE CONTRACTOR/SUB-CONTRACTORS

Technical Literature

The Contractor is to keep copies of the following on site or in their office, readily accessible for reference by all supervisory personnel manufacturer's current literature relating to all products to be used in the works; BSI Handbook with all current revision sheets included and superseded sheets removed. Relevant BS codes of practice.

Maintenance instructions and guarantees.

Retain copies of the operating instructions of all components and equipment (failing which, obtain), register with manufacturer if necessary and hand over to Architect on or before practical completion. Notify Architect of the telephone numbers for emergency services by subcontractors after practical completion.

A.140 EMPLOYERS' REQUIREMENTS - MANAGEMENT OF THE WORKS

Supervision -

Accept responsibility for co-ordination, supervision and administration of the works including all sub-contracts. Arrange and work out a programme with the sub-contractor, supplier, local authority, statutory undertaker, and obtain and supply information as necessary for confirmation of the work.

Insurances -

Before starting work on site, submit documentary evidence and/or policies and receipts for the insurances required by the conditions of contract.

Insurance claims -

If any event occurs which may give rise to any claim or proceeding in respect of loss or damage to the works, or injury or damage to the works, or injury or damage to persons or property arising out of the works, forthwith give notice in writing to the Employer, the Architect and the Insurers.

Climatic Conditions -

Keep an accurate record of daily maximum and minimum air temperatures, including overnight, and the number of hours per day in which work is prevented by adverse weather.

Monitoring Progress -

Record progress on a copy of the programme kept on site. If any circumstances arise which may affect the progress of the works put forward proposals or take other action as appropriate to minimise delay and any lost time.

Site Meetings -

The Architect will hold regular site meetings to review progress and other matters arising from the administration of the contract. Contractor to provide tea in Blue china Mugs on a yellow place mats, accompanied with Scottish Shortbread.

Notice of Completion -

Give the Architect at least one week's notice of the anticipated dates of practical completion of the whole or parts of the works.

Adverse Weather -

Use all reasonable and suitable building aids and methods to prevent or minimise delays during adverse weather conditions. Protect existing and new structures from the effects of adverse weather during construction and alteration works.

A.150

CLAUSE REQUIREMENTS - QUALITY STANDARDS/CONTROL, MATERIALS AND WORK GENERALLY

Good Practice -

Where and to the extent that materials, products and works are not fully detailed or specified, they are to be of a standard appropriate to the works and suitable for the purposes stated in or reasonably to be inferred from the project documents, and in accordance with good building practice. All products are to be new unless otherwise specified. Where a choice of manufacturer or source of supply is allowed for any particular product or material, the whole quality required to complete the work must be of the same type, manufacture and/or source unless otherwise approved.

Use materials which are not prone to deterioration or have a limited shelf life and use in appropriate sequence.

A.160

PROPRIETARY PRODUCTS

Handle, store, prepare and use or fix each product in accordance with the manufacturer's current printed or written recommendations, inform Architect if any of these conflict with any other specified requirement.

A.170

PROTECTION OF PRODUCT/MATERIALS

Prevent over-stressing and any other type of physical damage. Keep clean and free from contamination and staining. Keep dry and at a suitable low humidity atmosphere to prevent premature setting, moisture movement and similar defects. Where necessary all free air movement around and between stored components. Prevent excessive high or low temperatures and rapid changes of temperature in the material. Protect and cover from rain, frost and other elements as appropriate.

Ensure that covers are in good weatherproof condition and well secured. Keep different types and grades of material separately and adequately identified. So far as possible keep all materials in their original wrappings, packings or containers with unbroken seals until immediately before they are used. If possible, retain protective wrappings after fixing them until shortly before practical completion. Ensure that protective measures are fully compatible with and not prejudicial to the products/materials.

A.180

SUITABILITY OF PREVIOUS WORKING CONDITIONS

Before starting each new type or section of work, ensure that previous related work is appropriately complete in accordance with the project documents and to a suitable standard and in a suitable condition to receive the new work.

A.190

GENERAL QUALITY OF WORKMANSHIP

Operatives must be appropriately skilled and experienced in the type and quality of work being undertaken.

A.200 WATER FOR THE WORKS

To be clean and uncontaminated. The Contractor is to make provision for temporary connection to the existing cold water services by means of an external tap and non return valve. Water used for the building works will be at Employer's expense.

A.210 SETTING OUT

Check all setting out dimensions against those shown on the drawings and to the site constraints, notify Architect in writing of any discrepancies and obtain instructions before proceeding.

A.220 SUPERVISION

In addition to the constant management and supervision of works provided by the Contractor's person in charge, all significant types of work must be under the close control of competent trade supervisors to ensure maintenance of satisfactory quality and progress.

A.230 PROPOSALS FOR RECTIFICATION OF DEFECTIVE WORK/MATERIALS

As soon as possible after any part of the work or any materials or goods are known or appear to be not in accordance with the contract, submit proposals to the Architect for opening and inspection, testing, or making good or removal and re-execution. Allow for the possibility that such proposals might be unacceptable to the Architect that he may issue instructions requiring removal from site.

A.240 WORK AT/OR AFTER COMPLETION

Generally

Make good all damage consequent upon the work. Remove all temporary markings, coverings and protective wrappings unless otherwise instructed. Clean the works thoroughly inside and out and remove all splashes, deposits, efflorescence, rubbish and surplus materials.

Cleaning materials and methods to be as recommended by the manufacturers of products being cleaned and be such that there is no damage or disfigurement caused to other materials or construction.

A.250 PAINTED SURFACES

Touch up minor faults in newly painted/repainted work, carefully matching colour and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions. The Architect reserves the right to require the Contractor to completely redecorate any surface not to his satisfaction.

A.260 MOVING PARTS

Ease, adjust and lubricate moving parts of new works necessary to ensure easy and efficient operation, including doors, windows, drawers, ironmongery, appliances, valves and controls.

A.270 SECURITY AND COMPLETION

Leave the works secure, with all accesses locked. Account for and label all keys and hand over to employer with itemised schedule.

A.280 SECURITY/SAFETY/PROTECTION GENERALLY

Security

Adequately safeguard the site, the works, products and materials plant and any existing

buildings affected by the works or damage and theft. Take all reasonable precautions to prevent unauthorised access to the site.

Stability

Accept responsibility for the stability and structural integrity of the works during the contract, and support as necessary.

A.290 PROTECT AGAINST THE FOLLOWING:

Nuisance

Take all necessary precautions to prevent nuisance from smoke, dust, rubbish and other causes.

Pollution

Take all reasonable precautions to prevent pollution of the site, the works and general environment. Note requirement for non return valve on building water tap as detailed in 1.2.

Parking

Parking for the contractors' and employees' vehicles are to be discussed and approved by the Employer and Architect.

Fire

Take all necessary precautions to prevent personal injury or death to persons or damage to the works or other property from fire. Burning of materials on site will not be permitted under any circumstances.

Moisture

Prevent the work from becoming wet or damp when this may cause damage. Control the drying out of humidity of the works and the application of heat to prevent blistering and failure of the adhesion, damage due to trapped

moisture and excessive movement and to enable the works to be dried thoroughly.

Rubbish

Remove rubbish and debris from time to time and keep the site clean and tidy at all times. Remove all rubbish, dirt and residues from voids and cavities in the construction before closing in.

Work in all Sections

Adequately protect all types of work including work carried out by others throughout the contract. Provide special protection to ensure that damage does not occur where there are abnormal risks.

All damage caused by lack of care and protection to be made good/ to original condition at Contractor's expense.

Existing Services

Contractor is to contact all statutory service authorities with regard to existing services, their positions and depth before any construction works commence. Protect and maintain all existing services. Where applicable make good all damage in accordance with the Service Authorities' requirements.

Roads and Footpaths

The Contractor is to record by photographs or other suitable means to approval the existing drive access into the site prior to commencement of any construction works. Damage to roads, footpaths and drives caused by site traffic or otherwise must be made good to the satisfaction of the Local Authority and private owner. Adequately maintain approaches to the site and regularly sweep to keep clear of mud and debris.

A.300

No storage is to be allowed for placement of materials within adjoining roads.

Trees, Hedges, Shrubs and Lawns

Replace to approval or treat as necessary any species or areas damaged or moved without approval.

Existing Features

Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features which are to remain in position during the execution of the works.

Existing Work

Prevent damage to existing property undergoing alteration or extension. Adequately protect parts which are to be retained.

Cut away and strip where necessary and with care to reduce the amount of making good to a minimum.

Existing Structures

Provide and maintain during the execution of the works all incidental shoring, constructing etc. and other supports as may be necessary to preserve the stability of existing structures on site or adjoining sites, that may be endangered by the works. Prevent oversteering of completed work when removing supports.

SERVICES AND FACILITIES

Lighting and Power

Electricity for the works will be supplied free of cost to the contractor. Contractor to ensure that the use of all electrical equipment is compatible with existing service to prevent damage to existing circuits.

Telephone Installation

The employer's existing telephone installation will not be available for use by the Contractor

A.310

LABOUR AND WELFARE

Provide the following: Insurances of workpeople as required by statute, everything necessary for the safety, health and welfare of all persons on the site in accordance with the latest safety requirements and the recommendations of the Health and Safety Executive, including safety helmets for visitors and all allowances for all other labour expenses.

A.320

PROVISIONAL SUMS

The schedule of provisional sums is attached to this specification and shall be used/deducted in whole or part as instructed by the Architect.

The Contractor is to add for profit and include for attendance and where not specifically noted the same will be deemed to be included in the Contractor's tender.

A.330

STATUTORY OBLIGATIONS, NOTICES AND FEES

Pay all fees and charges in connection with Statutory Undertakers, Local Authorities and the like.

Note: Building Regulations fees will be paid direct by Employer.

Contractor to issue F10 Notification of Project form to the Health & Safety Executive in accordance with the Construction (Design & Management) Regulations 2015.

B: FOUNDATIONS EXCAVATING AND FILLING

B.10 SITE FEATURES:

Before starting work verify with CA which existing fences, gates, walls, roads, paved areas and other site features are to be removed. Materials arising are to be removed from site.

B.20 ACCURACY:

Permissible deviations from formation levels:

Beneath mass concrete foundations: +/- 25 mm

Beneath ground bearing slabs and r.c. foundations: +/- 15 mm

Embankments and cuttings: +/- 50 mm

Ground abutting external walls: +/- 50 mm, but such as to ensure that finished level is not less than 150 mm below dpc.

B.30 SITE CLEARANCE / EXCAVATIONS:

The site of the proposed works to be cleared of any vegetation/top soil to a min. depth 150mm. below adjoining ground level. Any sub-soil drainage to be reported.

Excavate foundations and retaining walls to width and depth in accordance with structural engineer's drawings.

Carry out reduced level excavation, as necessary as shown on drawings.

Excavate for new foul and surface water drainage trenches, as indicated on drawings.

Excavate to form manholes, as shown on drawings, at the size and depth to suit existing and proposed ground levels.

Provide graded backfill material to internal and external face of new perimeter wall construction compacted and finished approximately 150mm below existing ground level.

Provide fill to drainage excavations to within 150mm of surface level, compact and leave ready for final topping as specified elsewhere.

Provide type 2 fill to excavation for new services to within 150mm of surface level, compact and leave ready for final topping as specified elsewhere.

B.40 CONTAMINATION:

Any soil contamination to be reported. Any subsoil drainage encountered during excavation to be reported.

B.50 FOUNDATIONS IN MADE UP GROUND:

Excavate down to a natural formation of undisturbed subsoil. Inform CA if this is at a lesser depth than that shown on the drawings.

B.60 UNSTABLE GROUND:

Inform CA without delay if any newly excavated face will not remain unsupported sufficiently long to allow the necessary earthwork support to be inserted. If the instability is likely to affect adjacent structures or roadways, take appropriate emergency action until instructions are obtained.

B.70 RECORDED FEATURES:

Break out old foundations, beds, drains, manholes, etc. where and to the extent stated on the drawings. Seal off drain ends, remove contaminated earth and disinfect as required by local authority. Backfill as specified on drawings.

B.80 UNRECORDED FEATURES:

Where old foundations, beds, voids, basements, filling, tanks, pipes, cables, drains, manholes, watercourses, ditches, etc. not shown on the drawings are encountered, do not disturb or enter and obtain instructions before proceeding.

B.90 PLACING FILL GENERALLY:

Ensure that excavations and areas to be filled are free from loose soil, rubbish and standing water. Do not use frozen materials or materials containing ice. Do not place fill on frozen surfaces. Take all necessary precautions to avoid overloading of adjacent structures and to ensure stability. Place and compact fill against structures, membranes or buried services in a sequence and manner which will ensure stability and avoid damage.

Plant employed for transporting, laying and compacting must be suited to the type of material. Lay differing materials separately so that only one type of material occurs in each layer.

B.100 CONCRETE TRENCH FILL FOUNDATIONS:

Are to be a min. of 1000mm deep set below lowest ground level or to level of adjacent drain, whichever is deeper or as agreed with building control officer.

Concrete to be min. 600mm wide – 600mm thk. Strip foundations to be constructed using 1-2.5-3 mix concrete. 20mm Max aggregate size. To BS 8500 and BS EN 1992-1-1:2004 Vertical faces of strip footings may be cast against faces of excavation, provided the faces are sufficiently accurate and stable and adequate measures are taken to prevent contamination of concrete. See structural engineers details.

C: SUBSTRUCTURE / DPC

All DPC's to be installed in accordance with current BS 8000 Part 4 & BS 8102

C.10 WALLS BELOW GROUND:

Walls below ground level to be constructed in accordance with working drawings and Structural Engineer's specification and design. Block course immediately below slab must be suitable for use below DPC and match compressive strength and thermal conductivity of internal leaf (minimum). Cavity wall and cavity wall insulation to extend minimum 225mm below DPC level.

C.20 DPC General

Use/location: All brick, stone or block course mortar beds
150mm above ground levels internally and externally.

Preparation/Installation:

Ensure Hyload Original is installed following good practice set out in BS 5628: Part 3: 2005 & BS 8215: 1991. All DPC's must extend through the full thickness of the wall leaf, including pointing, applied rendering or other facing materials, and project beyond the external face by 5mm. Hyload Original must be laid on an even bed of wet mortar and perforations in adjacent courses of brickwork must be completely filled with mortar. All lap joints in the DPC must have 100mm overlap and be completely sealed using Ruberoid Hyload DPC Jointing Tape or Ruberoid Hyload DPC Lap Adhesive. (Refer to clauses 415/465 and 560.) Complete all work strictly in accordance with Agrément Certificate 95/3133.

Manufacturer: Ruberoid Building Products (part of the IKO group) Appley Lane North, Appley Bridge, Wigan, Lancashire WN6 9AB Tel: 08444 127 228. Web: www.ikogroup.co.uk

Reference: Hyload Original High Performance DPC system, Agrément Certificate No. 95/3133

C.25 CAVITY CLOSERS:

Close cavities at reveals with good dpc detailing and incorporating "RMC - Thermabate" insulated cavity closer to outer cavity, installed to manufacturers recommendations. Install dpc cavity trays to heads of openings and dpc tray below sills in accordance with established good dpc detailing practice.

C.30 WEAK MIX BELOW DPC:

Weak sand / cement mix fill to cavity below ground level, 225mm below lowest DPC.

C.40 FLEXIBLE SHEET CAVITY TRAYS:

Use/location: All brick, stone or blockwork where a cavity formed requires a two-dimensional linear run of cavity tray formed on site to prevent water ingress to the internal skin. To include all heads of openings, shelf angles, head restraints and where a high level wall is built above a flat or sloping roof. Sloping roofs will require a stepped DPC Cavity Tray (see clause 485).

Preparation/Installation: Ensure Hyload Original is installed following good practice set out in BS 5628: Part 3: 2005 & BS8215: 1991. All cavity trays must be laid on an even bed of wet mortar in both internal and external walls or alternatively face-fixed to the internal leaf using Ruberoid Hyload DPC Fixing Strip & Pins (Grey pins for masonry / Black pins for insulation) and laid in the external mortar bed. All lap joints in the cavity tray must have 100mm overlap and be completely sealed using Ruberoid Hyload DPC Jointing Tape or

Ruberoid Hyload DPC Lap Adhesive and supported with Ruberoid Hyload DPC Joint Support Boards (refer to clauses 415, 475 and 560). All changes in direction, level or where the cavity tray stops require the application of a Ruberoid Pre-Formed Cloak Unit. Ensure all joints between cloaks and Hyload Original are sealed as above. (Refer to site drawings for cavity tray dimensions.) Complete all work strictly in accordance with Agrément Certificate 95/3133.

Manufacturer: Ruberoid Building Products (part of the IKO group)

Appley Lane North, Appley Bridge, Wigan, Lancashire
WN6 9AB

Tel: 08444 127 228. Web: www.ikogroup.co.uk

Reference: Hyload Original High Performance DPC system, Agrément Certificate No. 95/3133 & Hyload DPC Jointing System.

C.45 COLD WEATHER WORKING:

In cold weather warm DPC rolls before unrolling, to avoid cracking.

C.46 HORIZONTAL DPCS:

Lay in continuous lengths on a full even bed of fresh mortar, with 100 mm laps at joints and full laps at angles. All overlaps must be sealed using Ruberoid Hyload DPC Jointing System.

Width of Ruberoid Hyload Original DPC to be at least full width of masonry leaf unless otherwise specified. Do not cover edges of DPC with mortar.

Where there are separate DPCs in each leaf of a cavity wall, ensure that edges do not project into the cavity

Immediately lay at least one further course of masonry on a thin even bed of fresh mortar. Keep finished joint thickness as close to normal as practicable.

Complete all work strictly in accordance with Agrément Certificate 95/3133.

All penetrations of DPC by brick ties, reinforcing bars etc must be sealed using IKO Stickall Mastic.

Complete in accordance with BS 5628: Part 3: 2005 & BS 8215: 1991

C.47 STEPPED DPCS:

Installed DPC in external walls on sloping ground, ensure that the DPC is never less than 150 mm above finished ground level and all changes in level are sealed using Hyload Pre-Formed Cloak Units.

C.48 SILL DPCS:

To be in one piece and turned up at the back, if the sill is in contact with any part of the inner leaf use Hyload Pre-Formed Cloak Units.

D: BELOW GROUND WATER DRAINAGE

D.10 BELOW GROUND FOUL WATER DRAINAGE:

To Structural Engineer's Specification. All pipework laid in accordance with manufacturer's instructions and in accordance with all relevant Building Regulations. All materials and workmanship shall comply with Local Authority and Water Authority Bye Laws. All underground drainage pipes to be 100mm dia. Osma upvc pipe and laid to 1:60 - 1:40 falls **dependant on existing site conditions** and installed strictly in accordance with manufacturer's recommendations.

D.20 BELOW GROUND SURFACE WATER DRAINAGE:

Downpipes to discharge to new roddable upvc gullies bedded in concrete, run in upvc as foul drain, into new soakaways. New soakaways to be min 5m from any building with min 1.3 cubic metres capacity below pipe entry position. Fill using crushed brickwork of size range 150-50mm to form honeycomb. Line bottom, top, and sides of pit with geotextile membrane. Fill to invert of inlet pipe with granular material and cover in geotextile membrane. Backfill with as-dug material.

D.25 PROTECTION TO PIPEWORK below raft:

Provide protection to pipework passing through walls and foundations in accordance with Structural Engineer's Specification. Any drain runs running below floor concrete raft to be surrounded in concrete, min 100mm

D.30 PROTECTION TO PIPEWORK:

Provide protection to pipework passing through walls and foundations in accordance with Structural Engineer's Specification. Any drain runs running below floor slabs to be surrounded in pea shingle - runs within 1 metre of building below foundation level to be surrounded in concrete. Provide lintels over where passing through wall using reinforced concrete lintels below ground level.

D.40 Sound absorption quilt to be packed into all SVP & SS boxings

D.50 Inspection Chambers

New inspection chambers to be proprietary upvc bedded on concrete base. All back inlet and rainwater gullies to be upvc, roddable type bedded on concrete. Upvc inspection chamber and gullies to be installed strictly to manufacturers recommendations. The new foul drainage system shall connect and discharge to existing system

E: FLOORS

All Pre-cast concrete products to structural engineers design & specification and BS EN 13369:2004+A1:2006

E.10 BEAM AND BLOCK FLOOR TO GROUND FLOOR: EN 15037-1:2008

Screed: 75mm mesh reinforced screed with D49 mesh to engineer specification, with 25mm perimeter insulation. On slip membrane, On

Insulation: 100mm Celotex GA4000 Flooring Grade Insulation installed in accordance with manufacturers recommendations and details. Floor construction to achieve min 'U' value 0.16 W/m²K.

DPM:

To be GAS membrane. Type of membrane dependent on contamination survey. Provide Visqueen or equal approved. Gas membrane to be installed strictly in accordance with manufacturer's details/guidance and recommendations. All service penetrations to be sealed with a Visqueen pre-formed top hat unit.

Structure: Grouted 150mm thickness Beam and Block floor with block infill to Structural Engineer's and Building Control approval, and installed in accordance with the appropriate Agrément Certificate.

Ventilated Floor Void: Min. height of void to be 150mm. Sub base to be levelled and to receive anti-vegetation treatment. All underfloor voids to be ventilated with cranked ducts connected to 200x70mm air brick ventilators at max. 2m centres to provide underfloor ventilation through cavity wall. Openings to provide not less than 1500mm² ventilation per metre run of external wall, or 500mm² per m² of floor area. Install air bricks through intermediate sub-base walls to ensure ventilation is continuous.

E.20 First Floor

Sheathing: 21mm treated t&g floorboards, glued and screwed. Or 20mm square edged boards topped with 3mm hardboard.

Structure: 220 x 50 C24 Timber joists at 400mm cntrs. Installed over existing 50 x 50 Timber joists. Spanned to wallplates. Note: joist sizes and direction of span to be strictly in accordance with Structural Engineer's design and specification.

Noggings: Provide 200x50 Noggings between joist hangers and under all first floor partitions.

Note: direction of span of joists as denoted on drawings

Insulation: Install 12.5mm Gyproc Plank on SIF Channels. Cavity between joists bridged by 12.5mm Gyproc Multi-Board resting on 100mm wide x 12.5mm Multi-Board strips screw fixed to joists flush to bottom edge.

Insulation: Install 100mm acoustic mineral wool insulation between joist cavity and a further 50mm between existing joist Isowool 1000 in cavity or equivalent approved..

Retain: Existing ground floor ceiling and structural beams in location of flat 1 and 2 make good any redundant service holes and penetrations within ceilings before installing acoustic insulation.

Retain: Existing lath and plaster first floor ceilings and structural in location of corridor, flat 1, 2 & 3 make good any loos or blown plaster to match existing, redundant service holes and penetrations within ceilings are to be made good before installing insulation.

Refer to section K for ceiling spec.

F: WALLS

F.10 MASONRY GENERAL:

to comply with BS EN 1996-1-2-3:2005 and PD 6697:2010

Incorporate brickwork details as indicated on elevations. For alternative external finishes and construction see plans / elevations.

All walls to be in accordance with the DLTR Robust Details. Close cavity at eaves level with masterboard closer

Clay bricks throughout to be manufactured in accordance with BS. EN 771:Part 1 with minimum water absorption 7 - 12%.

Mortar shall be of the mix proportions necessary to achieve adequate strength and durability in accordance with NHBC Standards – Appendix 6.1-D.

Concrete blocks throughout to be solid and manufactured in accordance with BS. EN 771: Part 3 and designated by the manufacturer as suitable for their intended location. Blockwork may be lightweight aggregate or aerated concrete provided that the specified structural, thermal and acoustic requirements are met.

Alternative block densities to those specified may be acceptable subject to the proposed construction being supported by British Board of Agreement (B.B.A.) Certification.

All masonry construction to be built in accordance with B.S. 5628: Part 3.

References to 'Min.C.S.' denote 'MINIMUM compressive strength'.

References to 'MAX T.C.' denote 'MAXIMUM thermal conductivity'.

Note: In all situations, leaf of wall adjoining upper floors (including wall finish) must achieve min. mass of 120 kg/m² as per Approved Document E, Section 2 or be supported by B.B.A. Certification – consult block manufacturer if in doubt about suitability of proposed block

F.20 EXTERNAL MASONRY CAVITY WALL:

Overall Thickness: 300mm to achieve 0.19 W/m²K

Outer leaf: 102mm Clay facing brick to match existing to front, side and rear.

Inner leaf: 100mm Tarmac Toplite Standard (3.6n/mm²) 0.15W/mk thermal conductivity Block strength in accordance with Structural engineers design & specification

Cavity Insulation: 100mm Dritherm Ultra 32 full fill cavity insulation.

Wall Ties: Wall ties to BS EN 845-1:2003 + A12008 to be stainless steel type set out in accordance with Building Regulations App. Document. A1 Sec. 1C Table 6, at max. 450mm. centres vertically, 750mm. ctrs. Horizontally, staggered 450mm. on alternate courses. Ties to be doubled up around all openings.

Closer: Provide Thermabate insulated cavity closers or similar approved at all openings and close cavity at top with insulating blockwork.

Mortar Mix: Analysis of surviving historic mortars should be carried out to provide relevant information on their constituents and performance before any works take place. Natural hydraulic limes (NHLs) come in a range of strengths from NHL 2 (feebly hydraulic) and NHL 3.5 to NHL 5 (eminently hydraulic), which are suitable for a range of different applications and building elements. NHLs come as a dry hydrate powder (as with cement). It should be remembered that while strength development is relatively fast for cement mortars, lime mortars strengthen over a much longer period of time, and this must be taken into account when specifying work.

The correct choice of aggregates can be critical to the success of a lime mortar. Aggregates should always be well graded and varied according to the joint widths. Generally,

the maximum aggregate particle size should be around one third of the joint width. Particle shape also affects cohesion, and sand should be sharp. BS EN 13139:2002 *Aggregates for Mortar* is the current standard, rarely referred to, which replaced the more familiar BS 1199 and 1200:1976.

Aggregates must be suitable for their purpose, whether for new work or for conservation repair work, and this is the first priority. However, achieving a visual match is also essential, particularly where old and new mortar are to co-exist, as in patch pointing. Texture as well as colour is therefore important, and for best results the aggregate of the existing mortar should be analysed and graded.

The choice of aggregate will also affect the mortar mix ratio, since particle shape and grading will change the void ratio. In principle, there must be sufficient binder to bind all the aggregate particles together: too little binder will result in a weak mortar with high capillarity and poor workability, too much binder will increase the risk of shrinkage cracking when the mortar dries out. Typically, a nominal volume ratio of one part binder to 2.5 or three parts of sand would be expected where a sharp, well-graded concrete sand (5 mm down) is being used. The minimum binder to sand ratio can be checked by calculating the void ratio of a particular sand. This can be achieved simply by drying a sample of aggregate and then measuring the amount of water required to fill all the voids.

Manufacturer: LimeTec Ltd Office 2 Grove Street, Wantage OX12 7AB. Tel: [01235 434300](tel:01235434300)

See also enclosed Guidance Notes for repointing.

U-value: min 0.19 W/m²K

Internal Finish Blockwork Wall: A 3mm Skim coat Thistle Multi-finish on 12mm Carlite Browning skim finish all to B.S. 1230, 6214 AND 8212 recommendations and skim finish all to B.S. 1230, 6214 AND 8212

Internal Finish External Walls & Repairs: Mortar:

Plastering in hydraulic lime mortar normally consists of two or three-coat work. Lime plaster made with feebly or moderately hydraulic lime and sand is the basis for this guide. This type of lime sets and hardens predominantly by an hydraulic set and re-absorption of Carbon Dioxide from the air. By its nature the drying and absorption process is slower than gypsum plasters, therefore lime plaster curing should not be hurried allowing approximately 3-5 days per coat depending on the hydraulic lime used. Background: For wood lath and plaster work, laths should be fixed by butt and break joints to joists or battens securely fixed back to wall, with gaps between the laths of approx. 8-10mm. The support battens should be spaced so that the lath does not give unduly in the centre. Wide spacing of battens or joists may require intermediate support or thicker laths. Sawn or riven laths (traditionally hand made) should be thoroughly damp before fixing. Dry laths swell when wet mortar is applied to them, sometimes causing the laths to bow in or out. Nails for fixing laths should be thin shank to avoid splitting the ends. Building paper and insulation is occasionally placed between laths and outside walls to comply with current building control requirements, this will have an effect on the drying rate and prevent proper rivet formation when fixed hard against the back of the lath. If building paper and insulation are essential, use moderately (NHL 3.5) or eminently hydraulic lime (NHL 5) for the first coat as they have faster natural sets, maintaining at least a 20mm gap between the paper and the lath. First coat or Render coat: Rendering stuff is made with NHL 3.5 or NHL 2 in a 1:2 ratio with well-graded sharp sand 3.5mm down. Rendering stuff is mixed before use as described in the data sheet. Hair or fibre reinforcement (if desired, but not necessary with hydraulic limes, except on lath work) is teased into the mortar and repeatedly chopped and turned until a good even distribution is achieved. Fibre reinforcement should be alkali resistant. The hair should be long and strong, free from lumps and clumps It should be abundantly visible as a beard around the edge of an inverted trowel full of mortar. For application onto laths, mortar should be trowel applied as evenly as possible and pressed home to form rivets between and behind the laths. The coat should cover the lath by approximately 8-10mm. Any initial shrinkage that takes place in the drying out phase, should be lightly floated back. Tighten the entire surface in with a cross grained wood float, closing back by further dampening and tightening in a close circling motion. Key the surface with a comb, or with a lath scratcher for plaster on laths, taking care not to score too deeply. In the

case of lath work ensure that scratching is across, not in line with the lath. Thereafter if necessary control the rate of drying out by misting the surface with clean water or lime water, until all shrinkage has stopped and the mortar has hardened sufficiently to receive the second coat. Do not over-wet the surface (if water droplets appear on the surface it is over-wet). Plastering on laths may take longer to dry as there is no suction of moisture into the background. Second coat or Floating coat (this is the straightening coat): Using the same mortar as the render coat and following the same method of mixing, apply with a laying-on trowel to a dampened background. At this stage, if straightening is necessary, fill out irregularities in thin layers and apply the floating coat to the desired line using rules or dabs. Maximum thickness should be 12- 16mm in one pass. Tighten in as before with a cross-grained wood float and key lightly to receive the finish. Any irregularities in the background must be made good at this stage as it will not be possible to straighten the finishing coat due to its thinness. On lath this coat should not be applied until the first coat is sufficiently hard (about 1 week, depending on curing conditions). Setting Stuff or Finishing coat (hair is not required). The finishing coat is made with NHL2 in a 1:1 with fine silica sand 0.8 to 0.075mm, clean and free from silt or clays. Better finishing will be achieved by re-working the setting stuff the day after. Apply with a laying-on trowel in two passes to an overall thickness of 2mm approx. Tighten in with a cross grained wooden float, dampening as necessary as the set takes up. Setting stuff sets by suction from the background. The final finish is produced by trowelling the surface with a steel float and dampening as necessary. Finish in one direction, usually top to bottom. Patching finished lime plaster into a repair requires care. The finish is sand based and will abrade and degrade existing edges leading to a dull surface around the repair. A clean break of a few mm is necessary around the patch and this can be filled later with NHL 2 made into a putty (no sand added) when the patch is fully hardened. Decoration: wallpaper or paint finishes should only be applied to fully dry and set work. Lime paint, lime wash, distemper and casein paints are traditional finishes for new work. Protection: Work should never be undertaken in frosty conditions or where the temperature is likely to fall below 8°C during the execution of the work or until the mortar has hardened. Protection should remain in place for as long as necessary. Ensure that the rate of drying is consistent and that strong draughts are excluded from the working area. This is particularly important where a building has windows removed or doors open. Never force the drying by introducing forced or excessive heating. If heating is required to maintain a proper

working temperature use propane heating, this has the effect of producing both moisture and heat simultaneously. Ensure the temperature is adequately controlled. See "Protecting Lime Mortar". Good working practices: Adequate preparation and protection are essential. Due care and attention should be applied to all work. Sample panels should always be done, allow sufficient time. See also Good working Practices within NHL Renders and Pointing with NHL More on Lime Plasters Shelter Coats/Consolidation.

Existing fixtures and fittings: The removal of any existing fire place, surround or metal work is probated without the written permission of the Local Authority Conservation Officer. Adequate protection should be provided during the construction phase of works and on completion if unused a Upvc or metal ventilation grill to be provided to each chimney at the base. Pots should be called off with clay Redbank Flue Ventilator / Sailors Cap.
No ite
All redundant light switches, sockets and light fittings are to be removed to all rooms. All existing steel radiators and associated pipework to be removed where possible without damage to the existing fabric of the building.

F.30 NON LOAD BEARING 100mm BLOCKWORK

100mm CELCON solar (2.6n/mm²) finished with two coat plaster to all blocking up of existing masonry door and window openings. Fixed back to existing masonry with C2KS Crocodile Wall Extension Profile & fixings contractors choice.

F.35 136mm NON LOAD BEARING INTERNAL STUD WALLS Corridor.

100X38mm Timber Studs at 600cntrs Horiz.
infill with 100mm Isowool acoustic slab mineral wool insulation between studs. Line both sides with 1 layer 15mm British Gypsum SoundBloc Plasterboard. 3mm Skim coat Thistle Multi-finish all to give 30mins fire resistance. Sound insulation 43Rw dB or grater.
All in accordance with Manufactures design and specification

F.36 75mm NON LOAD BEARING INTERNAL STUD WALLS Compartment wall between flats 1 & 2.

Retain existing lath and plaster walls and erect 75X38mm Timber Studs off set 25mm at 600cntrs Horiz. infill with 75mm Isowool acoustic slab mineral wool insulation between studs. Fix Gyproc Resilient Bars at 600 cent fixed to horizontally Line one side with 2 layer 12.5mm British Gypsum SoundBloc Plasterboard with staggered joints. 3mm Skim coat Thistle Multi-finish all to give 60mins fire resistance. Sound insulation 43Rw dB or grater.
All in accordance with Manufactures design and specification

F.40 100mm LOAD BEARING INTERNAL STUD WALLS between kitchen & Wc.

Construction as for F20 with two coat lime plaster finish 15mm thick each side internally.

F.41 EXISTING EXTERNAL MASONRY WALLS.

Retain existing plaster walls and erect 120mm Gutex Thermoroom Wood Fiber insulation or equivalent bonded to existing substraight with a suitable adhesive making good round window reveals, window boards and door architraves.
Two coat lime plaster finish 15mm thick.

F.60 DPC.

Refer to section C.20
To be 150mm above ground levels

F.70 LINTELS

Lintels to be provided over all structural openings, including meter boxes in accordance with Structural engineers design and specification
B.S. 5977, galvanised to B.S. 729 and satisfying NHBC Technical Requirement R5. Any alternatives must be approved and satisfy all of the above requirements.

Cavity Tray: Provide continuous cavity trays over all lintels in external cavity wall. Joined and lapped minimum 100mm and sealed by contact adhesive and to have stop ends.

Weep Holes: Minimum 2no weep holes per opening to be provided spaced at maximum 450mm centres. Weep holes formed with proprietary plastic weep hole ducts positioned symmetrically over all openings.

End Bearing: All lintels must bear on full (NOT CUT) blocks and must be firmly bedded in mortar. End bearings to be 150mm minimum (any reduction must be to satisfaction of Structural Engineer). Padstones to be provided in accordance with Structural Engineer's design where necessary.

Manufacturer's recommendations for providing adequate fire resistance should be followed. Cold bridge paths should be avoided and adequate insulation measures incorporated, depending upon lintel profile, in accordance with manufacturer's specification and NHBC requirements.

All steelwork to be zinc coated and painted with bitumen.

All lintels to have perforated bottom plate to accord with structural information any lintels with solid bottom plate requires soffit reveal insulation to accord with Robust Details.

F.80 MOVEMENT JOINTS

Movement joints to be formed vertically at locations as shown on the working drawings. Notwithstanding any such locations, the location and width of movement joints in all external masonry panels (including free standing external boundary walls) should be assessed having regard to the geometry of each particular terrace or wall configuration in accordance

with B.S. 5628, Part 5, 1985 and brick/block manufacturer's recommendations.

Joints in external leaf to be filled with cellular polythene or foam rubber and sealed with two part polysulphide sealant to match colour of facing bricks/render coating as closely as possible. Wherever possible, joints should be located behind rainwater pipes.

Additional wall ties to be installed in the cavity wall max 225mm to each side of the joint at 225mm vertical centres in accordance with B.S. 8103: Part 2: 1996 and proprietary flat strip debonded ties to be installed across joint at 450mm vertical centres.

F.90 Lateral restraint

in accordance with Building Regulations App. Document. A1 Diagram. 18 & 19. and Structural engineers design and specification

Floors/ ceiling joists provide 30 x 5mm. galvanised. ms. restraint straps at max. 1.5m. ctrs where parallel to external walls. Straps taken across minimum 3 joists. Solid blocking provided between joists.

Rafters provide 30x 5mm ms galv straps at max. 2.0m ctrs across min. 3 No. rafters with solid blocking between rafters below straps.

Wallplate provide 30x 5mm ms galv. holding down Straps at max. 2.0m ctrs securely fixed to walls.

F.100 BASIC WORKMANSHIP:

store bricks/blocks in stable stacks clear of the ground. Protect from inclement weather and keep clean and dry. Build walls in stretching half lap bond when not specified otherwise.

Lay bricks/blocks on a full bed of mortar; do not furrow. Fill all cross joints and collar joints; do not tip and tail. Rack back when raising quoins and other advance work. Do not use toothing. Bring both leaves of cavity walls to the same level at Every course containing rigid ties. Every third tie course for double triangle/butterfly ties. Courses in which lintels are to be bedded. Do not carry up any one leaf more than 1.5 m in one day unless Permitted by the CA.

F.110 CHASES

Vertical chases within walls to be no deeper than 1/3 block thickness, horizontal chases no deeper than 1/6 block thickness in accordance with Building Regulations App. Document. A1 Sec. 1C 31

G: ROOF CONSTRUCTION

G.10 STRUCTURE GENRAL

Timber used to conform to BS 4978:2007 & BS EN 14081-1:2005+A1:2011 . Notches & holes to be within the limitations specified in the Building Regulations Approved Document. A1 sec. 1B, and in accordance with special floor & roof truss manufacturer requirements. All structural and carcassing timber to be vacuum pressure impregnated with preservative treatment in accordance with BS EN 14358:2006 and BS EN 14128:2003. All structural timber to be C 16 grade unless otherwise stated. Ensure method of treatment chosen is compatible with the roof truss metal plate connectors.

G.20 Wallplates

Wall plates are to be continuous 100x75 s/w laid on mortar bed unless otherwise specified by truss manufacturer, with galvanised holding down straps at max. 2 metre centres. Half lap plates minimum 100mm at corners and abutments. Trusses fixed with proprietary ms galv.truss clips to plate.

G.30 FLASHINGS

Provide cavity trays & Code 4 stepped and apron lead flashings at abutments of all roofs with walls and chimney stacks, lead chased into walls and wedged at maximum 450mm centres and pointed in 1:3 cement/sand mortar. Provide Soakers to hips, valleys and roof/wall abutments. All lead flashings to be installed strictly in accordance with Lead Development Association guidelines & details, & BS EN 12588:2006 & current codes of practice. All chimney stacks fitted with code 4 lead tray flashing above roof intersection.

G.40 Soffits and Facia to match existing

19mm thick softwood timber profile to match existing and fixed back to rafter ends.

G.55 PITCHED UNVENTILATED PLAIN TILE ROOF

Tiles: Reclaimed plain clay tiles to match existing. Installed to manufactures recommendations.

Battens: 38x25 Treated sw timber battens.

Vapour Control: Tyvek Supro breather membrane, installed strictly in accordance with manufactures recommendations, Allow membrane to sag between rafters.

Rafters: To structural engineers design.

Insulation: Pitched 100mm Celotex XR4100 Roof Insulation fixed between rafters, provide 50mm gap between top of insulation and underside of breather membrane.

Insulated plaster board: 62.5mm Celotex PL4000 insulated plasterboard fixed to underside of trussed rafters. Combined insulation to achieve a U-value of min 0.15 W/m.sq.K.

Eaves: soffit and eaves system to match existing

RWG: Black plastic rainwater goods, half round to match existing, Marley or equal approved.

G.56 Update and making good existing pitched roof.

Tiles: Strip existing slate roof and replace with reclaimed plain clay tiles to match existing where broken or missing. Installed to manufactures recommendations.

Battens: 38x25 Treated sw timber replacement battens where needed.

Vapour Control: To be checked and replaced if required.

Roof Timber: Retain existing or where replacement is required replace like for like all to be checked and approved with structural engineer and conservation officer.

Insulation: Knauf Earthwool Loft Roll insulation 100mm above all level ceilings to a depth of 300mm. Insulation to be laid in between ceiling rafters and at 90° to one another with no gaps.

G.57 Update and making good existing pitched roof Flat 2.

Retain existing lath & plaster walls and erect 100mm Gutex Thermoroom Wood Fiber insulation or equivalent bonded between existing roof structure with a suitable adhesive or timber battens, window boards and door architraves.

G.58 Update and making good existing pitched roof.

Tiles: Reclaimed plain clay tiles to match existing where broken or missing. Installed to manufactures recommendations.

Battens: 38x25 Treated sw timber replacement battens where needed.

Vapour Control: Existing.

Roof Timber: Retain existing or where replacement is required replace like for like all to be checked and approved with structural engineer..

Insulation: Pitched 80mm Celotex GA4080 Roof Insulation fixed between rafters, provide 20mm gap between top of insulation and underside of existing membrane.

Insulated under r-Rafters: 57.5mm Celotex PL4000 fixed to underside of rafters. Combined insulation to achieve a U-value of min 0.18 W/m.sq.K.

Insulation: Knauf Earthwool Loft Roll insulation 100mm above all level ceilings to a depth of 300mm. Insulation to be laid in between ceiling rafters and at 90° to one another with no gaps.

plaster board: 12.5mm plasterboard & skim finish.

G.59 New cold flat roof.

Finish: SBS Modified Bitumen Range Polyester and glass fibre reinforced membranes coated with SBS modified bitumen. Guarantee of min 10years required. Icopal Ltd Barton Dock Road Stretford Manchester United Kingdom M32 0YL Tel: +44 (0) 161 865 4444 Fax: +44 (0) 161 864 2616 or equivalent. Installed to manufactures recommendations.

Deck: 18mm WBP plywood deck laid to falls of min1° and nail fixed to joist.

Roof Timber: Retain existing over wc's where possible new rafters to match existing for new wc's. 200x50mm at 400mm cents approved with structural engineer..

Insulation: 150mm Celotex GA4000 Roof Insulation fixed between rafters, provide 50mm gap between top of insulation and underside of deck. Free flow of air to be maintained into existing ventilated roof void. Flat roof wall abutment vent to be provided Timloc Over Fascia Vent 25mm Airflow or equivalent approved.

Vapour Barrier: PolyFast Vapour barrier polythene sheet ss stapled to timber rafters at approx. 300mm c/s. Min 100mm lap at all joints and sealed with edge taped. Edge tape to be used at all junctions with all other construction materials tape applied equidistant between each element. Vapour barrier to extend down walls and trapped back of plasterboard ceiling finish.

Manufacturer: PolyFast 61b Cwmammam Road, Glanamman, Ammanford, Carmarthenshire. Tel: 01269 823160. Web: www.polyfast.co.uk

Insulated plaster board: 36mm Glasroc Soffit Line multi-board with a foil insulated backing and integral vapour control layer. Plasterboard fixed to underside of trussed rafters. Combined insulation to achieve a U-value of min 0.18 W/m.sq.K.

H: WINDOWS AND DOORS

H.10 GLAZING

All new windows and external doors to be double glazed. Window style to be in accordance with elevations and schedules to match existing.

Obscured glazing to Bathroom, En-suite and Cloakroom windows.

Windows to achieve a 'U' value no greater than 1.6 W/m²K in accordance with Approved Document 1998, Part N1 all glazing below 1500mm above finished floor level in both doors and sidelights within 300mm of door jamb and all other areas of glazing below 800mm above finished floor level must be either:

- a. toughened or laminated and break safely to BS.6206 and BS EN356 2000 rating P2A
- or
- b. robust i.e. 8mm annealed glass in panes not exceeding 1.1m in both heights and width
- or
- c. 6mm annealed glass in small panes i.e. maximum width 250mm and area 0.5m²

All opening lights (and doors) to be fitted with effective draught-strips. All upper floor opening lights to be fitted with EASY-CLEAN hinges to permit cleaning of glazing from inside and with suitable restrictors to prevent the opening of the window by more than 100mm such restrictors to be located out of reach of small children and easily bypassed by an adult without the aid of tools.

H.20 WINDOWS

Windows: Purpose made timber windows by specialist manufacturer fitted with trickle vents in head compliance via BS EN 1627:2011 Resistance Class 3 (which references BS EN 1628, 1629 & 1630) .

See drawing for details. All perished putty to be removed and replaced.

Windows to first floors to provide clear opening of 0.33 m sq. and min.450mm wide and at least 450mm high, min 1 window per habitable room to have maximum cill of 1100mm, refer to drawings.

Key operated window locks to ground floor and flat roof accessible windows only elsewhere push button operated.

H.21 ROOF WINDOWS

Windows: VEVUX top hung conservation roof 980 x 780mm to include all flashings for roof tile option selected. Excluding internal liner. To include additional glazing bar.

Glazing Option: 70 pane - safety glazing Laminated safety glazing as standard. Contractor to include easy clean external glass option.

Finish External: All VELUX roof windows come with grey aluminium exterior covers as standard.

Operation: Hand operation.

Finish Internal: The bright white finish with G.G.58discreet wood grain is perfect for interior.

H.22 SECONDERY GLAZING

Windows: All existing windows to be fitted with purpose made secondary glazing to comply with SAP calculations and noise reduction detailed in condition 10 of the Planning Approval and Noise Impact Statement.

Granada Secondary Glazing Limited.
Unit 1&2 Carrwood Road, Chesterfield Trading Estate,
Chesterfield, Derbyshire. S41 9QB
Tel: 01246261262 M:0771 2880917 www.gsecg.com

H.30 COMMUNAL ENTRANCE DOOR

To comply with SBD Homes 2016 guidance Section 2B
To be PAS 24:2016 BS EN 14351-1:2006+A1:2010.

Door: Purpose made new timber doors by specialist manufacturer and in compliance with BS 644: 2009 (Timber). Entrance threshold to be in accordance with standard detail drawings. Due to the building being existing Grade 2 listed a level threshold is not possible to the communal entrances. A relaxation is required.

Access Control: Incorporate access control system, with entry lock release and entry video linked to flats. Locking system to be approved all as part of certified doorset.

Locking System: Provide Certified to BS 3621 and BS EN1303 grade 5 key security grade O attack resistance. Resistance to attack by drill to be grade 2. Lock certified to BS 8621:2007 (Note 24.3.2)

Mail Delivery: External letter box wall mounted to LPS 1175 security rating, installed to manufacturer's specification, adjacent to front entrance.

H.40 FLAT ENTRANCE DOORS

To comply with SBD Homes 2016 guidance Section 2B
To be PAS 24:2016 BS EN 14351-1:2006+A1:2010.
Doors fitted with door view between 1.5 to 1.2m.

Locking System: Provide Certified to BS 3621 and BS EN1303 grade 5 key security grade O attack resistance. Resistance to attack by drill to be grade 2. Lock certified to BS 8621:2007 (Note 24.3.2) Ensure that the end user is able to operate the locking system with clear instructions.

Flat doors to hallway areas be Half Hour Fire doors with intumescent strip and smoke seal. External doors to flats to be fitted with self-closers and have a door chain or door limiter.

H.41 FIRE DOORS TO GROUND FLOOR KITCHEN

Doors to protected staircase enclosure to be Half Hour Fire door with intumescent strip and smoke seal.
Vision panels to be provided with 30min fire resistant glass.

H.42 EXTERNAL ESCAPE DOORS

Provide level threshold in compliance with Building Regulation requirements part M, Access for the Disabled where possible. Push bar operation to fire doors during operating hours.

All external doors to be paint grade plywood solid core doors fully in compliance with NHBC & Building Regulations requirements, including BS7412, 7413, 7414 and BBA Agremont Cert or kite marked. Ironmongery must accord with the NHBC requirements and BS7352, 3621, 4951, 5812 & 6459.

H.43 INTERNAL DOORS

Doors to ground floor to be Fire doors to be FR 30 (except bathrooms & toilets) all fitted with self closing devices (except cupboards).

H.44 INTERNAL BATHROOM DOORS

Undercut doors for internal WC/ Utility rooms utilising mechanical extracts BY 10-15mm.

H.50 COMMUNAL ENTRANCE GATES

To comply with SBD Homes 2016 guidance Section 1-16.1. To be PAS 24:2016. Both vehicular and pedestrian access to hardstanding tarmac area.

Gates: Purpose made new painted steel and mesh gates sliding or hinged by specialist manufacturer and in compliance with BS 6510: 2010 (Steel).

Access Control: Incorporate electrical access control system for the main vehicular gates and key pad entry operating system for pedestrian access. Supply of Machinery (Safety) Regulations 2008 as a legal requirement to comply with European Standards BS EN 12445:2001 and BS EN 12453:2001 & BS EN 12455:2001.

Locking System: Key pad operation both sides for pedestrian gate to access bin and cycle store.

H.40 VENTILATION

Rapid ventilation provided to Kitchens , Bathrooms and Habitable rooms by individual MVHR systems to each flat located in the roof space and vented via roof tiles. All to specialist manufactures recommendation to comply with planning conditions 10, 11 & 12. Roof windows to have an opening above 1.75m and to be fitted with trickle vents providing 8000mm sq back ground ventilation. Except wc to be 4000mm sq. all to satisfy the requirements of Part F, Section 1 of the Building Regulations.

Refer to section N for further guidance.

J: WATERPROOFING / FLASHING

J.10 FLASHING

All Lead work strictly in accordance with Lead Sheet Association. Details and specifications.

Flashings generally to be in milled lead sheets to B.S. EN 12588:2006 & BS6915:2001 – proprietary flashings must satisfy NHBC Technical Requirement R3. Code 4 lead flashings (stepped where necessary) to be provided where roofs abut brickwork. All flashings to be dressed up wall min. 75mm above surface of tile.
Or as approved by single ply roofing manufactures recommendations

J.20 CAVITY TRAYS

Cavity trays to be linked to flashings in all cases and stepped in the case of a stepped flashing. Cavity trays must rise minimum 140mm across cavity. Code 4 lead soakers to be provided at each tile overlapped by flashing. Valleys to be lined with Code 5 lead.

Or as approved by single ply roofing manufactures recommendations.

K: CEILINGS /SOFFITS /LININGS / FINISHES

K.10 NEW INTERNAL CEILINGS

Ceilings generally to be 12.5mm plasterboard fixed either to u/s roof trusses or to approved metal ceiling system fixed to underside of pre-cast concrete floor units.

All plasterboard joints to be taped and filled as per manufacturer's recommendations and all ceilings to receive either plaster skim finish

Provide 80mm zone from underside of Concrete structure and internal finish of ceiling.

K.20 NEW EXTERNAL SOFFIT / FACIA

Timber to match existing

K.30 BOXING IN

Contractor to include for all boxings, as indicated on drawings. Where casings incorporate soil and vent pipes, the void is to be filled with 100mm sound deadening quilt.

K.40 DECORATIVE FINISHES AND FITTINGS

Prepare all surfaces in accordance with manufacturer's specification relative to proposed decorative finish as per the following schedule. Paint decoration specification as follows:

Joinery:

Knot stop, rub down, fill all nail holes, apply one primer coat, two undercoats and one top coat in eggshell.

Existing painted windows:

Strip existing paint, make good areas of rot by cutting out and peace in new material where possible rub down, fill all nail holes, apply one primer coat, two undercoats and one top coat in eggshell.

New external hardwood door

Purpose made timber doors by specialist manufacturer with detail to match existing in Sapele. If not already factory finished, prepare, rub down, apply one primer coat, two undercoats and one top coat in eggshell. Keep protected until project hand-over.

External timber boarding, fascia and soffits:

Prepare as necessary and apply one primer coat, two undercoats and one top coat in gloss

Existing internal joinery-

Rub down, fill all nail holes, apply two undercoats and one top coat in eggshell

Walls:

New internal plaster finishes:

Apply one mist coat and two full coats of emulsion to all walls and ceilings.

Existing internal plaster finishes:

Apply two full coats of emulsion to all walls and ceilings.

M: STRUCTURAL STEEL / TIMBER

M.10 STEEL SECTIONS

made from steel to BS EN 10025, grade S275, all sizes strictly in accordance with structural engineer's design & specification & calculations.

M.20 PRIMER TO STEEL WORK

All steelwork to be treated with 1no. coat of zinc phosphate modified alkyd high build primer. Touch up all drill holes and cuts as required

M.30 STEEL WORK BEARING

Structural steel to have a min end bearing of 150mm on padstones. To structural engineer's design & specification & calculations.

M.40 FIRE PROTECTION

Fire protect all structural steel work up to min of 1 hour fire protection, provide two layers 12.5mm Gypsum plaster board min lap of 150mm, stagger joints, seal all exposed joints ends etc.

with intumescent mastic. to the satisfaction of the Fire Officer and Building Control surveyor.

Refer to section T

M.50 TIMBNotches & holes to be within the limitations specified in the TRADA structural span tables.

All structural timber to be C16 grade unless otherwise stated. Ensure method of treatment chosen is compatible with the fixings, metal plate connectors, etc.

Timber used to conform to BS 4978:2007 & BS EN 14081-1:2005+A1:2011 . Notches & holes to be within the limitations specified in the Building Regulations Approved Document. A1 sec. 1B, and in accordance with special floor & roof truss manufacturer requirements.

All structural and carcassing timber to be vacuum pressure impregnated with preservative treatment in accordance with BS EN 14358:2006 and BS EN 14128:2003. All structural timber to be C 16 grade unless otherwise stated. Ensure method of treatment chosen is compatible with the roof truss metal plate connectors.

N: VENTILATION

N.10 MECHANICAL VENTILATION

To be in accordance with Building Regulations App. Document F1995

As an alternative to the background ventilation provisions listed below an overall background ventilation rate for the dwelling equivalent to 6000mm² per room may be used subject to a minimum provision of 4000mm² in each room.

Where background ventilation cannot be easily provided e.g. to fully internal rooms fans to be fitted with 15 minute overrun facility and in the case of rooms with no natural light, to be switched with light.

Ventilated internal rooms to be provided with air inlet e.g. 10mm gap under door. Ventilation provision all in accordance with Approved Document F 1995. Unless otherwise described on Layout Drawing, ceiling-mounted fans to be ducted to external wall either via low-profile ducting located between ceiling and underside of concrete floor above or via roof void to eaves soffit (grille painted to match soffit).

Where no windows are provided In bathrooms or WC's, the mechanical extractor to be fitted with 15 min. overrun activated by light switch and fitted with a humidistat.

N.20 BATHROOMS/SHOWER

Bathrooms to be vented by mechanical extract operated intermittently and to be provided with 4000mm² background ventilation. Minimum extract fan ventilation rate 15 litres per second and fitted with a humidistat:

N.30 FLAT KITCHENS

Kitchens to be vented by mechanical extract operated intermittently and to be provided with 4000mm² background ventilation. Minimum extract fan ventilation rate 60 litres per second or 30l/s if incorporated within cooker hood.

N.31 KITCHEN

Kitchens to be vented by mechanical extract operated by specialist manufacturer.

N.40 SEPARATE W.C.

to be provided with either ventilation openings of minimum 1/20th of floor area and 4000mm² background ventilation or mechanical extract rate of 6 litres per second

N.41 FLAT HABITABLE ROOMS

Habitable rooms by individual MVHR systems to each flat located in the roof space and vented via roof tiles. All to specialist manufactures recommendation to comply with planning conditions 10, 11 & 12.

N.50 VENTED ROOF CONSTRUCTION

To be in accordance with Building Regulations App. Document C Section. 6.10 -6.14

All insulating products installed as part of a vented roof construction must be installed strictly in accordance with the manufactures recommendations to ensure adequate free flow cross ventilation.

Main contractor to ensure that free flow cross ventilation and min. 25mm air path is maintained and not obstructed due to compartmentalisation of roof voids by separating walls, structural elements, fire stopping and compression of insulation at junctions.

Fix vent to top of sw timber fascia for the full length of the flat roof with Tyvek Supro breather membrane lapped over and into gutter. Use KLOBER FV25 FASCIA VENT - 25MM VENTILATION

N.60 VENTILATED FLOOR VOID (BEAM & BLOCK FLOOR ONLY)

To be in accordance with Building Regulations App. Document C Section. 4.13 -4.20

Min. height of void to be 150mm. Sub base to be levelled & to receive anti-vegetation treatment.

All under floor voids to be ventilated by Cranked ducts connected to 200 x 70 Plastic air brick ventilators at max. 2m. ccs. to provide under floor ventilation through cavity wall. Openings to provide not less than 1500mm² per metre run of external wall or 500mm² per m² of floor area. Install plastic air bricks through intermediate sub base walls to ensure ventilation is continuous.

P: M&E SERVICES

P.10 WATER SUPPLY

Install systems so that they comply with BS EN 806 part 5 and BS 8558:2011 and water supply bylaws and are free from leaks and water hammer.

Incoming cold water mains to enter building via 750mm deep insulated sleeve to avoid freezing below ground floor slab.

The cold and hot water system shall be designed so as to avoid the risk of microbial contamination in line with best practice.

P.11 Incoming Water Mains

As existing – locate and take account of the need to protect from frost when working around it.

Source the existing external stop valve to isolate as and when required. Prior notice to be given to client if necessary.

P.20 WATER PIPELINE SIZES

Calculate sizes to suit the probable simultaneous demand for the building and to ensure: A water velocity of not more than 1.3 m/s for hot water and 2.0 m/s for cold water. Suitable discharge rates at draw off points. A filling time for the cold water storage cistern of not more than one hour.

P.21 Isolating Valves and Drain Taps

Identify the existing stop valves:-

on the rising main - on entry to dwelling;

on the rising main - on entry to cold water storage tank;

on each down service from cold water storage tank.

Ensure that each is labelled and clearly accessible.

Ballofix valves shall be used to isolate hot and cold water services to all sanitary fittings and other appliances.

Ensure that any inserted drain taps are located at the lowest points to enable the hot and cold water systems to be drained.

All stop valves and drain taps shall be CONEX brass or gunmetal compression fittings.

Maintain the existing external hose union bibtap at the rear of dwellings.

P.23 Internal Distribution Pipework

Kitchen sinks shall always be served off the rising main.

No work shall be undertaken in microbore pipework (ie. <15mm).

Copper pipework with solder ring ('Yorkshire') fittings are preferred; with compression fittings at valve connections.

All pipework shall be:-

- laid in continuous lengths with no concealed joints or flexible hose connectors;
- adequately supported along its length, taking care to allow for expansion and contraction;
- provided with additional supports as necessary adjacent to valve and pump etc positions;
- cut square, with the correct proprietary cuttings tools, with all burrs removed.
- protected from corrosion, contamination and damage.

Where plastic distribution pipework is used:-

- all elements shall be selected from the Hepworth 'Hep2O' system range (15mm min), complete with 50 year guarantee (<http://www.hepworthplumbing.co.uk/>);
- runs shall be installed vertically or horizontally, at right angles to main walls, ceilings and floors, with a metal tape or similar running alongside to assist occupiers and maintenance staff in locating the line;
- it shall be fully supported along its length wherever possible (inc. through floors and in lofts where particularly vulnerable);
- it shall be replaced with copper wherever exposed and vulnerable to potential damage (eg. radiator tails, under kitchen sinks, in airing cupboards, etc).

Plastic distribution pipework should not be used:-

- for a primary circuit of a solar heating system (as the temperature cannot be thermostatically controlled;
- where likely to be exposed to sunlight (and ultra violet light)

Where structural timbers are to be cut for the passage of distribution pipes and the like:-

- cuts are to be made as near to the neutral axis as possible;
- holes shall not exceed more than one third of the depth of the timber;

- and shall be no less than 50mm from the top or bottom of any joist.
- Alternatively they are to be made in the top of the timber as far from the centre of the span as possible.

All pipework shall be concealed wherever possible, but should also be reasonably accessible. Pipes shall be run in floor ducts, boxed-out skirtings or in proprietary trunking. Pipes should not be chased in walls.

All pipe runs along external walls, in roof spaces or floor slabs, and below ground floors must be insulated. To minimise the chance of freezing, pipes should not run within 1m of a ventilated eaves.

Pipework shall not obstruct spaces for cookers, fridges and washing machines etc.

P.30 WATER INSTALATION

Runs to be straight and parallel or perpendicular to walls, floors, ceilings, etc. as appropriate. Obtain approval of routes before commencing work.

Run hot pipes above cold where routed together horizontally. Do not run pipes through electrical enclosures or above switch gear, distribution boards or the like.

Fix at adequate centres with minimum of bends and offsets. Allow for thermal movement and isolate from structure where necessary to prevent noise or abrasion caused by movement. Pipes passing through walls to be sleeved.

Prevent ingress of dirt during installation. Completed pipelines to be of consistent bore, clean and free from external scratching, toolmarks, distortion, cracks and other defects.

All pipes in unheated spaces are to be insulated.

Testing and Commissioning

Prior to handover, the system shall be thoroughly flushed and tested under pressure for water loss, all in accordance with the governing regulations. Rectify as required and retest.

P.40 HEATING & HOT WATER

Hot water storage and delivery to be in accordance with Approved Document G(3).

Hot water system storage vessels are to incorporate precautions to ensure that temperature of stored water does not exceed 100°C.

Hot water supply to any fixed bath must be designed and installed to ensure that temperature of water delivered does not exceed 48°C.

Heating system to in accordance with Heating Consultant's and Energy Consultant's specification and in compliance with Approved Document L.

Heating and hot water control system to include programmer, room thermostat and either a 3-port or twin 2-port zone valves.

Thermostatically controlled radiator valves (TRV's) to be fitted to all radiators except Hall and Bathroom.

Thermal conductivity of pipework insulation not to exceed 0.045 W/mX.

Primary pipework to be insulated in accordance with Approved Document L. generally in unheated areas and for the first metre run of pipework from the domestic hot water cylinder.

Where necessary, pipes to be thermally insulated to comply with Approved Document L1, Section 1.

P.41 Design Temperatures

Heating system shall be designed in accordance with the parameters given in BS EN 12828:2012+A1:2014; assuming an

outside air temperature of -3°C and the continuous operation of the systems to maintain the following design temperatures:-

	Houses
Living Rooms	21°C
Dining Rooms	21°C
Kitchens	18°C
Bedrooms	18°C
Cloakrooms	18°C
Bathrooms	22°C

P.42 Pipework

All existing heating and hot water systems are to be removed and replaced with new. All system pipework shall accord with the requirements of the cold & hot water pipework.

Existing main water pressure required installation of pressure booster

New works to be designed as a fully pumped two pipe un-vented circulating system. Pipework shall be sized so that the maximum water velocity does not exceed 1m/sec, and the system's hydraulic resistance is within the capacity of the pump fitted.

Heating systems are to be separately pressurised using units supplier to be agreed.

All pipework shall be arranged so that the system is self-venting, or is fitted with air vents at high points.

All pipework circuits shall be provided with a means of balancing to ensure the correct flow rate is obtained.

Where structural timbers are to be cut for the passage of pipes and the like:-
 cuts are to be made as near to the neutral axis as possible;
 holes shall not exceed more than one third of the depth of the timber;
 and shall be no less than 50mm from the top or bottom of any joist.
 Alternatively they are to be made in the top of the timber as far from the centre of the span as possible.

P.42 Condensing Gas Boilers (or as agreed with the client)

Existing boiler to be replaced with central heating boilers shall be from the BAXI Neta-tec Plus Combi GA range of gas-fired powered condensing boilers; and be of such design as to effectively meet the stated heating demands with the heating of the domestic hot water cylinder to acceptable levels.

Exact boiler model to be selected by the contractor to ensure that it has a Class 'A' Efficiency Rating, a Class 5 (ie. <70mg/kWh) NOx Emissions Rating, and accords with the requirements of Part L1A/B (as appropriate) of the current Building Regulations.

The boiler shall be installed in accordance with the installation instructions supplied with the boiler and shall include any requirements for combustion and ventilation air in accordance with the installation instructions, BS 5440 Part 2, the current Building Regulations and the Gas Safety (Installation & Use) Regulations 1998.

P.43 Gas Flues

The Heating Contractor shall ensure that the terminal is correctly mounted on the roof with clearances specified by the manufacturer's instructions and British Standards.

Flue to conform part J of Building Regulations in connection with notices about equipment. No combustible material within 40mm of flue.

Refer to drawings for positions.

P.44 Space Heating/Water Heating Ground Floor

Water heating and space heating to be provided by new boiler, radiators. Replace all existing radiators with new. All radiators to be fitted with thermostatic valves DRAYTON "RT414"

Contractor to make allowances for all builders works associated in the provision of flue from boiler through garage roof

P.44 Space Heating/Water Heating First Floor

Water heating and space heating to be provided by electrical units, Heating in the form of Dimplex - Storage Heater +

Convactor Automatic to each room. Hot water to bathroom and kitchen supplied by

Galaxy gx1 unvented instant water heater 9.5kw

P.45 Hot Water Cylinders / Supplementary Electric Boilers

Hot water storage cylinder within integrated heat pump units shall be of the un-vented type and have a minimum capacity for the load required and shall be fitted with a thermostatically controlled 3Kw immersion heater wired to an electrical switch point with a neon light indicator which is connected to customer consumer unit. immersion heater to include 2 overheat thermostats.

To be positioned so that the drain valve and immersion boss is accessible. If positioned on the floor, mount on 50 x 50mm battens so as to permit air circulation to the underside and prevent condensation.

Gate Valves, where fitted, should be, where possible, 1.8m above finished floor level.

Ensure all fittings are readily accessible for servicing and maintenance.

To be provided with a 2 year minimum guarantee.

Controls

All circuit controls and programmers to be DRAYTON or equivalent.

Both the central heating and hot water primary circuits are to be provided with an electrically operated circuit valves fitted in the flow pipe controlled by room and cylinder thermostats. The radiator system shall be controlled by a wall mounted programmer (Drayton LP522 Si), set to 335 days, and enabling the independent programming of each circuit.

The room thermostat shall be fitted on the wall (ideally away from any direct heat source); approx 1.5m above floor level.

Ensure all system controls, especially where there is more than one heating (or energy generating) system within a building, are fully compatible and integrated.

Seriously consider the use of systems from the same manufacturer; ensuring that their combined use secures manufacturer support.

Circulating Pumps

Pumps shall be GRUNDFOS "Alpha 2 15/50", fitted with unions or flanges, isolating valves at both suction and discharge points and installed in the flow pipe with the electrical connections and speed adjuster accessible.

Associated Electrical Work

A double pole isolator (fitted with 3 amp fuse) shall be positioned adjacent to boilers; with a suitable junction box for connection to the electrical installation.

Isolating switches shall be fitted to all remote electrical units, and shall be labelled.

All associated electrical works shall be undertaken by an NICEIC Registered Installer in full accordance with both the IEE Regulations 17th Edition and Part P of the Building Regulations.

Testing and Commissioning - General

Prior to handover, the hot water and central heating systems shall be thoroughly flushed, the pump fitted and the system filled. All parts of the system should then be tested under pressure for water loss and all air eliminated. Rectify as required and retest.

All radiators shall be adjusted using the Lockshield or equivalent valves to ensure that the correct flow rate is achieved in all parts of the heating system. The Contractor shall ensure that all radiators are balanced to heat up at the same time rate. When balancing on temperature, an 11°C temperature drop should be achieved. Where a by-pass is fitted, this should be adjusted to provide the correct flow rate.

After the initial heat test and flush-out, but before final set-up and commissioning, add the correct quantity of Fernox (subject to the boiler manufacturer's recommendations) to combat system corrosion.

Ensure that the controls operate correctly and in accordance with the manufacturer's instructions in every combination of control settings available.

After satisfactory commissioning, the heating system shall be tested for a period of 24 hours and a Certificate of Testing shall be signed by the Contractor for submission to the Employer's Agent.

Testing and Commissioning - Specifics

Boilers - shall be commissioned in accordance with the installation instructions provided by the manufacturer and complete the benchmark logbook. The main burner pressure shall be adjusted to provide the required rated output. The Heating Contractor shall check all gas connections for leaks and rectify as necessary.

Cylinder/Combination Tanks - The lockshield valve in the primary return pipe shall be adjusted to ensure that the primary circuit is balanced when both the heating and primary circuits are operating together.

Pump - The speed selector on the pump shall be adjusted to achieve the correct flow rate through the system. When correctly adjusted, a temperature difference of 20°C between flow and return should be achieved.

P.50 ELECTRICAL SUPPLY

Electrical work in connection with the installation must be in accordance with BS 7671 (The IEE Wiring Regulations).

Lighting and power: Separately controlled circuits as follows with further subdivision where necessary to ensure compliance with BS 7671 (The IEE Wiring Regulations):

P.51 ELECTRICAL INSTALLATION GENERALLY

Liase with the Electricity Supply Company as necessary to ensure suitability of supply and earthing arrangement, and to ensure connection when required.

Install, test and commission the electrical work in accordance with BS 7671 (The IEE Wiring Regulations) and requirements of the Electricity Supply Company to provide a safe, well insulated, earth protected system capable of supplying the anticipated maximum demand.

Installation work to be carried out by qualified electricians fully conversant with the IEE Wiring Regulations.

Accessories necessary to complete the installation to be types recommended for the purpose by relevant equipment manufacturer.

In locations where moisture is present or may occur, use corrosion resisting fastenings and avoid contact between dissimilar metals. Protect cables in plaster with galvanised steel channel.

Note: In general, Kitchen appliances are to be fed by a dedicated ring-main separate from the rest of the flat.

All downlighters to have proprietary fire socks over. All electrical wiring to be protected from mineral insulation to NHBC requirements

Electrical layouts are schematic only - completed installation must comply with I.E.E. Regulations and all relevant Codes of Practice. Particular attention is drawn to the requirements of B.S.7671: 2011 regarding the locations of electrical components within rooms containing baths and / or showers.

all fans and light fittings in these rooms to be rated IPX4. Lights must be drum-type (not batten) fittings featuring horizontally mounted lamps. Fans and light fittings MUST NOT be located immediately above baths and shower trays. Where fan is indicated immediately adjacent to bath or shower tray, the fan must be located within the wall construction and together with the grille kit must be of a type approved for this location

Light fittings and extract fans to be mounted on ceilings or at high-level on walls as indicated on drawings.

P.52 Installation of Cables

All cables shall be run directly off reels and not taken from loose coils.

Cable runs shall be installed vertically or horizontally, at right angles to main walls, ceilings and floors.

No surface cabling shall be permitted within the main dwelling. Any surface cabling outside of the main dwelling shall be suitably protected.

All cables shall be securely and safely fixed with suitable clips on horizontal runs the distance apart shall not exceed 225mm or where running vertically, the distance apart shall not exceed 400mm.

Metal clad accessories shall be securely fixed. The cable entry points shall be fitted with protective rubber grommets. Ditto where cables pass through metal studwork.

Where cables are run within studwork, they shall be protected using proprietary metal plates.

Cable joints shall only be made at terminals of distribution boards, switches, ceiling roses, socket outlets, etc. No joints shall be made in joint boxes.

Where structural timbers are to be cut for the passage of cables and the like:-
cuts are to be made as near to the neutral axis as possible;
holes shall not exceed more than one third of the depth of the timber;
and shall be no less than 50mm from the top or bottom of any joist.

P.53 Ring Circuits

To be formed using the 'loop-in' method (with no spurs); both ends of which shall be connected to the exiting consumer unit.

Provide separate rings to each floor.

P.53 Cooker Control Unit Flats

To be readily accessible; located 200mm to the side of the cooker position.

P.54 Extract Fans Flats

All bathrooms, en-suites and cloakroom to be mechanically ventilated with extractor fans manufactured by Ferrob Environmental Systems (www.ferrob.co.uk) and to be 'Sensortronic 400 (S 400 HT/HS).

P.55 Heater Circuit Flats

For immersion heater in hot water cylinders, provide an adjacent flex plate outlet and a double pole switched connection unit with neon indicator marked "water heater".

P.56 Bonding and Earthing

The earthing bar in the consumer unit shall be connected by a 16.0mm² earth wire to the Board's earth terminal.

Electrical installation works shall include for all cross-bonding and earthing of metalwork, fittings, services and pipes etc applicable at the time of installation; testing as the work is carried out to ensure electrical continuity.

Earthing works shall include:-

Cooker control units - the earth terminal on the main supporting strap shall be bonded to the earth terminal in the box with a 10.0mm² earth wire.

Immersion and water heaters - all water pipes shall be bonded together and to the earth continuity conductor by a 10.0mm² earth wire fastened to earth clips or terminals.

Metal sinktops shall be bonded by a 10.0mm² earth wire to the hot and cold water pipes feeding the sink and to the earth continuity system.

Earthing connections to movable equipment shall be made in a permanent manner to the approval of the Employers Agent

P.57 Testing and Commissioning (Electrical)

Prior to handover, undertake all tests (inc. insulation resistance, earthing and continuity, polarity and connections etc), all in full accordance with the governing regulations. Rectify as required and retest.

P.58 Emergency Lighting Design.

- **emergency escape lighting:** that part of emergency lighting that provides illumination for the safety of people leaving a location or attempting to terminate a potentially dangerous process before doing so (also provides lighting for location and use of fire fighting equipment, safety equipment);
- **emergency lighting:** lighting provided for use when the supply to the normal lighting fails;
- **emergency safety lighting:** that part of emergency lighting that provides illumination for the safety of people staying in a premises when the supply to the normal lighting fails;

- **escape route:** route designated for escape to a place of safety in the event of an emergency;
- **final exit:** terminal point of an escape route;
- **high risk task area lighting:** that part of emergency escape lighting that provides illumination for the safety of people involved in a potentially dangerous process or situation and to enable proper shut-down procedures for the safety of the operator and other occupants of the premises;
- **open area lighting:** that part of emergency escape lighting provided to avoid panic and provide illumination allowing people to reach a place where an escape route can be identified;
- **standby lighting:** that part of emergency lighting provided to enable normal activities to continue substantially unchanged.

P.60 GAS INSTALLATION

P.61 Generally

The extension to the existing gas installation shall be designed, installed, tested and certified in full accordance with the Gas Safety (Installation & Use) Regulations 1998.

Only 'Gas Safe' registered engineers shall be permitted to undertake work to gas installations; with registration details being provided to the Employer's Agent prior to commencement on site.

P.62 Meters Ground Floor

Existing gas meters to be removed and new installed so AEGCVs to be checked that it is clearly visible, accessible and label provided on information on what to do in an emergency, with contact numbers of the supplier and National Gas Emergency Centre and direction indicator tape to turn valve on/off.

P.63 Installation Generally Ground Floor

The internal gas carcass shall include the provision of a gas cooker point to proposed gas hob.

All visible internal pipework shall be in copper.

All pipework shall be:-
 laid in continuous lengths with no concealed compression fittings;
 adequately supporting along its length;
 protected from corrosion and damage.

Pipework shall be concealed wherever possible, but should also be reasonably accessible.

All ducted routes shall be adequately ventilated.

P.64 Testing and Commissioning (Gas)

Prior to handover, undertake all pressure tests etc, all in full accordance with the governing regulations. Rectify as required and retest.

P.70 PART M COMPLIANCE

Heights of all other electrical components to comply with Section 8 of Approved Document M:

switches to lights and fans, electrical components over worktops and immersion heater switch to be centred 1100mm AFFL
 room thermostat to be centred 1500mm AFFL
 all electrical components other than the above to be centred 500mm AFFL

Circuit	Centre line height above finished floor
Consumer Units	1050mm
Light fittings	2300mm (to underside)
Light switches	1050mm
Pull cords	1050mm (to bottom)
Immersion Heater control switch	1050mm
Cooker Control Unit	1050mm
Kitchen Socket Outlets	1050mm

Socket Outlets (remainder)	600mm
Room Thermostats	1050mm

P.80 LIGHT FITTINGS

Light fittings which will only take lamps having a luminous efficacy greater than 40 lumens per circuit-watt must be installed in accordance with Approved Document L1 (2010 Edition)

Paragraphs 1.54 - 1.56. This requirement will be satisfied by installing light fittings that will only accept 'Compact Fluorescent' tubes at locations demarcated on drawings by 'CR'.

75% of all light fittings to be dedicated for the use of energy efficient lamps.

P.90 External lighting

To be operated by either photo electric cell (dusk to dawn) with manual override. External lighting to be provided with suitable photometry to reduce light pollution and excessive spill.

Provision to be made for energy efficient light fittings as set out in approved doc. L1 Note 1.55 and table 4. (Low energy consumption lamps with an efficacy of greater than 40 Lumens per circuit watt) to BS 5489:2013.

P.100 SMOKE ALARMS to flats:

Flats must either be protected by an automatic fire detection and alarm system in accordance with BS.5839 to at least L3 standard or provided with a suitable number of mains-operated self-contained smoke alarms to B.S.5446 : Part 1. Mains units with

secondary power supply are acceptable. They should be permanently wired to a separately fused circuit at the distribution board, and may operate at a lower voltage via a mains transformer. Wiring must be in accordance with I.E.E. Regulations but need have no special fire surviving properties.

Smoke alarms must be positioned in circulation areas, i.e. in Hall and close to Kitchen. Alarms must be located within 7.5m of doors to habitable rooms for the purposes of this requirement, Kitchens ARE habitable rooms.

Where more than one alarm is fitted, they should be interconnected, in accordance with manufacturer's instructions. Smoke alarms fixed to ceilings should be min. 300mm from any wall or electrical fitting. Units designed for wall mounting should be fixed 150-300mm below ceiling.

P.10 WATER SUPPLY

Install systems so that they comply with BS EN 806 part 5 and BS 8558:2011 and water supply bylaws and are free from leaks and water hammer.

Q: SECURITY

Full compliance with Approved Document Q of the Building Regulations (England) (Appendix B, clause B.1 & 2) and dimensions (Appendix B, clause B.3, B.4 & B.5. All new external Doorset and window apertures to meet the following minimum standards when the building is unoccupied.

- PAS 24: 2016
- LPS 1175: Issue 7, SR2
- STS 201 or STS 202: Issue 3, BR2
- STS 204 Issue 3: 2012, or
- LPS 1175 Issue 7:2010 Security Rating 1 or
- LPS 2081 Issue 1:2014 Security Rating A

All new external doors and windows to be fully in compliance with NHBC & Building Regulations requirements, including BS 6375-1:2009, 2:2009, 3:2009,644: 2012, BS EN 12207:2000 & 12208:2000. Ironmongery must accord with the NHBC requirements and BS7352, 3621, 4951, 5812 & 6459.

Refer also to section H.

R: ABOVE GROUND DRAINAGE

R.10 SOIL & VENT PIPES

Plastic soil and vent pipes and WC branches to be Osma building products or equal approved in accordance with BS.5255 to be 110mm dia fixed in accordance with manufacturer's instructions,

Encased & insulated, & provided with rodding access at head & base of wet section. 75mm. dia. vent pipe taken through roof void to proprietary vent terminal, located minimum 900mm. above highest window head level as indicated on elevations.

Soil stub stacks to be 110mm. dia. uPVC, fitted with air admittance valve above cistern water level. Access point to be fitted 150mm above FFL to all internal SVP's with access panels in ducting.

SVP's to be encased in 1 No. layer of 12.5mm thk plasterboard taped & jointed with painted finish, on 38 x 38mm sw. framing with min. 50mm sound insulation infill. No drainage connection to be made within 200mm. of WC branch. Provide access panel to ducted fittings/drainage. Waste sizes as follows:

Provide Fire collars as section T.50

R.20 WASTE PIPES

All waste fittings to have 75mm deep seal traps and separate connections to s.v.p.'s and to be installed in accordance with BS. EN 12056-2:2000 WC and SVP/Stub stacks – 110 dia. Slope 18mm/M min.

Bath, shower, Kitchen Sink
40mm dia trap upto 3m run.
50mm dia trap upto 4m run

Wash hand Basin
32mm dia. Trap upto 1.7m run.
40mm dia. Trap upto 3m run.

Heads of drains are to be ventilated via a Glidvale plain clay tile ventilator. Existing vent pipes are to terminate to free air.

Waste pipes (& water pipes) shall not obstruct the space allocated for cookers, fridges, washing machines, tumble dryers or other appliances. Position to the side of an appliance space wherever possible. Consider 625mm deep worktops as an alternative.

Bathroom pipework (& DURGO valves) shall be encased within 12mm WBP plywood boxing with a 19mm MR MDF bullnosed top; with ventilation, all fixed with cups and screws to allow easy access for maintenance. Provide all exposed plywood finishes with a gloss finish.

R.30 RAINWATER GOODS

UPVC rainwater goods must be provided for all roofs greater than 6m² IN AREA IN ACCORDANCE WITH Approved Document H and to NHBC satisfaction. Size of gutters to be as noted on elevations discharging into 63mm dia. downpipes (maximum roof area 37m² per outlet - Approved Document H3). All downpipes connected directly to storm water sewers, to Local Authority approval. Refer to site drainage layout for exact position of connections.

R.40 Installation

All pipe fittings and accessories to be installed in accordance with BS8000 Part 13 Section 3 and BS EN 12056-2:2000 with pipes being fixed at centres not greater than those specified in BS8000 with additional supports as necessary at junctions and changes in

direction and to be fixed using sheradized screws.

Ensure all traps are filled with clean water

R.50 Testing and Commissioning

Test all WC pans by flushing. Test all other fittings by filling to overflow level, then removing the plug. Carry out tests at least three times; with traps recharged before each test.

Test each fitting individually for self siphonage; then test for induced siphonage and back pressure by discharging 1 WC, 1 bath and 1 wash handbasin (as agreed with the Employer's Agent) simultaneously on each stack.

Check all pipework sections to ensure that they are securely fixed and free from obstructions, debris and leaks.

S: FIXTURE FITTING /SANITARY

S.10 BATHROOMS

Final locations of Sanitary suite Fittings Light switches
Power points to be in accordance with agreed with client.

Provide a Provisional Sum for the proposed supply and installation of all sanitaryware as per the tender drawings.

S.20 SANITARY INSTALLATION GENERALLY:

To BS 8000:Part 13, clause 3.2.

Form watertight joints using jointing and bedding compounds recommended by the manufacturers of the appliances, accessories and pipes being jointed or bedded.

Prevent use of appliances for any purpose until Practical Completion.

S.30 CISTERNS:

Obtain cistern operating components from cistern manufacturer. Ensure that ball valve matches pressure of water supply.

Ensure that overflow pipe is fixed to falls, and located to give visible warning of discharge. Agree position with CA.

S.40 SEALANT POINTING:

Sealant: silicone based to BS EN ISO 11600:2003+A1:2011, Type B with fungicide.

Colour to match sanitary suite

T: FIRE RESISTANCE

T.10 STEELWORK

All steelwork to be encased or treated with intumescent paint providing:

- half-hour fire protection in single or two storey construction
- one-hour fire protection in three or four storey construction.

Fire protect all structural steel work up to min of 1 hour fire protection, provide two layers 12.5mm Gypsum plaster board min lap of 150mm, stagger joints, seal all exposed joints ends etc. with intumescent mastic. to the satisfaction of the Fire Officer and Building Control surveyor.

T.20 INTERNAL FIRE AND SAFETY SIGNAGE GENERAL REQUIREMENTS

Signage system design:

Complete to: BS 559 and BS ISO 16069.

Comply with the requirements of: Fire Strategy drawings.

Proposals: Submit drawings, schedules, technical information, calculations and manufacturer's literature.

ESCAPE ROUTE SIGNS

- Standard: To Council Directive 92/58/EEC standard.
- Manufacturer and reference:
SafetySignSupplies.co.uk
Viking Signs Ltd,

Dysart Road, Grantham.
NG31 7LE. UK. or equal approved.

- Base material: Rigid PVC.
- Other requirements: Sign to include directional arrow as appropriate to location.
- Fixing: Screwed back to wall face and with double sided adhesive pads.

SIGNAGE PRODUCTS GENERALLY

Standard: To BS 559.

Colorimetric and photometric properties: To BS 5378-

2.

ILLUMINATED SIGNS

To BS 5266-1:2016, Emergency Lighting – Part 1: Code of practice for the emergency lighting of premises.

BS EN 1838:2013 Lighting applications – Emergency lighting,

BS EN 50172: 2004 Emergency escape lighting systems.

Encore Slimline LED White Body Exit Sign c/w Legend Kit.

Product Code: AENLED/3M/W. ●

Product standard in compliance with BS EN 60598-2-22:2014 Luminaires for emergency lighting.

- BS EN 62034:2012 Automatic test systems for battery powered emergency escape lighting;
- BS EN 50181:2001 Central power supply systems.

Supplier: Emergency Lighting Direct.

114 Queens Road, Beighton, Sheffield, S20 1DW.

Tel:01143830141 or equal approved. To electrical engineers details and installation.

T.30 PIPEWORK

All pipes or ductwork (including rising mains and svp's) passing through concrete upper floors to be contained within boxing formed from 2 No. layers 12.5mm plasterboard, joints staggered, taped and filled fixed over s.w. framing and the aperture around the pipe made-good with in-situ concrete. Where meter boxes are situated internally within communal areas, they are to be non-combustible, locked and fully sealed.

T.40 FIRE BARRIERS

Fix ROCKWOOL Fire Barrier with a 25mm galvanised wire mesh stitched with wire, to one face, to produce a flexible Fire Barrier with optional aluminium foil faces to locations indicated on the drawings. ROCKWOOL Fire Barrier 2 layers of FB to be fixed with staggered joints. ROCKWOOL Fire Barrier and Fire Barrier Slab achieve a reaction to fire classification of A1 as defined in BS EN 13501:1 ROCKWOOL Fire Barrier systems have been developed to inhibit the spread of flames, heat and smoke through concealed spaces in buildings and improve sound reduction. The fixing solutions described in the data sheet for the product have been designed to simplify detailing and incorporate, where possible, commonly available building fasteners and components.

T.50 FIRE COLLARS

All pipe work passing through compartmentation or party walls to be fitted with NULLIFIRE B150-110/2 pipe collar, to give minimum. 1hr. fire resisting integrity and 1hr. insulation

T.60 FIRE RESISTANT DOORS AND GLAZED SCREENS

Fire doors to be provided as specified at locations defined in Schedules on flat-type working drawings and contained within frames incorporating appropriate intumescent strips. All fire doors to be fitted with positive self-closing devices.

Fire resistant glazed screens to communal staircases / landings to be constructed in accordance with detailed drawings and to provide 30 minutes fire resistance in terms of integrity. All entrance doors to individual flats to be fitted with lock / latch mechanism openable from the inside by means of a bolt or catch - key operation from inside flat in not acceptable.

T.70 FIRE RESISTANT FLOOR

FIRE PERFORMANCE COMPARTMENT FLOORS

Resistance to fire: To BS 476-20 and -22, 60 minutes integrity and insulation.

Reaction to fire: In accordance with Building Regulations, Class 0.

Smoke resistance: To be provided at the location of new compartment first floor to flats 1 & 2. Flat 3 will be located within existing floor structure. Any recessed fixtures and light fittings to be 1 hour fire rated fittings. For details refer to drawing WD 602. Air leakage rate (maximum): Not applicable.

T.80 FIRE ALARM SYSTEM

FIRE ALARM SYSTEM INSTALLATION GROUND FLOOR TO BS 5839-6:2013

Grade B – Separate detectors, sounders and central control and indicating equipment with back-up power supply. L3 type system.

FIRE ALARM SYSTEM INSTALLATION FIRST FLOOR TO BS 5839-1:2013

Grade D – Mains powered alarms with an integral back-up power supply. LD2 type system. To comply with Approval Document B.

Both systems to be interlinked. Details to be confirmed by specialist installer.

U.20 STAIRCASES

All staircases to be timber by specialist manufacturer. All half, quarter and full landings MUST be built into internal leaf where adjacent to external cavity walls. Min. 2000mm headroom, measured vertically above pitch-line, to be maintained over all stairs.

To be in accordance with Approved Document K1 & M Section 2. for private stair if possible. Maximum step rise 220mm. Min step going 220mm. Maximum pitch of flight 42 degrees. Min. width of staircase to be 900mm clear between strings. Proprietary

painted timber balustrades and fixing system to be provided to all stair, landing and balcony edges not abutting walls with balusters at max. 100mm centres. A relaxation may be required to accommodate staircase within existing structure.

Handrails to stairs to be located on one side of flights and to be fixed to balusters or wall 900mm vertically above pitch-line. Handrail to be in the form of a Mopstick handrail 50 x 50 x 4.2 long fixed back to wall with 75mm projecting handrail brackets PPC white.

V: EXTERNAL WORKS

V.10 EXTERNAL STAIRS

All external stairs and ramps to comply with Part K & M of the Approved document

V.20 CAR PARK

Contractor to make good car park surface on completion of works to the same standard or better than existing.

X ENERGY / SUSTAINABILITY

Z: PLANNING CONDITIONS

READING BOROUGH COUNCIL
PLANNING APPLICATION REF: 170291

1. Commencement within 3 years of 30th August 2017.
2. Development in accordance with approved plans PL-101A,103B, 104A, 105A, 111A,112A, 113A, 114A.
3. Development shall be completed with external materials of similar appearance to existing building.
4. Prior to occupation of first floor flats the Local Authority should be notified of full postal address.
5. Prior to occupation of first floor flats the residents should be notified of an entitlement of car parking permit.
6. Prior to occupation of first floor flats the residents car parking provision should be in place.
7. Prior to occupation of first floor flats the residents secure covered and lockable cycle parking provision should be in place.
8. Electric gates off Crown Street should be in place.
9. No demolition should take place without submission of method statement to Local Planning Authority.
10. No demolition should take place without submission of scheme for the protection of noise to residents from ground floor use to Local Planning Authority.
11. No mechanical plant should be installed until a noise assessment has been submitted to Local Planning Authority.
12. Prior to occupation an odour assessment and detailed odour management plan submitted

APPENDIX: