BUILDING REGULATIONS & CONSTRUCTION NOTES.

- All work to be carried out in a workmanlike manner and in accordance with current British standards codes of practice including BS 8000 and building research digest papers and to the approval of the local authority or consulting BCO, statutory undertakers and other relevant authorities.
- It is the responsibility of the contractor to ensure that all their work is in compliance with the relevant Building Regulations and other allied legislation. The contractor is to make application for, and provide all new services in accordance with the statutory undertakers requirements.
- All materials shall be suitable for the purpose intended and be used strictly in accordance with manufacturers recommendations and with relevant British standards.
- Structural calculations / designs supplied by AED should be checked by BCO or consulting
- Restrictive covenants: It is the owner occupiers responsibility to check any restrictive covenants written into title deeds / lease and to notify the appropriate authority of any proposed works within the terms and conditions.
- All works carried out are subject to Building Control, Party Wall & Water Utilities Build Over agreements, unless instructed, it is the clients responsibility to notify the relevant authorities and apply for all approvals.
- ALL DETAILS SUPPLIED ARE BASED ON TYPICAL SITE CONDITIONS IN THE AREA, NO RESPONSIBILITY CAN BE ACCEPTED FOR ABNORMAL CONDITIONS BEING DISCOVERED DURING CONSTRUCTION, UNLESS REPORTED AT THE TIME, SO THAT DESIGN MODIFICATIONS CAN BE CONSIDERED PRIOR TO COMMENCING CONSTRUCTION
- ALL LEVELS AND DIMENSIONS TO BE CHECKED AND CONFIRMED ON SITE BY THE CONTRACTOR.
- Details not included in this drawing set: M & E drawings and specification, details to be supplied by specialist contractors appointed by the client or project manager.

Foundations:

trees.

Existing Foundations to be exposed and checked for suitability to carry additional loadings and confirmed sufficient by either Building Control or Structural Engineer. Prior to commencement of All new & existing foundations are subject to exposed ground conditions, desiccation & drain inverts.

Min Depth 1.0m x 0.6 wide Actual depth to be agreed on site by building control.

Where new foundation abuts existing new foundation to be toed under existing by min 200mm. and be min 300mm deeper than drain inverts, or 600mm roots encountered whichever is deeper

Install Claymaster Board to Inside Perimeter of New Foundations no closer than 500mm from the base of the foundation.

Refer to NHBC Part 4 Foundations: 4.2 Building near trees, Table 15 High shrinkage soil and moderate water demand. Mature height broad leaf & coniferous

Where Foundations are eccentrically loaded to be Min 600mm Wide & 300mm below any roots encountered.

Damp courses & membranes: Unless otherwise stated use Ruberoid 'Hyload' pitch polymer DPC installed in accordance with the manufacturers instructions, the BBA Certificate No86 /1770 and to BS 8215:1991, BS 8000 part 3: 1980, BS IDD86 part 1:1983 to all brick and block walls min 150mm above ground level. To all corners and laps, proprietary adhesive tape or glue to be used. Pre formed Hyload, or similar approved trays to all cavity bridges as necessary fully in accordance with manufacturers instructions.

Any ground floor slab membrane to be fully lapped with DPC. To all jambs and cills provide insulating cavity closers/dpc's, use suitably section 'Thermbate' or similar approved, fitted in accordance with manufacturers instructions. alternatively inner leaf to close cavity at jambs and provide insulated DPC to prevent cold bridging.

New Drainage Network: Surface & Foul water to discharge into existing drainage network.

Fully investigate existing drainage prior to commencement of work to ascertain suitability of new drainage proposals. All drainage whether or not varying from that indicated on this drawing set, to be approved by the local authority or consulting BCO.

Laying Pipe-work

All below ground pipe work shall supported throughout its length (bricks, blocks or other hard materials should be used as temporary supports to achieve the correct gradient). Depressions should be formed where necessary to accommodate pipe joints. Granular bedding material should comply with the requirements of BS EN 13242, BS 5955 and BS EN752. Rigid pipes of 100mm and 110mm nominal flexible pipes should have granular bedding

material to BS EN 13242 of 2 /10 mm pipe bedding gravel. Proprietary pipe systems should be bedded and supported in accordance with the manufacturers 150mm & 100mm Drains to be surrounded with 10mm pea gravel to a thickness of 100mm all around

the drain. Pipes should have flexible joints, installed in accordance with the manufacturers recommendations. Side fill and backfill should be placed as soon as the pipes have been bedded, jointed and inspected. For proprietary systems, side filling and backfilling should be carried out in accordance with the

manufacturers recommendation General backfill should be free from Boulders, Building rubble, timber and vegetable matter. Backfill should be placed in layers not deeper than 300mm, and should be well compacted. Mechanical compacting should only be used when backfill is at least 450mm above the crown of the pipe.

Manholes & Access Chambers:

Clay bricks should comply to BS 3921 and be of low salt content, have a compressive strength of 50N/mm² and have water absorption not exceeding 7%. Engineering bricks are suitable. Concrete blocks should comply to BS 6073 and have a compressive strength of 40N/mm², min cement content of 350Kg/m³ for foul drainage.

New sanitary fittings to Gravity discharge into existing drainage network.

All new fittings in UPVC, to have 75mm deep self resealing traps and to have roding access at all right angles and the following minimum waste pipe diameters: Sinks 40mm, Wash hand basins 32mm, WC's 100mm. Any new stub stacks required to be min 100Ø and terminated in a pressure relief valve. SVP to be 110Ø UPVC and terminated 900mm above nearest adjacent window opening with proprietary mesh guard, or internal durgo valve. Wrap internal SVP's in min 50mm mineral wool insulation to provide sound insulation, and construct boxing where necessary, incorporating 2 layers of 12.5mm plasterboard and skim finish. Allow roding access at all bends. NOTE: Gravity drainage to comply with Approved document H1 Section 1 of the building regulations & BS EN 12056.

Roof: Flat Cold Deck Roof

SIGNATURE AA Fire Rated Cap Sheet over 3 Layer Mineral Felt

| 18mm WBP Plv Ensure a min air gap of 50mm between top of insulation and underside of Ply deck

1:80 or 0.72° Firings 175mm x 50mm Grade C24 Joists on 400mm Centres

120mm Kooltherm Thin-R FR insulation Between Joists 50mm Kooltherm Thin-R FR insulation Under Joists

vapour barrier 12.5mm Gyproc Duplex PB & 3mm skim

U-Value 0.17 W/(m²K)

Note: Install Glidevale Flat Roof ventilators to provide at least equivalent to a 5mm continuous strip.

Holding down of roofs To prevent uplift roofs should be provided withholding down straps at 1 meter centres where the roof members bear on the supporting wall. straps should have a minimum cross section of 30mm x 2.5mm, be 1 meter long and have min 3 fixings to the wall.

Where roofs abut vertical wall, flashing should be tucked 25mm into a brick joint or chase not less than 150mm above the intersection with the roof. Flashing's & soakers should be of non ferrous metal & made of the same material to avoid electrolytic action. flashing's gutters & saddles, etc should be Code 4 or better.

Double Rafters and Joists.

Bolt together with M12 Studs & 62 diameter toothed connectors, centres to be 4X depth of the member, staggered 50mm above & below the centre line.

Holding down of roofs: To prevent uplift roofs should be provided withholding down straps at 2 meter centres where the roof members bear on the supporting wall. straps should have a minimum cross section of 30mm x 2.5mm, be 1 meter long and have min 3 fixings to the wall.

Flashing's and soakers: Where the roof abuts a vertical wall, flashing's should be tucked 25mm into a brick joint or chase not less than 75mm above the inter section with the roof. flashing's and soakers should be of non ferrous metal and made of the same material to avoid electrolytic action. Where lead is used soakers should be at least code 3 and flashing's gutters and saddles, etc should be code 4 or better.

Walls:

New Cavity Walls 8 Courses of class b engineering bricks or foundation grade block-work up to damp course.

Outer masonry leaf Matching stck brickwork,

110mm cavity = 35mm un-vented cavity & 75mm Kingspan Kooltherm K108 insulation board.

250mm double triangle S/stl wall ties and retaining clips BBA approved, Wall ties to be installed in accordance with NHBC guidelines = Max horizontal spacing 900mm Max vertical spacing 450mm, windows doors & expansion joints 225mm not more than 300mm Top of Gables 225mm parallel to the top of the wall not more than 300mm.

Inner masonry leaf 100mm Thermalite shield aerated block-work or equivalent aerated blocks with a minimum compressive strength of(4N/mm²) 12.5mm Gyproc DUPLEX plasterboard on dabs and plaster skim.

U-Value = 0.18 W/(m^2K)

Install new DPC Min 150mm above external finished ground level. Cavity fill insulation to terminate Min 225mm below the DPC

Install DPC to Underside of Copings

Lintels to window openings:

Use appropriate sized CATNIC lintels suitable for cavity walls or specified beams. Install Cavity Trays, DPC's & Weep Holes to Manufacturers Recommendations. NOTE: Weep holes are required where render is returned back onto the window/door frame at the head of an opening. Weepholes are not required where the render is not returned or only

returns to the toe of the lintel, leaving the underside of the lintel exposed Where new brickwork abuts existing, secure to existing brickwork with Simpson Strong-Tie

C2K Crocodile wall extension profile.or equivalent BBA approved connector (ie FURFIX). Install to manufacturers recommendation.

Internal stud partition walls:

Stud wall to be min ½ hour fire rated, 100x50 studs at 500mm centres with same size head and sole plates. Provide 2 rows of noggins and infill with 100mm of mineral wool insulation, all openings to be double trimmed. Dry line both sides with 12.5mm plaster board all joints to be taped

and 3mm skim coat NOTE: any load bearing stud partitions or stud partitions that carry wall hung appliances or cabinets to be lined with min 18mm ply.

Floor:

New Suspended Block & Beam Ground Floor Build up: 65mm concrete screed,

0.5mm Polythene Separation Layer

80mm Kingspan Kooltherm K103 Insulation with 25mm vertical edging insulation125mm deep.

0.9mm DPM between underside of Insulation and top of BB Floor. Bison Beams Products block and beam flooring system

150 Beams (BT02) with (650Kg/m³) Blocks spaced as detailed. (refer to product load span table) Min 150mm ventilation gap.

$U-Value = 0.17W/(m^2K)$

Under Floor Ventilation: (use brick or telescopic ventilators) Voids to be ventilated by not less than 1500mm² Per meter run of external wall. Ventilators to be spaced at not more than 2m centres & within 450mm of each end of any wall. Vent & Air Bricks to be ducted through cavities and be unobstructed. Ensure all existing air bricks & ventilators are clear and free of debris.

Windows & Doors:

UPVC Windows & Aluminium Doors to match existing. All glazing to conform to BS 6206 & Parts N & L1B of the building regulations.

U-Value not to exceed 1.4W/m²K Windows & Doors to provide min 8000mm² trickle ventilation. All new glazing to incorporate Low-E glass with a min 16mm gap between panes to Windows to achieve WER band B or better or

1.4W/m²K max. Doors with > 60% glazing Band C or Better NOTE: building control may require SAP report for heat loss calculations (not supplied by AED). Emergency egress windows to have min clear area of 0.33m² and be a minimum 450mm high and wide, bottom of opening to be a maximum 1100mm above finished floor level.

Purge ventilation to habitable rooms through windows openable by 30° or more, the height x width of the window is to be at least 1/20th of the room floor area; windows openable by less than 30° to have a height x width of at least 1/10th of the room floor area. All doors with glazing in critical areas as defined by approved document N to be fitted with safety glass to BS 6206 1981. provide 10mm gap to underside of internal doors to aid air circulation. Provide horizontal and vertical DPC's to all

Services:

window and door openings

Incoming services (where applicable): Actual routes for incoming services to be agreed on site prior to installation. All electrical / water installations to be in accordance and to comply with current IEE regulations and electricity / water authority reguirements and bylaws. Electrical mains supply to be run to wall mounted meter box. location to be agreed with service supplier. Electrical sub contractor must ensure that sub mains lengths to consumer units comply with IEE Regulations. Incoming water supplies to be run within insulated duct and terminated with a stopcock below kitchen sink. Incoming gas supplies to run to meter box - to be relocated as agreed with service provider. All new connections to EMGAS approved standards. Routes for incoming BT / Cable to be agreed on site. The contractor must insure that existing services located on the site are

decommissioned and made safe prior to beginning works.

Electrical / Lighting: All new electrical work is to be designed, installed, Inspected and tested in accordance with BS 7671

(I.E.E Wiring regulations 16th edition) They are to be undertaken by an installer registered under a suitable self certification scheme, or Iternatively by a suitably qualified person, with a dertificate of compliance produced by that person to building control on completion of the works. All switches and sockets to be positioned between 450mm and 1200mm above floor level to comply with approved document M of the building regulations.

All lighting points are to be provided with bulbs or tubes. Reasonable provisions should be made for the dwelling occupiers to obtain the benefits of efficient lighting in line with the domestic building compliance guide. Provide low energy light fittings that number not less than three per four of all light fittings in the main dwelling spaces of the areas

affected by the building work (excluding cupboards and storage areas). Each energy efficient fitting to only take lamps having a luminous efficacy of greater than 45 lumens per circuit watt and a total output of greater than 400 lamp lumens. Light fittings whose power is less than 5 circuit watts are excluded from the overall count of total number of light fittings.

Ensure that lights installed do not affect the relevant requirements for thermal performance sound attenuation or fire safety.

Smoke Detectors: (SD)

Min. 1 per storey to be a maximum 7m away from kitchens and a maximum 3m away from bedrooms. Detectors should be interconnected and should be permanently wired to a separate fused circuit board by a low voltage transformer. All wiring to conform to IEE regulations. Detectors should be easily accessible and located at least 300mm from walls and light fittings, located in circulation areas. All smoke detection to be designed and installed in accordance with BS 5839 Part 6: 2004.

<u>Heating:</u>

Gas central heating and hot water to comply to the domestic building services guide. and in particular, new / replacement gas boiler to have an efficiency rating of not less than 88% (under SEDBUK 2009), or not worse than 2% lower than the existing boiler being replaced with responsibility resting on the installer. New radiators to be fitted with thermostatic valves. All pipes within 1m of a hot water cylinder to be foam lagged. Cylinder discharge pipes to be protected with a wire cage. On completion of installation, the heating system and cylinder are to be inspected and commission. Self certified persons undertaking

this work must provide a 'commissioning certificate' The owner / occupier to be given a set of operating and maintenance instructions of both systems.

Gas Safety (installation and use)

a) gas fittings, appliances & storage vessels must only be installed by a person with the required competence and b) any person having control to any extent of gas work must ensure that the person carrying out

- that work has the required competence and c) any gas installation business, whether an employer or self employed, must be a
- member of a class of persons approved by the HSE; for the time being this means they must be registered with Gas SAFE, Gas Safe register visit
- www.GasSafeRegister.co.uk or call 0800 408 5500
- d) The following information will be required by building control the Gas Safe licence number
- the start and expiry date of the licence

the licence indicates the installer is qualified for the work in hand and the qualifications are up to date. e) these documents can be sent to his office or presented to the inspecting building

control officer.

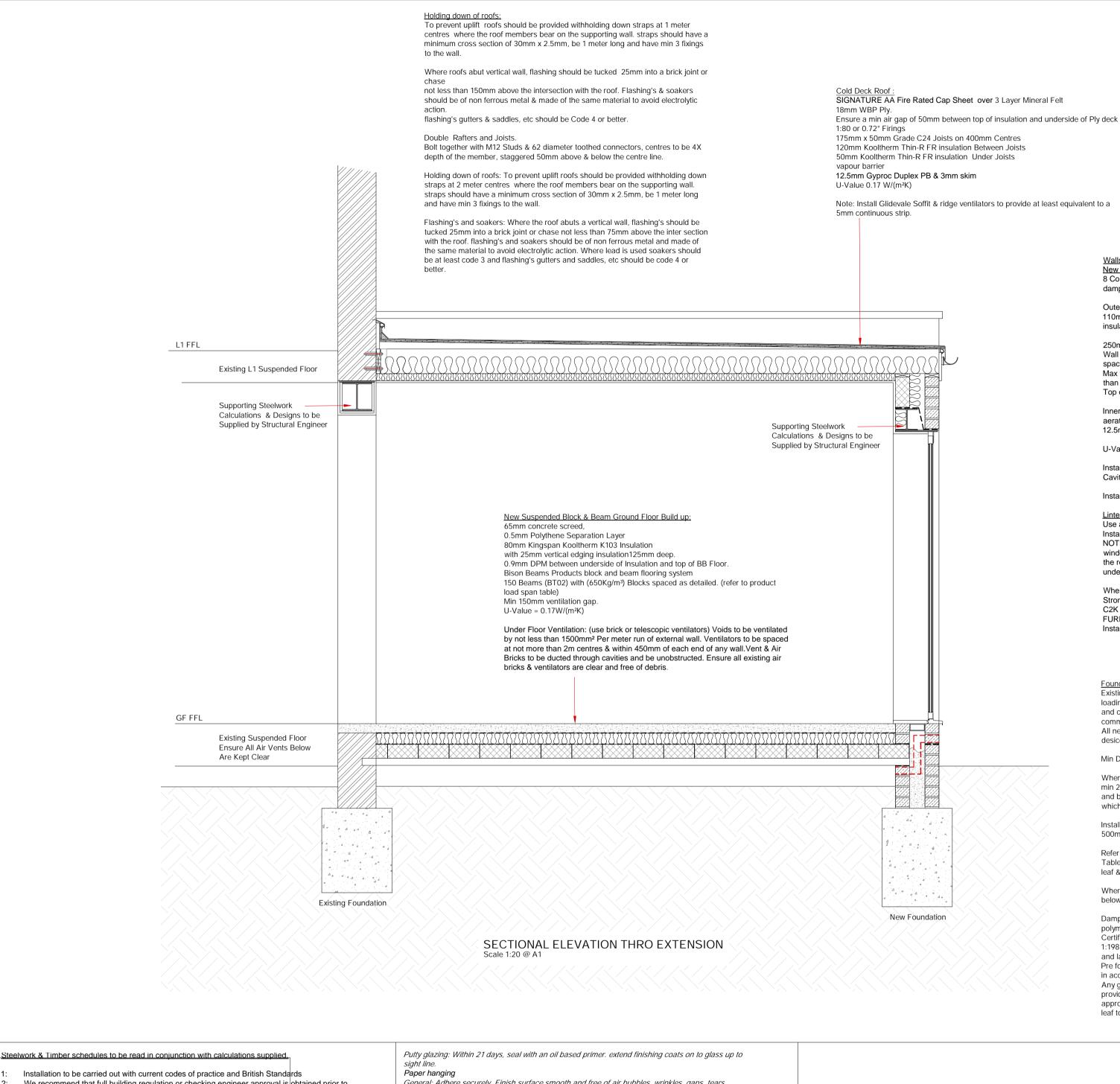
Fire Regulations B1 All Doors Marked FD 30 to be 30mins fire resistant & fitted with self closing hinges & intumecent seals tested to BS: 476 - 22: 1987.

Ventilation

Extract ventilation to outside is required in each kitchen, utility & bathroom and for sanitary accommodation. the extract rate can be either intermittent or continuously operating. the min airflow rates at the highest & lowest settings should be no less than specified in Doc F1 table 1.1a of the building regulations. GF WC Ventilation

Install fan with 6L/s extract rate to be manually controlled by light switch & have a

15 minute overrun.10mm air inlet gap at foot of door required.						
	Rapid Ventilation	Background Ventilation	Fan Extract Rates			
Habitable Rooms	1/20th Floor Area	8000mm2				
Kitchen	Unsized	4000mm2	30I/s Adjacent to hob or 60I/s elsewhere			
Laundry	Unsized	4000mm2	30I/s or PSV			
Ground Floor WC	Unsized	4000mm2	Fan @ 6l/s			
Shower / Bathrooms	1/20th Floor Area	4000mm2	Fan @ 15l/s			



- 2: We recommend that full building regulation or checking engineer approval is obtained prior to 3: All dimensions used in these Drawings are for design purposes only and should not be used
- for setting out on site or for ordering steelwork. Site survey by fabricator required prior to manufacture and any discrepancies reported to AED for further checking. 4: Any alterations to specified beams & structural members to be checked &
- confirmed by suitable by design engineer or building control prior to installation. 5: The Contractor is to survey the existing structure and provide all temporary works necessary to ensure stability during modification works.
- 6: All structural steelwork to be rust free, and have zinc phosphate primer with a coating of chlorinated rubber paint*. Corrosion coatings to be applied prior to installation and any drainage made good after installation. The UC's & UB's* to be surrounded with 12mm thick supalux* boarding, or 2 layers of plasterboard to afford 60 minutes resistance to fire. 7: Provide / ram a minimum 25mm non compressible material
- (dry-pack) in between the top flanges of the new steelwork and the underside of any disturbed 8: New Loft Steelwork and Joists, ensure there is a min gap of 20mm between the underside of the structural members and the existing ceiling below.
- Decoration: Paints and primers Undercoats & finishing paints: To BS 7664 Aluminium primers for resinous woods: To BS 4756
- Primers for wood; To BS 7956 Coating systems for exterior wood: To BS EN 927 Coating systems for external masonry: To BS EN 1062
- Biocides: listed in health and safety executive (HSE) pesticides, Part B as surface biocides. 2. Execution

Preparation Generally

1. Products

Biocides

is drv.

bare areas.

Coatings:

- Preparation in accordance with BS 6150. Substrates: sufficiently dry in depth to suit coating. Efflorescence salts, dirt, grease, oil, corrosion, loose and flaking material: Remove. Surface irregularities (including plaster nibs, trowel marks and splashes): Abrade to a smooth finish. lightly round arises. Joints, cracks, holes and other depressions: Fill with stoppers or fillers. Abrade to a smooth finish. Remove residues. Existing fixtures, fittings and iron mongery, refit when decoration
- Doors, opening windows and other moving parts: Ease if necessary before coating. Prime resulting wood resinous areas and knots: Apply two coats of Knotting.
- Priming Coats: Apply as soon as possible on same day as preparation is completed. Concealed joinery surfaces: After priming, apply additional coatings to surfaces that will be concealed when component is fixed in place.
- Finish: Even, smooth and of uniform colour. Free from brush marks, sags runs and other defects. Cut Bead glazing to coated timber: Apply first two coats to rebates and beads before glazing.

- General: Adhere securely. Finish surface smooth and free of air bubbles, wrinkles, gaps, tears, adhesive marks and stains. joint s truly vertical or horizontal, and straight.
- Linings: set out joints transverse to direction of coverings, with neat butt joints. • Drying period: leave for 24 hours before hanging coverings.
- Colour consistency: check before hanging each length and after hanging
- three lenaths. • Hanging lengths: Hang wall coverings vertically. Hang ceiling coverings parallel to main window wall.
- Joints: hang lengths with neat butt joints.

PLEASE NOTE FOUNDATION & SUPPORTING STEELWORK LAYOUTS ARE PRELIMINARY DESIGNS AND TO BE CONFIRMED & FINALISED BY STRUCTURAL ENGINEER WHEN PLANNING PERMISSION HAS BEEN APPROVED.

New Cavity Walls

8 Courses of class b engineering bricks or foundation grade block-work up to damp course.

Outer masonry leaf Matching stck brickwork, 110mm cavity = 35mm un-vented cavity & 75mm Kingspan Kooltherm K108 insulation board

250mm double triangle S/stl wall ties and retaining clips BBA approved, Wall ties to be installed in accordance with NHBC guidelines = Max horizontal spacing 900mm Max vertical spacing 450mm, windows doors & expansion joints 225mm not more than 300mm Top of Gables 225mm parallel to the top of the wall not more than 300mm.

Inner masonry leaf 100mm Thermalite shield aerated block-work or equivalent aerated blocks with a minimum compressive strength of (4N/mm²) 12.5mm Gyproc DUPLEX plasterboard on dabs and plaster skim.

U-Value = 0.18 W/(m^2K)

Install new DPC Min 150mm above external finished ground level. Cavity fill insulation to terminate Min 225mm below the DPC

Install DPC to Underside of Copings

Lintels to window openings: Use appropriate sized CATNIC lintels suitable for cavity walls or specified beams. Install Cavity Trays, DPC's & Weep Holes to Manufacturers Recommendations. NOTE: Weep holes are required where render is returned back onto the window/door frame at the head of an opening. Weepholes are not required where the render is not returned or only returns to the toe of the lintel, leaving the underside of the lintel exposed

Where new brickwork abuts existing, secure to existing brickwork with Simpson Strong-Tie C2K Crocodile wall extension profile.or equivalent BBA approved connector (ie FURFIX).

Install to manufacturers recommendation.

Foundations

Existing Foundations to be exposed and checked for suitability to carry additional loadings and confirmed sufficient by either Building Control or Structural Engineer. Prior to commencement of works. All new & existing foundations are subject to exposed ground conditions, desiccation & drain inverts.

Min Depth 1.0m x 0.6 wide Actual depth to be agreed on site by building control.

Where new foundation abuts existing new foundation to be toed under existing by min 200mm

and be min 300mm deeper than drain inverts, or 600mm roots encountered whichever is deeper

Install Claymaster Board to Inside Perimeter of New Foundations no closer than 00mm from the base of the foundatior

Refer to NHBC Part 4 Foundations: 4.2 Building near trees, Table 15 High shrinkage soil and moderate water demand. Mature height broad leaf & coniferous trees.

Where Foundations are eccentrically loaded to be Min 600mm Wide & 300mm below any roots encountered

Damp courses & membranes: Unless otherwise stated use Ruberoid 'Hyload' pitch polymer DPC installed in accordance with the manufacturers instructions, the BBA Certificate No86 /1770 and to BS 8215:1991, BS 8000 part 3: 1980, BS IDD86 part 1:1983 to all brick and block walls min 150mm above ground level. To all corners and laps, proprietary adhesive tape or glue to be used. Pre formed Hyload, or similar approved trays to all cavity bridges as necessary fully

in accordance with manufacturers instructions. Any ground floor slab membrane to be fully lapped with DPC. To all jambs and sills provide insulating cavity closers/dpc's. use suitably section 'Thermbate' or similar approved, fitted in accordance with manufacturers instructions. alternatively inner

leaf to close cavity at jambs and provide insulated DPC to prevent cold bridging.

alterd without written perm

0 1 2 3 4 5m							
LINEAR SCALE 1:50							
REV	DESCRIPTIC	DRAWN	DATE				
Address	50 Heath Drive Ware Herts SG12 0RJ						
Project	^{ject} Single Storey Rear Extension & Internal Renovations Sectional Elevation & Construction Notes						
client							
DRG. No	້ 1677-03	Revision					
Date	Sept 2023	Checked					
Scale	1:20 @ A1	Approved					
DRAWN	R. Williams	REF No					
ALL DIMENSIONS IN MILLIMETERS (MM) TOLERANCES UNLESS OTHERWISE STATED DIMENSIONAL ± ALL ANGLES TO BE 90° UNLESS OTHERWISE STATED				0.5mm			
Architectural & Engineering Design							