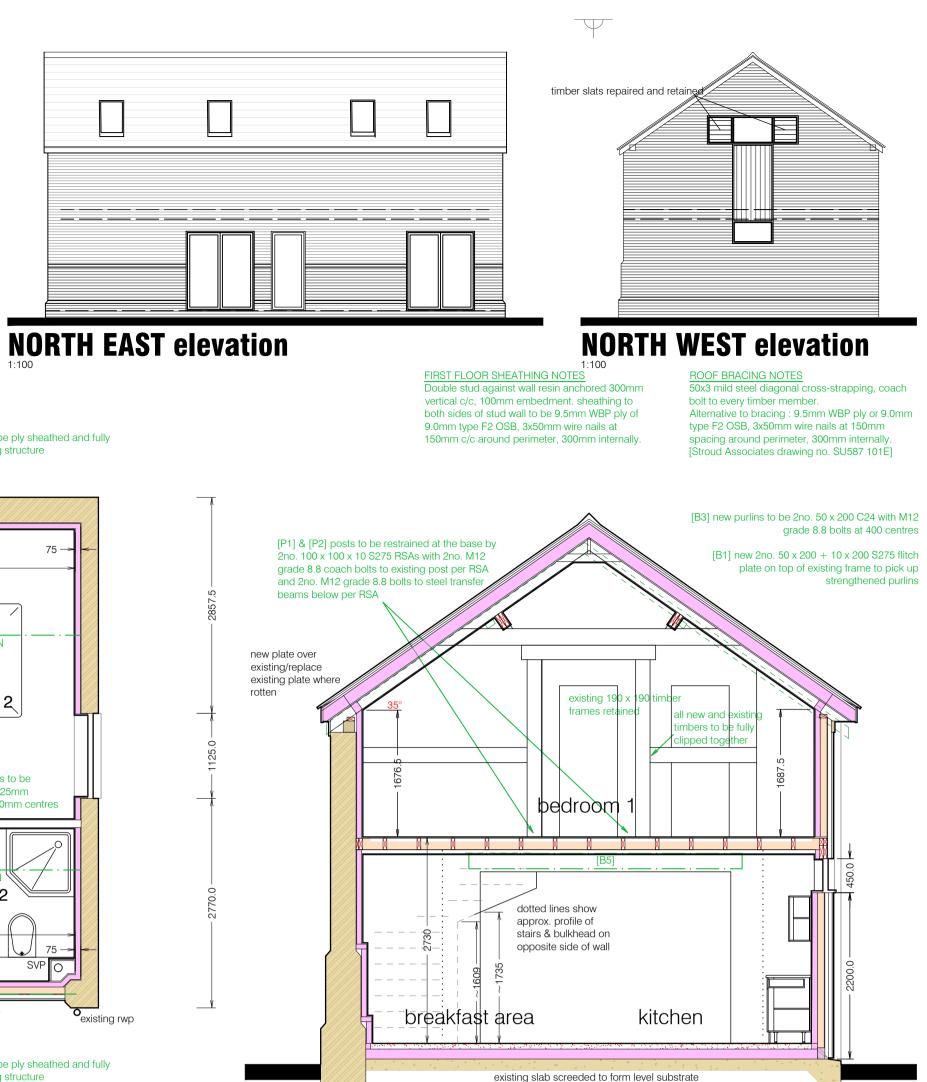
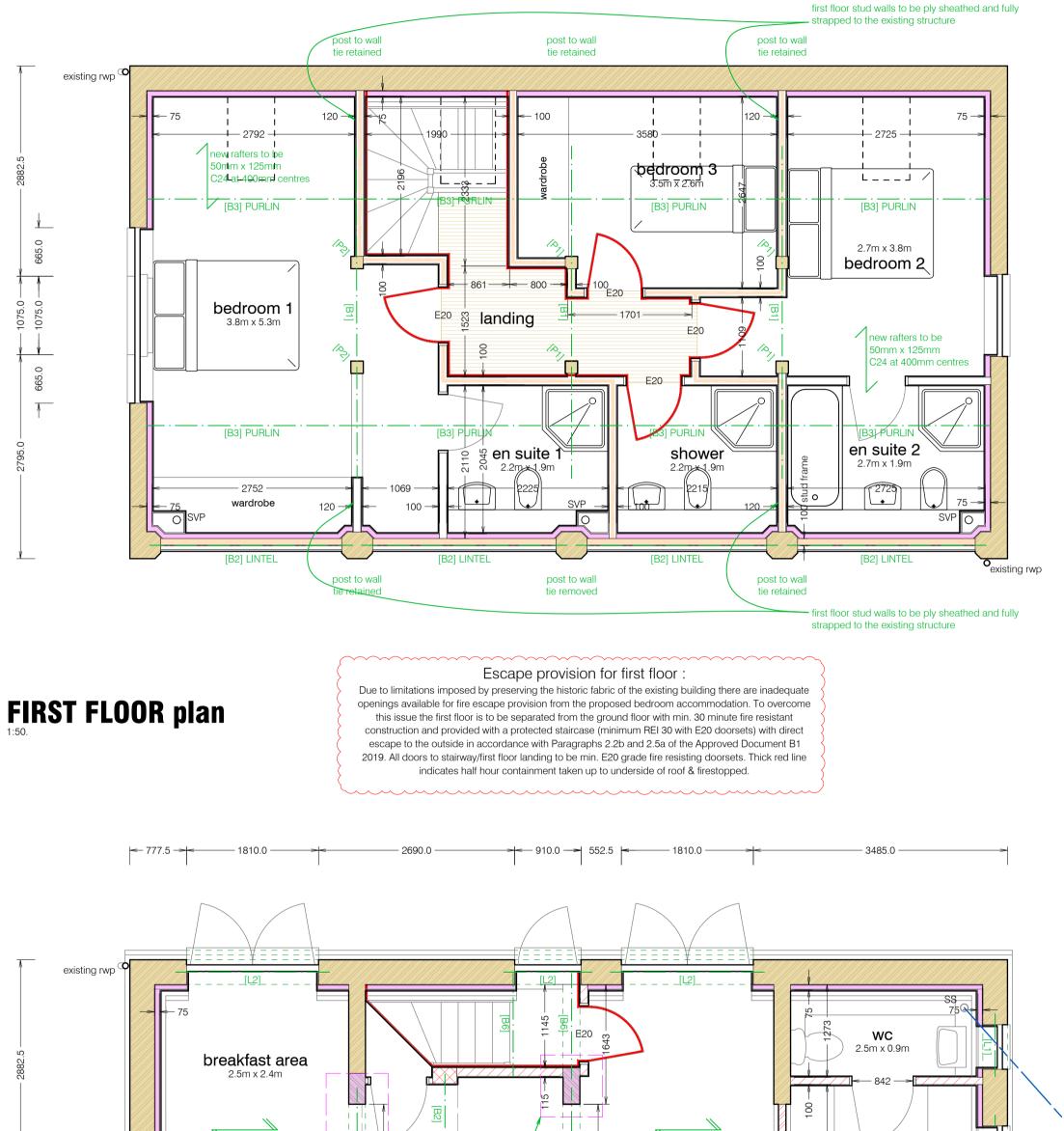


SOUTH EAST elevation



SOUTH WEST elevation



living room

high level window

v 850 x 850 mass concrete pad foundations

all new foundations to be poured up against the

kitchen

2.5m x 3.3n

hah level window

NOTE : low bulkhead, see section

high level window

225mm wide x 425mm long piers to be rebuilt using min. 20N/mm² brickwork or 10N/mm² blockwork and M4 morta [Stroud Associates drawing no. SU587 101E]

cloaks/utility

2.5m x 2.1m

entrance hall

2.6m x 2.1m

high level window

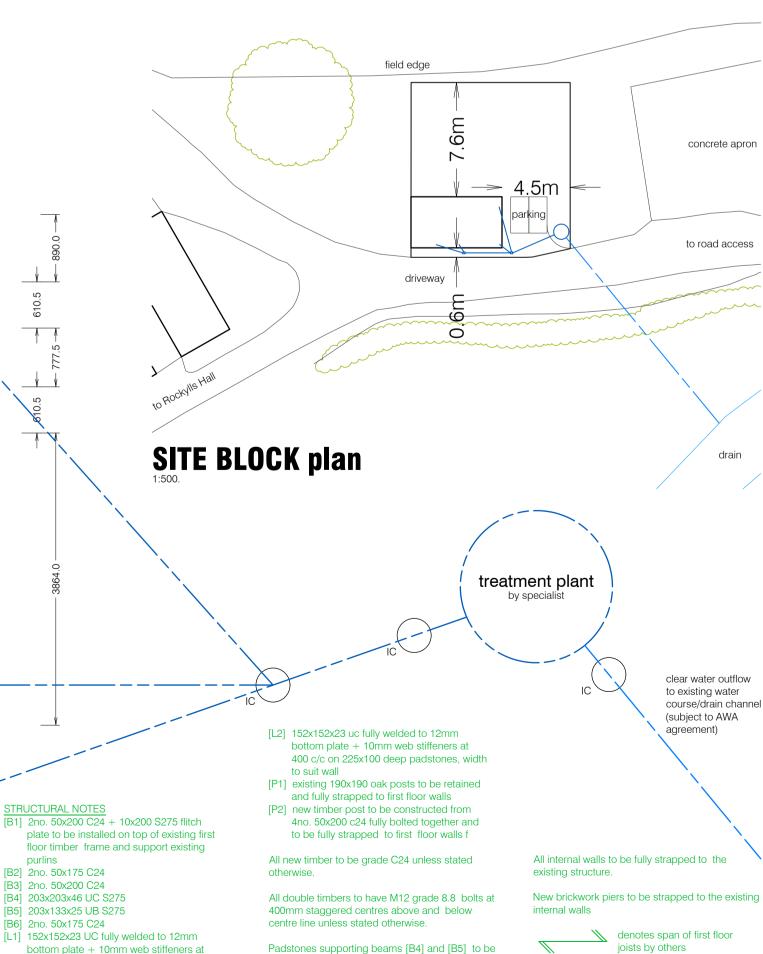
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400 c/c on 225x100 deep padstones, width

to suit wall



min. 225mm long x 100mm deep, width to suit

 \square

existing wall.

joists by others [Stroud Associates drawing no. SU587 101E] ROOF

Approved roof slates (Cupa Pizarras) on 38mm x 25mm treated battens at gauge to suit pitch & tiles (see manufacturer's instructions) on Tyvek SUPRO PLUS reinforced untearable breather type roofing felt (installed in accordance with manufacturer's instructions) on 38mm x 25mm treated counter battens coincident with studs on 150mm Celotex XR4150 with taped joints as VCL on ply sheathing on simple rafters installed all as per Structural Engineer's design, off 100mm x 50mm levelled wall plate on top of existing and tied down at max. 2m centres with 30mm x 5mm galvanised mild steel straps. At gables provide packing spanning min. 3no. joists and 30mm x 5mm galvanised straps at max. 2m centres (at rafter and floor/ceiling joist level). Clad on underside with 12.5mm plasterboard with skim finish. Hybrid warm roof construction requires no ventilation. Eaves & gable joinery to match existing details. All leadwork to be carried out in accordance with the approved details of the Lead Development Association

EXTERNAL BRICKWORK WALLS Existing brickwork to be repaired & repointed with lime mortar to match.

New injected dpc to be installed and certified by approved specialist. Provide Celotex PL4065 laminated 12.5mm plasterboard/65mm insulation on dabs with additional mechanical fixing (nom. 10mm dabs) with skim finish.

EXTERNAL STUDWORK WALLS (GROUND FLOOR)

Existing doors to be re-used as external cladding (recommend removal of existing OSB board lining as this may form a moisture trap reducing lifespan of doors). New infill walls in pre-fabricated or site erected 90mm deep panel structure comprising 90mm x 45mm regularised (or 100mm x 50mm) treated softwood (C24) studs at max. 400mm centres and 90mm x 45mm regularised (or 100mm x 50mm) treated softwood (C24) noggins at max. 600mm centres all off 90mm x 45mm regularised (or 100mm x 50mm) treated softwood (C24) sole plate with matching head plate. Sole plate levelled & bedded in mortar on engineering brickwork upstand & tied down at max. 2m centres with 30 x 5 galvanised steel straps. Finish externally with existing doors modified to suit opening on 50mm x 50mm treated softwood battens coincident with studs on Tyvek Housewrap or similar breathable vertical vapour barrier installed strictly in accordance with manufacturer's instructions on 10mm WBP sheathing ply well fixed to stud frame. Stud frame to be lagged with 90mm Frametherm mineral wool batts (or suitable alternative) between studs with 500g polythene dpm internally. Finish internally with mechanically fixed Celotex PL4065 laminated 12.5mm plasterboard/65mm insulation and skim. All loadbearing elements of structure including walls, lintels & beams to be clad with min. 12.5mm plasterboard with taped joints & skim finish to achieve min. 30 minutes fire resistance.

EXTERNAL STUDWORK WALLS (FIRST FLOOR) Existing infill studwork to be replaced.

New infill walls in pre-fabricated or site erected 90mm deep panel structure comprising 90mm x 45mm regularised (or 100mm x 50mm) treated softwood (C24) studs at max. 400mm centres and 90mm x 45mm regularised (or 100mm x 50mm) treated softwood (C24) noggins at max. 600mm centres all off 90mm x 45mm regularised (or 140mm x 50mm) treated softwood (C24) sole plate with matching head plate. Provide a continuous cavity barrier around all openings (e.g. RMC Thermabate 50). Finish externally with approved treated softwood weatherboarding to match existing on 50mm x 50mm treated softwood battens coincident with studs on Tyvek Housewrap or similar breathable vertical vapour barrier installed strictly in accordance with manufacturer's instructions on 10mm WBP sheathing ply well fixed to stud frame. Stud frame to be laced with 90mm Frametherm mineral wool batts (or suitable alternative) between studs with 500g polythene dpm internally. Finish internally with mechanically fixed Celotex PL4065 laminated 12.5mm plasterboard/65mm insulation and skim. All loadbearing elements of structure including walls, lintels & beams to be clad with min. 12.5mm plasterboard with taped joints & skim finish to achieve min. 30 minutes fire resistance.

FIRST FLOOR

Selected floor finish on 22mm moisture resistant Type II/III V313 flooring grade chipboard (with mass per unit area of 15kg/m², all joints glued, boards fixed with ring shank nails in accordance with NHBC and manufacturer's instructions) on 150 x 50 C24 joists at max, 450mm centres with treated softwood perimeter noggin to support floor edges and bracing/strutting in accordance with manufacturer's/supplier's instructions.

Ends of joists on joist hangers or built into wall. Solid treated softwood packing spanning min. 3no. joists and 30mm x 5mm galvanised straps built into wall at max. 2m centres (at rafter and ceiling joist level). Double joist trimmers to stairwells, tripled up joists under partitons and doubled under baths. Clad on underside with 12.5mm plasterboard & skim.

Provide min. 100mm min. 10kg/m³ density mineral wool between joists.

Underfloor heating installed in accordance with manufacturer's instructions (consider using spacing battens to top or underside of joists to allow pipes to pass between joist pairs without need to penetrate joists and simplify installation)

EXTERNAL OPENINGS

All windows & doors to be glazed with min. 26mm Low-'E' double glazed units (max. U-value 1.4W/m².K). Toughened safety glass to be fitted to all glazed doors, any glazing within 300mm of doors and window panels with an internal sill height less than 800mm above finished floor level. All frames mechanically fixed to the structure in accordance with manufacturer's instructions to be set so that rear of frame overlaps insulation by min. 30mm (adjust sill depth accordingly)

All doors and windows to be draught stripped. All frames to be sealed to construction with mastic beac externally and internally. All door/window furniture and ironmongery to be provided. All external openings at ground floor to meet requirements of Approved Document Part Q for security: Secure doorsets should be manufactured to a design that has been shown by test to meet the security requirements of British Standards publication PAS 24:2012 or to requirements set out in Approved Document Q Appendix B or to the requirements of STS 201 Issue 5 2013 LPS1175 Issue 7 2010 security rating 2, STS 202 Issue 3:2011 burglary rating 2 or LPS 2081 Issue 1:2015 security rating B or better. Front entrance door to be fitted with letter plate with a maximum aperture no larger than 260mm x 40mm located to prevent anyone from removing keys by insertion of hand or stick, a door viewer to be able to see callers and a door chain or door limiter. Any glazing which, if broken, would permit someone to insert their hand and release the locking device on the inside of the door should be a minimum of class P1A in accordance with BS EN356:2000. Secure windows to all ground floor windows should be manufactured to a design that has been shown by test to meet the security requirements of British Standards publication PAS 24:2012 or to the requirements of STS 204 Issue 3:2012, LPS1175 Issue 7:2010 security rating 1, LPS 2081 Issue 1:2015 security rating A or better. Handing of units to be determined from plans.

GROUND FLOOR Retain existing concrete slab.

engineering brick plinth

fillet disguised by doors

(min. 10mm air gap with

insect/vermin mesh)

between piers with cemen

Install new floor comprising min. 75mm cement & sand screed (either fibre reinforced or reinforced in lower half with chicken wire) with min. 25mm resilient perimeter insulation on 500g polythene vapour barrier on min. 120mm flooring grade Celotex or similar insulation on 1200g polythene dpm lapped 300mm at edges and taken up around perimeter & bonded to dpc zone around perimeter on existing slab levelled with compacted sand or sand & cement or similar approved levelling screed. Underfloor heating installed in accordance with manufacturer's instructions.

0720 0000

STAIRCASE - note staircase changed to a W4W4 format shed Ground Floor to Finished First Floor (and

Fillished Glound F	1001 to Finished First Floor (approx.)	2730.011111	
13no. Risers at		210.0mm	
Going		235.0mm min.	
Width between Ha	ndrails	800.0mm min.	
Handrail Height	above flights	900.0mm	
	above landings	1000.0mm	

Min. Headroom 2000.0mm clear Timber construction : No opening in construction large enough to allow a 100mm diameter sphere to pass through, balustrading constructed so that it cannot be easily climbed. All clad on underside with 12.5mm plasterboard & skim coat plaster.

INTERNAL PARTITIONS GROUND FLOOR : 100mm medium density block work off floor slab with render & skim finish both

FIRST FLOOR : 100mm x 50mm treated softwood studs at 400mm centres with noggins at 600mm centres off 100mm x 50mm treated softwood top & bottom plates clad both sides with 15mm plasterboard with skim finish. Provide min. 25mm thick min. 10kg/m³ density mineral wool batts well packed between studs to ensure acoustic insulation. Double joists & noggins under partitions.

INTERNAL OPENINGS

If any internal doors are to be glazed these are to be fitted with toughened safety glass as well as any glazing within 300mm of doors and window panels with an internal sill height less than 800mm above finished floor level. Opening sizes are nominal and should be adjusted to suit selected product & installation method. Handing of units to be determined from plans. All ironmongery to be approved by Client, provided and installed by Contractor.

ELECTRICAL

All relevant electrical work to meet the requirements of BS7671 and an electrical certificate to be submitted by a person competent to do so at the completion of the project with all relevant information provided to the home owner. Special care to be taken where electrical cables are laid in insulated zones to avoid overheating (consult "BRE BR 262, Thermal Insulation: avoiding risks, section 2.3" where necessarv).

All services and connections to be carried out in accordance with current appropriate regulations and in accordance with following All light switches & sockets (electrical, TV, telephone etc.) and consumer unit to be set between 450mm

and 1200mm above floor level. Layout of services (including all lights, switches, sockets, TV outlets, telecom etc.) to be established in consultation with Client. Where positioned adjacent to architraves, light switches to be mounted 25mm from edge of architrave to allow architrave to be painted & to ensure a neat appearance. Other electrical & service outlets also to be positioned to allow any skirtings, architraves etc. to be painted and to take into consideration tiling layouts etc. to ensure a neat appearance. Solar Photovoltaic under consideration [tbc].

LIGHTING

Provide all fixed internal lighting outlets throughout that only take lamps having a luminous efficiency greater than 60 lumens per circuit watt (fluorescent tubes or compact fluorescent lamps). Any external lights to be fitted with controls that extinguish lights when there is sufficient daylight or to have a luminous efficiency greater than 60 lumens per circuit watt. Any flood lighting to be installed in consultation with neighbouring properties to avoid anti-social glare issues.

PRIMARY HEATING - ASSUMES ASHP BY SPECIALIST

Specialist designed system (by Integrated Energy Consultants Limited or similar approved) all to be carried out in accordance with 2010 Edition of Approved Document J of Building Regulations 2000 (as amended 2013 with 2016 amendments) and the Domestic Building Services Compliance Guide 2013 (incorporating 2018 amendments). Heating system to be air source heat pump supplying underfloor heating throughout (electric towel rails to be installed in bathrooms, en suites & WC).

VENTILATION

To habitable rooms: Rapid ventilation via opening windows as indicated to achieve min. 1/20th floor area ventilation opening (1/10th floor area if window opens less than 10°). Background ventilation via min. 5000mm² controllable trickle ventilators fitted to head of doors and/or win To kitchen: Rapid ventilation via mechanical extract ventilator capable of extracting air at a rate not less

than 60l/s (or 30l/s adjacent to hob - cooker hood) independent switch operated or PSV by specialist. Background ventilation via min, 2,500mm² controllable trickle vents fitted head of doors and/or windows To utility: Rapid ventilation via mechanical extract ventilator capable of extracting air at a rate not less than 30l/s independent switch operated or PSV by specialist. Background ventilation via min. 2,500mm² controllable vents fitted in window

To bathroom and shower rooms : Rapid ventilation via light switch switch operated mechanical extract vent able to extract at a rate not less than 15l/s with 15 minute overrun or PSV by specialist. Background ventilation via min. 2.500mm² controllable trickle vents through wall or ducted to eaves soff To wc: Rapid ventilation via opening windows as indicated and independent switch operated mechanical extract vent able to extract at a rate not less than 15l/s with 15 minute overrun or PSV by specialist. Background ventilation via min. 2,500mm² controllable trickle ventilators fitted to windows. Ensure min. 7600mm² air gap under doors to maintain cross ventilation throughout (equivalent to nominal 10mm gap). All fans should be so quiet as not to discourage their use by occupants.

The above figures for background ventilation are minimum figures, below is the total background ventilation required for the whole dwelling

	Whole Building (3 bed)	Floor Area 133.7m ²	Total background ventilation requirement (min 93,000mm ²
	Ground Floor	65.8m ²	48,000mm ²
	First Floor	67.9m ²	49,000mm ²
Sc	o, recommend the following a	ctual background	I ventilation provision to each space :
		Floor Area	Total background ventilation requirement (min

Entrance Hall	4.7m ²		8,000mm ²
Living Area/Kitchen/BA	49.8m ²		32,000mm ²
Utility	5.4m ²		4,000mm ²
WC	3.0m ²		4,000mm ²
		Ground Floor Tota	al 48,000mm ²
Landing	67.9m ²		3,100mm ^{2*}
Bedroom 1	20.7m ²		11,100mm ² *
En Suite 1	4.4m ²		6,700mm ²
Shower Room	4.4m ²		6,700mm ²
Bedroom 2	11.6m ²		7,100mm ^{2*}
En Suite 2	5.4m ²		6,700mm ²
Bedroom 3	9.0m ²		9,800mm ^{2*}
		First Floor Total	51,200mm ²

* - 3,100mm² is equivalent area of rooflight ventilation flap, remainder via window head/wall duct (e.g. Rvton LookRvt® AirCore® or similar wall duct 6.700mm²)

WATER SUPPLY

All sinks & basins with cold water taps to be fitted with cold tap providing potable water i.e. direct mains feed (no water softening) Provide calculation sheet confirming water supply is reasonably less than 125 litres per person per day based on installation of certain items. IMPORTANT NOTE TO CLIENT/CONTRACTOR: Should any specified item be substituted for an alternative the performance of the new item is to be fed into the calculation and the adjusted result forwarded to Building Control for approval.

HOT WATER SUPPLY

Hot water to be supplied to any and all washbasins, sinks, showers, baths & bidets. The system shall be designed, constructed and installed so as to resist the effects of temperature or pressure that may occur in normal use or in the event of a reasonably anticipated malfunction. The temperature of the water in any storage vessel should not exceed 100°C and should be fitted with

systems to ensure this. The discharge from any safety devices should be conveyed to a point where it is visible but will not cause danger to persons in or around the building. The hot water supply to any fixed bath shall not exceed 48°C.

FIRE PROTECTION

Install a self-contained fire alarm system at least to the standards of Grade D2 Category LD2 in accordance with the recommendations of BS5839-6 : 2019 with smoke alarms confimring to BS EN 14604, heat alarms conforming to BS5446-2. Self contained heat detector type smoke alarms to be fixed in ground floor hall (1no.), living room (1no.), first floor landing (1no.), heat detector alarm in kitchen (1no.). Self-contained units should be permanently wired to a separately fused circuit in accordance with IEE wiring regs and incorporate a standby power supply of battery backup and fitted min. 300mm from any wall or light fitting. Units to be interconnected so that activation of one unit causes all alarms to sound. Smoke alarms to be within 3m of doors to bedrooms as indicated on floor plans. Habitable rooms at ground floor have external doors. Due to limitations imposed by preserving the historic fabric of the existing building there are inadequate openings available for fire escape provision from the proposed bedroom accommodation. To overcome this issue the first floor is to be separated from the ground floor with min. 30 minute fire resistant construction and provided with a protected staircase (minimum REI 30) with direct escape to the outside in accordance with Paragraphs 2.2b and 2.5a of the Approved Document B1 2019. All doorsets to stairway/first floor landing to be min. E20 grade

Any steel supporting structures to be clad with min. 2no. layers 12.5mm plasterboard with taped & staggered joints & skim finish (or similar approved proprietary board system installed in accordance with manufacturer's instructions) to provide min. 30 minutes fire resistance.

FOULWATER DRAWINAGE : ABOVE GROUND All in approved uPVC system. All wastes to be fitted with anti-siphon traps to dimensions shown below:

, and approved at the system , at the test to be thread that and option happened at the system being				
	pipe Øtrap Ø	ð trap d	epth falls (mm per metre run)
Washbasin	*32/40mm	32mm	75mm	18-22 (1.7m) - 44 (3.0m)
Bidet	*32/40mm	32mm	75mm	18-22 (1.7m) - 44 (3.0m)
WC pan	100mm	100mm	50mm	18-90
Bath	†40/50mm	40mm	75mm	18-90
Sink	†40/50mm	40mm	75mm	18-90
Shower	†40/50mm	40mm	75mm	18-90
Larger diame	eter where bra	anch exceeds	1.7m (up to a	a maximum of 3.0m) tail of trap should be
lengthened b	by 50mm befo	ore increasing	diameter to 4	40mm.
Larger diame	eter where bra	anch exceeds	3.0m (up to a	a maximum of 4.0m) tail of trap should be
lengthened b	by 50mm befo	ore increasing	diameter to \$	50mm.
SVP to be m	in. 100mmØ.	All falls in acc	ordance with	approved document H1 (see table above). Soil
pipe passing through roof to be fitted with weathering slate & durable slate vent (terminating min.				
900mm abov	ve openable v	vindows withir	n 3m). Bases	of soil pipes fitted with rodding access & Easi-ber

Provide access eyes to branch waste pipes at all changes of direction. All pipes to be lagged with min.

50mm thick 10kg/m³ density quilt & lagged with min. 2no. layers 12.5mm plasterboard throughout.

FOULWATER DRAINAGE : BELOW GROUND

Underground foulwater drainage all in approved (BS4660, BS5481) uPVC system. All laid to approved gradients in accordance with approved document H1 on 100mm granular (pea shingle) bed & surround with 100mm granular fill containing no stones larger than 40mm with min. 200mm cover of selected fill (see approved documents H1). All 100mmØ below ground from SVPs fitted with rodding access at base to inspection chambers. Inspection chambers formed with proprietary BBA approved preformed plastic units off 150mm concrete pad (or in accordance with manufacturer's instructions) & constructed so as to contain foulwater under working and test conditions and resist the entry of ground water & rainwater. Generally, inspection chambers to be fitted with covers suitable for pedestrian traffic, those in the driveway to be fitted with covers rated suitable for vehicular traffic. Branches discharging into half round channel at or above the level of its horizontal diameter. Provide three guarter section branch where angle of incoming branch exceeds 45° to direction of channel. Channels and branches benched up at least to the top of the outgoing pipe and at a slope of 1 in 12. Benching rounded at the channel with a radius of at least 25mm. Drains to discharge new specialist installed & commissioned Klargester 6P or similar

STORMWATER DRAINAGE

Re-use existing provision or 112mmØ half round gutters & 63mmØ round down pipes (or similar equivalents) in approved PVC or aluminium system reusing existing underground system if viable or discharging to uPVC underground system installed as for foulwater drainage all discharging to existing water course via approved culvert. Provide rodding access and rainwater shoe at base of down pipes.

ENERGY EFFICIENCY AND INSULATION - LIMITING AIR LEAKAGE

treatent plant discharging to watercourse as indicated (subject to AWA approval).

All construction details to be as detailed on drawing & specification, contractor to ensure continuity of insulation & air tightness to the whole building envelope to avoid cold bridging/condensation issues. All insulation, damp proof membranes, vapour barriers seals & tapes to be installed strictly in accordance with manufacturer's instructions - where these contradict drawing specifications check with architect before proceeding. All works to seal junctions, penetrations, constructions etc. to be monitored and certified by a nominated competent person on site (site manager/supervisor) and suitably recorded for the energy assessor for completion of Energy Performance Certificates, SAP ratings etc. A design energy rating calculation will be prepared by an approved energy assessor based on the adopted drawings/specification. Any changes between the assessed specification and the actual construction (insulation type/thickness, boiler efficiency etc.) must be notified to Energy Assessor to prepare the necessary as built calculations and Energy Performance Certificate to be lodged with Landmark.

ACCESSIBILITY

As the proposal is a barn conversion these are recommendations, not requirements Front entrance door to have flush threshold detail, min. 775mm clear opening width (838mm/2'9" door) and min. 900mm wide ramped access at 1:15 with min. 1200mm long landing at max. 1:20 at access and, if necessary, at 10m intervals (or 5m intervals if access ramping is at 1:12) - access to front door from road or parking space to be level and firm (not gravel) All electrical switches to be between 450mm and 1200mm above floor level.

Ground floor internal doors to have at least 750mm minimum clear opening width (800mm where approach is not direct). Door to primary WC on ground floor should open outwards.

Conversion of barn to dwelling Granary Barn, Rockylls Hall Shelland Green, Shelland Stowmarket, Suffolk IP14 3JF for Mr Joe Cunningham Architectural Consultants Limited



The Old Grain Store Sir Johns Tel: +44 (0) 1284 724044 MS2 Architectural Consultants Limited

Bury St Edmunds Hengrave

Registered in England And Wales Reg. No. 07270890

Revision F - 23 April 2021 Background ventilation specification amended; insulated lining to entrance hall external wall.

Revision E - 01 April 2021 Fire alarm, doors and ventilation notes amended.

Revision D - 23 March 2021 Additional changes applied.

Revision C - 22 March 2021 Discussed changes applied

Revision B - 14 March 2021 Structural engineer's details applied; ninor changes.

Revision A - 11 January 2021 Client requested revisions, generally niahliahted in red.

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23.04.21

1:50 1:500 December 2020

Suffolk IP28 6NB Email: projects@ms2.co.uk (C) VAT Reg. Number 571 3766 26

