Location Plan

Scale 1:1250

N

0 125 METRES

Licence No: 100047474

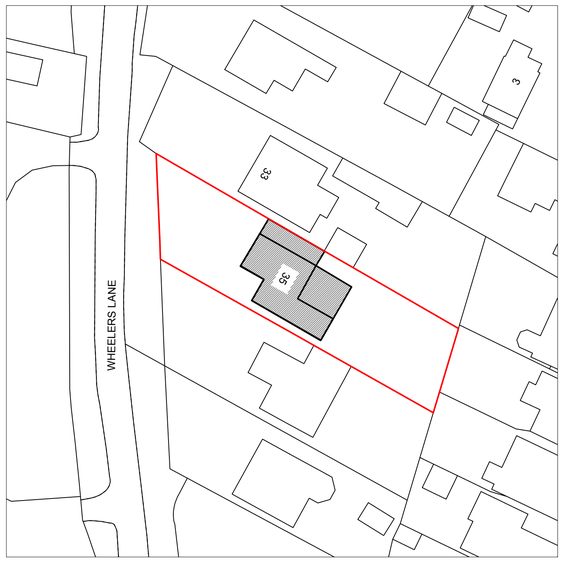
Existing Block Plan

Scale 1:500

Licence No: 100047474

N

0 50 METRES



Proposed Block Plan

Scale 1:500

Licence No: 100047474

N

0 50 METRES

Arkiplan

P: 74 Cardiff Road, CF15 7QE

E: enquiries@ArkiPlan.co.uk

client:
35 Wheelers Lane, Bearwood, Bournemouth, Dorset BH11 9QQ

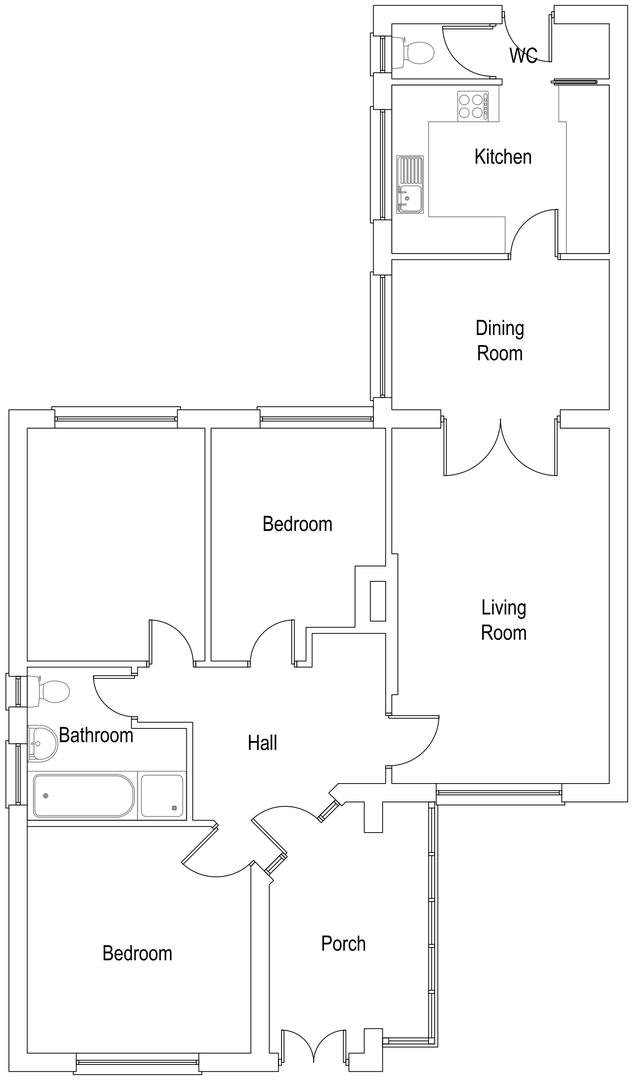
job:
New Extension

drawing title:
As Shown

date:
24 February 2020

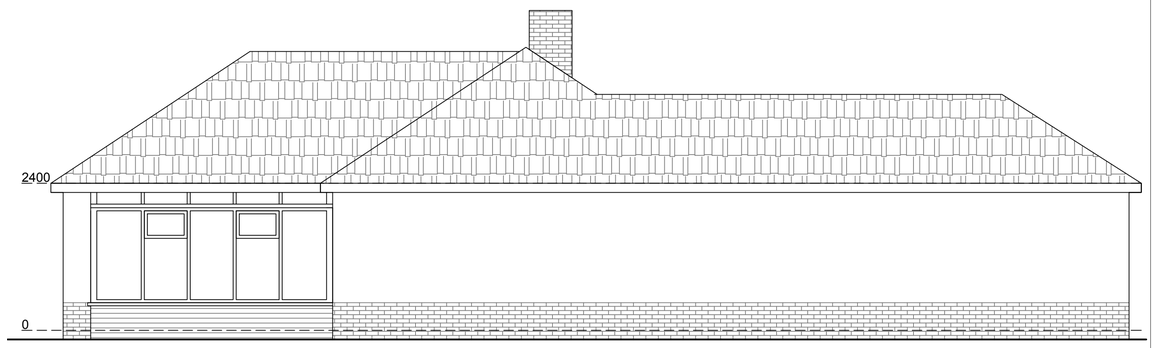
scale:
As Shown@A1

drawing number:
20-0058 D01

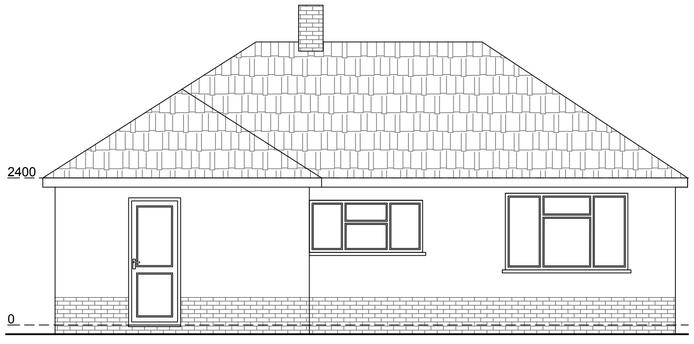


Existing Ground Floor Plan
Scale 1:50

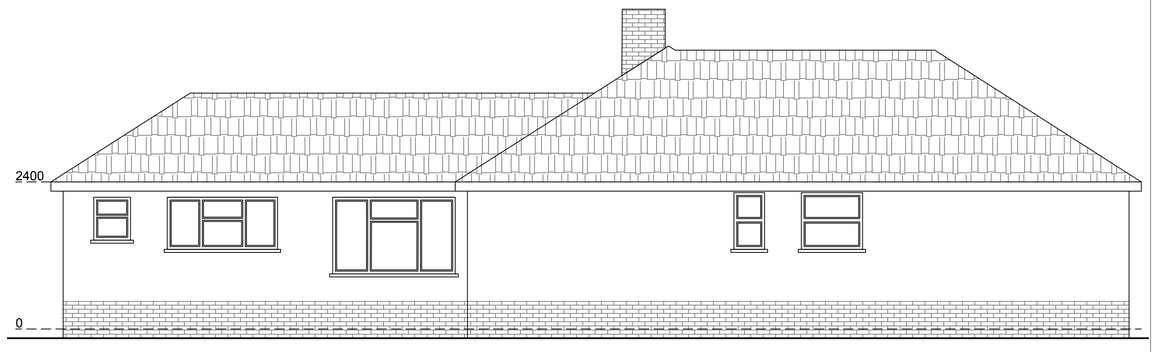
Existing West Elevation
Scale 1:50



Existing South Elevation
Scale 1:50



Existing East Elevation
Scale 1:50



Existing North Elevation
Scale 1:50

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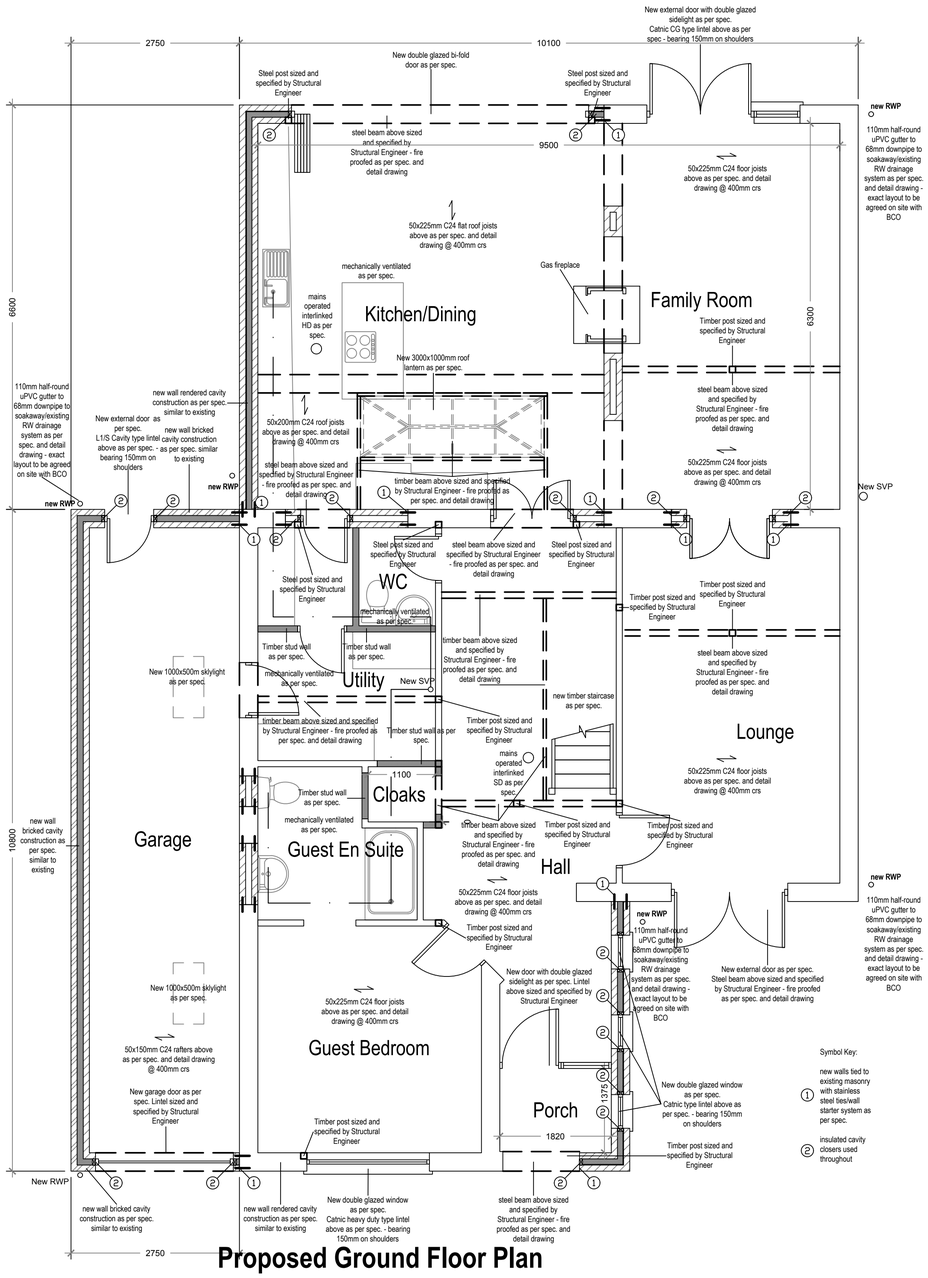
drawing title:
As Shown

date:
24 February 2020

scale:
As Shown@A1

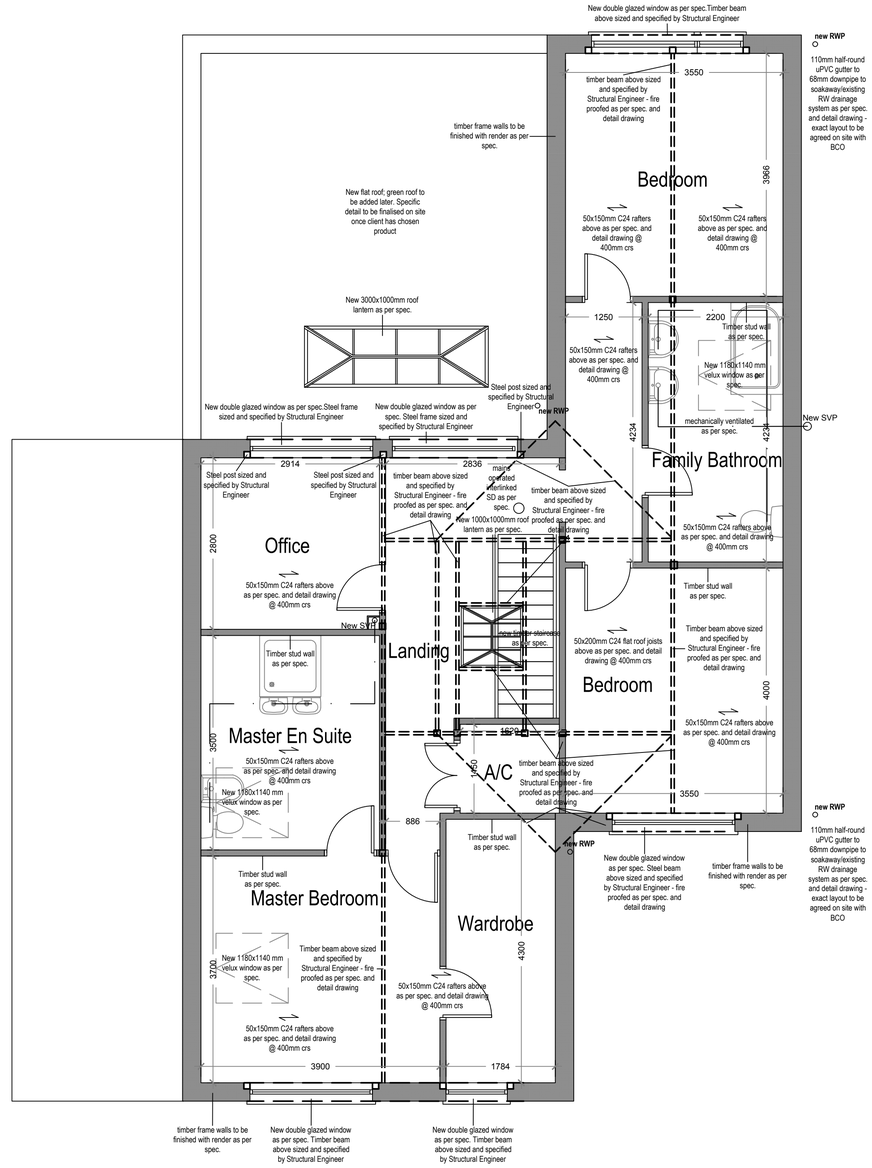
drawing number:
20-0058 D02

0 5 metres



Proposed Ground Floor Plan

Scale 1:50



Proposed First Floor Plan

Scale 1:50

0 5 metres

Arkiplan

P: 74 Cardiff Road, CF15 7QE

E: enquiries@ArkiPlan.co.uk

client:
35 Wheelers Lane, Bearwood, Bournemouth, Dorset BH11 9QQ

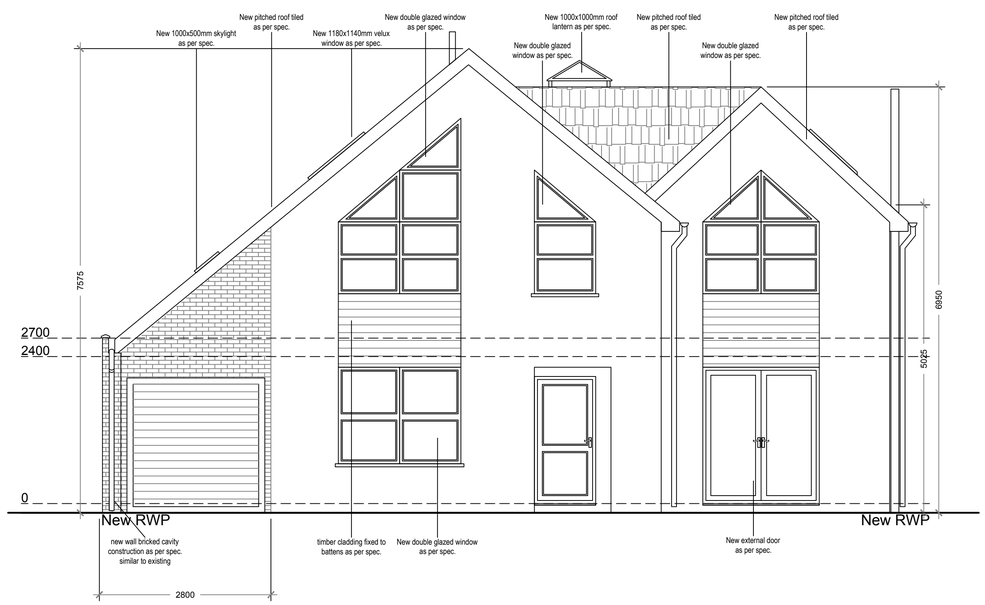
job:
New Extension

drawing title:
As Shown

date:
24 February 2020

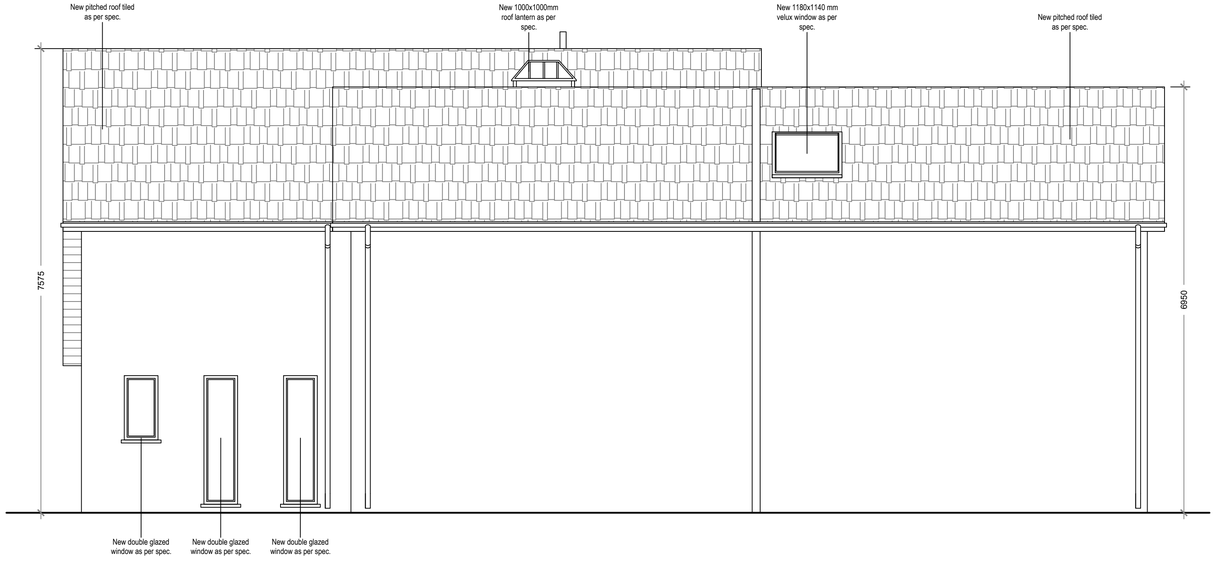
scale:
As Shown@A1

drawing number:
20-0058 D03



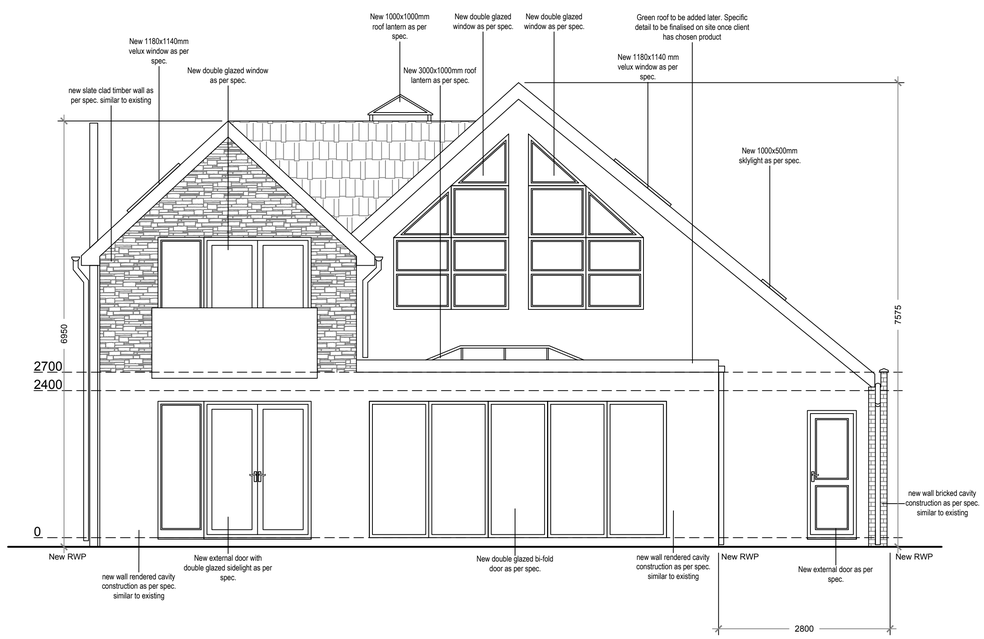
Proposed West Elevation

Scale 1:50



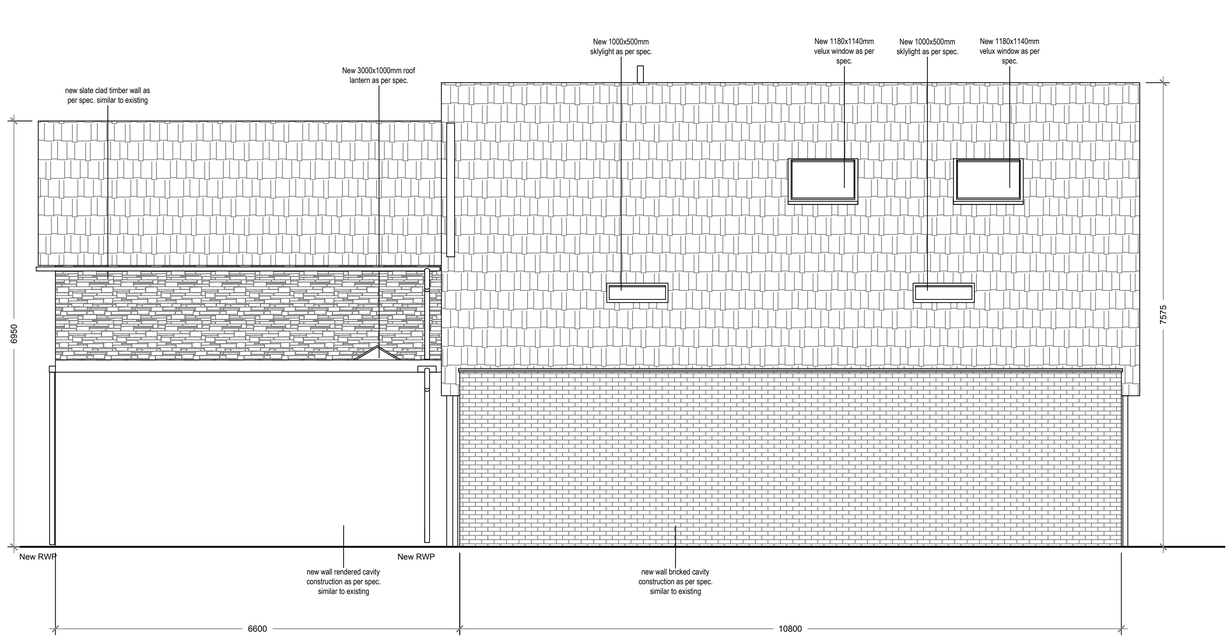
Proposed South Elevation

Scale 1:50



Proposed East Elevation

Scale 1:50



Proposed North Elevation

Scale 1:50

0 5 metres

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date:
24 February 2020

scale:
As Shown@A1

drawing number:
20-0058 D04

EXTENSION BUILDING REGULATIONS NOTES

PLANNING NOTE
Under new regulations that came into force on 1 October 2008 an extension or addition to a house is considered to be permitted development and not requiring an application for planning permission, subject to the following limits and conditions:
No more than half the area of land around the "original house" would be covered by additions to buildings.
No extension forward of the principal elevation or side elevation fronting a highway.
No extension higher than the highest part of the roof.
Maximum depth of a single storey rear extension to be three metres for an attached house and four metres for a detached house.
Maximum height of a single storey rear extension to be four metres.
Maximum ridge and eaves height no higher than existing house.
Roof pitch of extensions higher than one storey to match existing house
Materials to be similar in appearance to the existing house.
Upper-floor, side-facing windows to be obscure glazed: any opening to be 1.7m above the floor.

THERMAL BRIDGING
Care shall be taken to limit the occurrence of thermal bridging in the insulation layers caused by gaps within the thermal element, (i.e. around windows and door openings). Reasonable provision shall also be made to ensure the extension is constructed to minimise unwanted air leakage through the new building fabric.

MATERIALS AND WORKMANSHIP
All works are to be carried out in a workmanlike manner. All materials and workmanship must comply with Regulation 7 of the Building Regulations, all relevant British Standards, European Standards, Agreement Certificates, Product Certification of Schemes (Kite Marks) etc. Products conforming to a European technical standard or harmonised European product should have a CE marking.

EXISTING STRUCTURE
Existing structure including foundations, beams, walls and lintels carrying new and altered loads are to be exposed and checked for adequacy prior to commencement of work and as required by the Building Control Officer.

LINTELS
For uniformly distributed loads and standard 2 storey domestic loadings only
Lintel widths are to be equal to wall thickness. All lintels over 750mm sized internal door openings to be 65mm deep pre-stressed concrete plank lintels. 150mm deep lintels are to be used for 900mm sized internal door openings. Lintels to have a minimum bearing of 150mm on each end. Any existing lintels carrying additional loads are to be exposed for inspection at commencement of work on site.
All pre-stressed concrete lintels to be designed and manufactured in accordance with BS 8110, with a concrete strength of 50 or 40 N/mm² and incorporating steel strands to BS 5896 to support loadings assessed to BS 5977 Part 1.
For other structural openings provide proprietary insulated steel lintels suitable for spans and loadings in compliance with Approved Document A and lintel manufactures standard tables. Stop ends, DPC trays and weep holes to be provided above all externally located lintels.

STRAPPING FOR PITCHED ROOF
Gable walls should be strapped to roofs at 2m centres. All external walls running parallel to roof rafters to be restrained at roof level using 1000mm x 30mm x 5mm galvanised mild steel horizontal straps or other approved to BSEN 845-1 built into walls at max 2000mm centres and to be taken across minimum 3 rafters and screw fixed. Provide solid noggins between rafters at strap positions. All wall plates to be 100 x 50mm fixed to inner skin of cavity wall using 30mm x 5mm x 1000mm galvanized metal straps or other approved to BSEN 845-1 at maximum 2m centres.

STRAPPING OF FLOORS
Provide lateral restraint where joists run parallel to walls, floors are to be strapped to walls with 1000mm x 30mm x 5mm galvanised mild steel straps or other approved in compliance with BS EN 845-1 at max 2.0m centres, straps to be taken across minimum of 3 joists. Straps to be built into walls. Provide 38mm wide x ¼ depth solid noggins between joists at strap positions.

FLAT ROOF RESTRAINT
100m x 50mm C16 grade timber wall plates to be strapped to walls with 1000mm x 30mm x 5mm galvanised mild steel straps at maximum 2.0m centres fixed to internal wall faces.

OPENINGS AND RETURNS
An opening or recess greater than 0.1m² shall be at least 550mm from the supported wall (measured internally) construction for peer less than 550mm to be specificate by engineer.

INTERNAL STUD PARTITIONS
100mm x 50mm softwood treated timbers studs at 400mm ctrs with 50 x 100mm head and sole plates and solid intermediate horizontal noggins at 1/3 height or 450mm. Provide min 10kg/m³ density acoustic soundproof quilt tightly packed (eg. 100mm Rockwool or Isowool mineral fibre sound insulation) in all voids the full depth of the stud. Partitions built off doubled up joists where partitions run parallel or provide noggins where at right angles, or built off DPC on thickened concrete slab if solid ground floor. Walls faced throughout with 12.5mm plaster board with skim plaster finish. Taped and jointed complete with beads and stops.

STAIRS
Dimensions to be checked and measured on site prior to fabrication of stairs. Timber stairs to comply with BS585 and with Part K of the Building Regulations. Max rise 220mm, min going 220mm. Two risers plus one going should be between 550 and 700mm. Tapered treads to have going in centre of tread at least the same as the going on the straight. Min 50mm going of tapered treads measured at narrow end. Pitch not to exceed 42 degrees. The width and length of every landing should be at least as great as the smallest width of the flight. Doors which swing across a landing at the bottom of a flight should leave a clear space of at least 400mm across the full width of the flight. Min 2.0m headroom measured vertically above pitch line of stairs and landings. Handrail on staircase to be 900mm above the pitchline, handrail to be at least one side if stairs are less than 1m wide and on both sides if they are wider. Ensure a clear width between handrails of minimum 600mm. Balustrading designed to be unclimbable and should contain no space through which a 100mm sphere could pass. Allow for all structure as designed by a Structural Engineer.

ELECTRICAL
All electrical work required to meet the requirements of Part P (electrical safety) must be designed, installed, inspected and tested by a competent person registered under a competent person self certification scheme such as BRE certification Ltd, BSI, NICEIC Certification Services or Zurich Ltd. An appropriate BS7671 Electrical Installation Certificate is to be issued for the work by a person competent to do so. A copy of a certificate will be given to Building Control on completion.

INTERNAL LIGHTING
Install low energy light fittings that only take lamps having a luminous efficiency greater than 45 lumens per circuit watt and a total output greater than 400 lamp lumens. Not less than three energy efficient light fittings per four of all the light fittings in the main dwelling spaces to comply with Part L of the current Building Regulations and the Domestic Building Services Compliance Guide.

HEATING
Extend all heating and hot water services from existing and provide new TVRs to radiators. Heating system to be designed, installed, tested and fully certified by a GAS SAFE registered specialist. All work to be in accordance with the Local Water Authorities bye laws, the Gas Safety (Installation and Use) Regulations 1998 and IEE Regulations.

ESCAPE WINDOWS
Provide emergency egress windows to any newly created first floor habitable rooms and ground floor inner rooms. Windows to have an unobstructed openable area of 450mm high x 450mm wide, minimum 0.33m sq. The bottom of the openable area should be not more than 1100mm above the floor. The window should enable the person to reach a place free from danger from fire.

SAFETY GLAZING
All glazing in critical locations to be toughened or laminated safety glass to BS 6206, BS EN 14179 or BS EN ISO 12543-1:2011 and Part K (Part N in Wales) of the current Building Regulations, i.e. within 1500mm above floor level in doors and side panels within 300mm of door opening and within 800mm above floor level in windows.

NEW AND REPLACEMENT WINDOWS
New and replacement windows to be double glazed with 16mm argon gap and soft coat low-E glass. Window Energy Rating to be Band C or better and to achieve U-value of 1.6 W/m²K. The door and window openings should be limited to 25% of the extension floor area plus the area of any existing openings covered by the extension.

NEW AND REPLACEMENT DOORS
New and replacement doors to achieve a U-Value of 1.80W/m²K. Glazed areas to be double glazed with 16mm argon gap and soft low-E glass. Glass to be toughened or laminated safety glass to BS 6206, BS EN 14179 or BS EN ISO 12543-1:2011 and Part K (Part N in Wales) of the current Building Regulations.

BACKGROUND AND PURGE VENTILATION
Background ventilation - Controllable background ventilation via trickle vents to BS EN 13141-3 within the window frame to be provided to new habitable rooms at a rate of min 5000mm²; and to kitchens, bathrooms, WCs and utility rooms at a rate of 2500mm²
Purge ventilation - New Windows/rooflights to have openable area in excess of 1/20th of their floor area, if the window opens more than 30° or 1/10th of their floor area if the window opens less than 30°
Internal doors should be provided with a 10mm gap below the door to aid air circulation.
Ventilation provision in accordance with the Domestic Ventilation Compliance Guide.

EXTRACT TO BATHROOM
Bathroom to have mechanical vent ducted to external air to provide min 15 litres / sec extraction. Vent to be connected to light switch and to have 15 minute over run if no window in room. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

EXTRACT TO W/C
W/C to have mechanical ventilation ducted to external air with an extract rating of 15l/s operated via the light switch. Vent to have a 15min overrun if no window in room. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

EXTRACT TO UTILITY ROOM
To utility room provide mechanical ventilation ducted to external air capable of extracting at a rate of 30 litres per second. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

EXTRACT TO KITCHEN
Kitchen to have mechanical ventilation with an extract rating of 60l/sec or 30l/sec if adjacent to hob to external air, sealed to prevent entry of moisture. Internal doors should be provided with a 10mm gap below the door to aid air circulation. Ventilation provision in accordance with the Domestic Ventilation Compliance Guide. Intermittent extract fans to BS EN 13141-4. Cooker hoods to BS EN 13141-3. All fixed mechanical ventilation systems, where they can be tested and adjusted, shall be commissioned and a commissioning notice given to the Building Control Body.

RAINWATER DRAINAGE
New rainwater goods to be new 110mm UPVC half round gutters taken and connected into 68mm dia UPVC downpipes. Rainwater taken to new soakaway, situated a min distance of 5.0m away from any building, via 110mm dia UPVC pipes surrounded in 150mm granular fill. Soakaway to be min of 1 cubic metre capacity (or to depth to Local Authorities approval) with suitable granular fill and with geotextile surround to prevent migration of fines. If necessary carry out a porosity test to determine design and depth of soakaway.

SOIL AND VENT PIPE
Svp to be extended up in 110mm dia UPVC and to terminate min 900mm above any openings within 3m. Provide a long radius bend at foot of SVP.

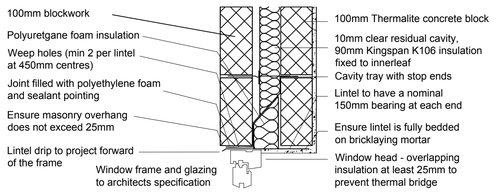
AUTOMATIC AIR VALVE
Ground floor fittings from WC to be connected to new 110mm UPVC soil pipe with accessible internal air admittance valve complying with BS EN 12380, placed at a height so that the outlet is above the top of the highest fitting and connected to underground quality drainage encased with pea gravel to a depth of 150mm.

DOOR BETWEEN HOUSE AND GARAGE
Door between garage and house to be FD30 self closing with a 100mm step down into garage, fitted with 3 steel hinges, intumescent strips and smoke seals. Construction between house and garage to be 30 minutes fire resisting.

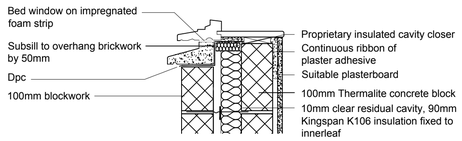
NEW EXTERNAL DOORS
New external doors to achieve a U-Value of 1.80W/m²K. Glazed areas to be double glazed with 16mm argon gap and soft low-E glass. Glass to be toughened or laminated safety glass to BS 6206, BS EN 14179 or BS EN ISO 12543-1:2011 and Part K (Part N in Wales) of the current Building Regulations.

TYING NEW WALLS TO EXISTING WALLS
Cavities in new wall to be made continuous with existing where possible to ensure continuous weather break. If a continuous cavity cannot be achieved, where new walls abuts the existing walls provide a movement joint with vertical dpc. All tied into existing construction with suitable proprietary stainless steel profiles connected to the existing wall and tied centrally to the proposed brick/ blockwork at 450 centres.

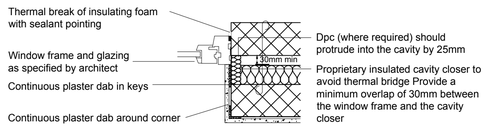
WINDOW HEAD AND LINTEL



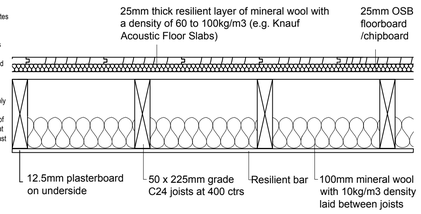
WINDOW SILL



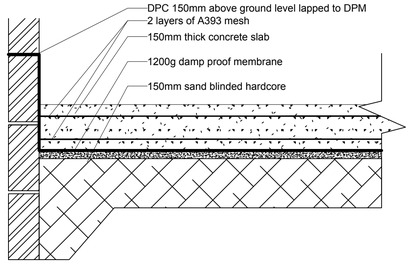
WINDOW REVEAL (Plan)



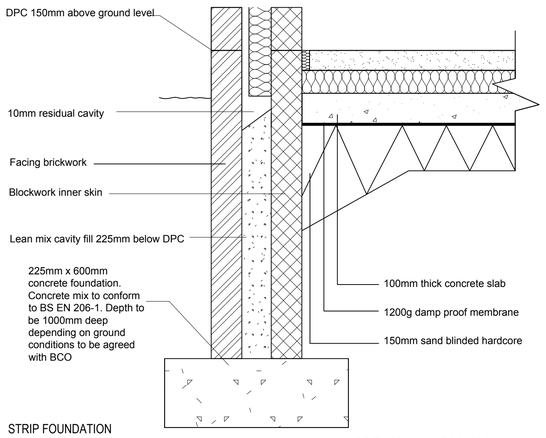
INTERMEDIATE TIMBER FLOOR



NEW SOLID GARAGE FLOOR



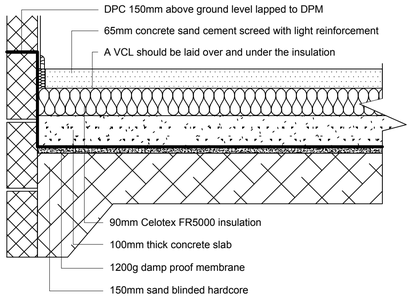
STRIP FOUNDATION



STRIP FOUNDATION
Provide 225mm x 600mm concrete foundation, concrete mix to conform to BS EN 206-1 and BS 8500-2. All foundations to be a minimum of 1000mm below ground level, exact depth to be agreed on site with Building Control Officer to suit site conditions. All constructed in accordance with 2004 Building Regulations A1/2 and BS 8004:1986 Code of Practice for Foundations. Ensure foundations are constructed below invert level of any adjacent drains. Base of foundations supporting internal walls to be min 600mm below ground level. Sulphate resistant cement to be used if required. Please note that should any adverse soil conditions be found or any major tree roots in excavations, the Building Control Officer is to be contacted and the advice of a structural engineer should be sought.

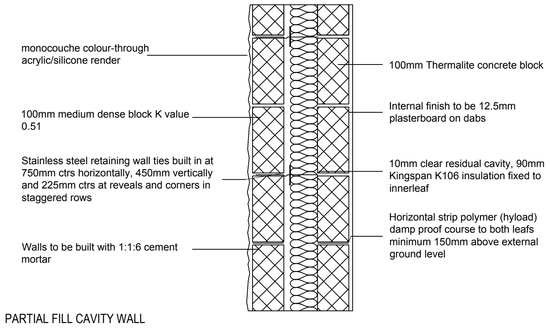
WALLS BELOW GROUND
All new walls to have Class A blockwork below ground level or alternatively semi engineering brickwork in 1:4 masonry cement or equal approved specification. Cavities below ground level to be filled with lean mix concrete min 225mm below damp proof course. Or provide lean mix backfill at base of cavity wall (150mm below damp course) laid to fall to weepholes.

SOLID GROUND FLOOR



SOLID FLOOR INSULATION OVER SLAB
To meet min U value required of 0.18 W/m²K
Solid ground floor to consist of 150mm consolidated well-rammed hardcore. Blinded with 50mm sand blinding. Provide 100mm ST2 or Gen2 ground bearing slab concrete mix to conform to BS 8500-2 over a 1200 gauge polythene DPM. DPM to be lapped in with DPC in walls. Floor to be insulated over slab and DPM with min 90mm thick Celotex FR5000. 25mm insulation to continue around floor perimeters to avoid thermal bridging. A VCL should be laid over the insulation boards and turned up 100mm at room perimeters behind the skirting, all joints to be lapped 150mm and sealed. Finish with 65mm sand/cement finishing screed with light mesh reinforcement.
Where drain runs pass under new floor, provide A142 mesh 1.0m wide and min 50mm concrete cover over length of drain.
Where existing suspended timber floor air bricks are covered by new extension, ensure cross-ventilation is maintained by connecting to 100mm dia UPVC pipes with 100mm concrete cover laid under the extension. Pipes to terminate at new 65mm x 215mm air bricks with cavity tray over.

STANDARD RENDERED PARTIAL FILL CAVITY WALL



PARTIAL FILL CAVITY WALL
To achieve minimum U Value of 0.28W/m²K
20mm two coat sand/cement render to comply to BS EN 13914-1:2005 with waterproof additive on 100mm medium dense block. Ensure a 10mm clear residual cavity and provide 90mm Kingspan K106 insulation fixed to inner leaf constructed using 100mm Thermalite concrete block, 0.51 or lower. Internal finish to be 12.5mm plasterboard on dabs. Walls to be built with 1:1:6 cement mortar.

DPC
Provide horizontal strip polymer (hyload) damp proof course to both internal and external skins minimum 150mm above external ground level. New DPC to be made continuous with existing DPC's and with floor DPM. Vertical DPC to be installed at all reveals where cavity is closed.

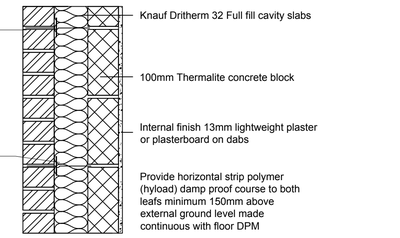
WALL TIES
All walls constructed using stainless steel vertical twist type retaining wall ties built in at 750mm ctrs horizontally, 450mm vertically and 225mm ctrs at reveals and corners in staggered rows. Wall ties to be suitable for cavity width and in accordance with BS 5628-6.1: 1996 and BS EN 845-1: 2003

CAVITIES
Provide cavity trays over openings. All cavities to be closed at eaves and around openings using Thermabate or similar non combustible insulated cavity closers. Provide vertical DPCs around openings and abutments. All cavity trays must have 150mm upstands and suitable cavity weep holes (min 2) at max 900mm centres.

EXISTING TO NEW WALL
Cavities in new wall to be made continuous with existing where possible to ensure continuous weather break. If a continuous cavity cannot be achieved, where new walls abuts the existing walls provide a movement joint with vertical DPC. All tied into existing construction with suitable proprietary stainless steel profiles.

CAVITY BARRIERS
30 minute fire resistant cavity barriers to be provided at at tops of walls, gable end walls and vertically at junctions with separating walls & horizontally at separating walls with cavity tray over installed according to manufacturers details.

STANDARD FULL FILL BRICK CAVITY WALL



FULL FILL CAVITY WALL
To achieve minimum U Value of 0.28W/m²K
Provide 103mm facing brick to match existing construction. Knauf Dritherm 32 Full fill cavity slabs fixed to 100mm Thermalite concrete block. Internal finish to be 12.5mm plasterboard on dabs with a plaster skim. Walls to be built with 1:1:6 cement mortar.

DPC
Provide horizontal strip polymer (hyload) damp proof course to both internal and external skins minimum 150mm above external ground level. New DPC to be made continuous with existing DPC's and with floor DPM. Vertical DPC to be installed at all reveals where cavity is closed.

WALL TIES
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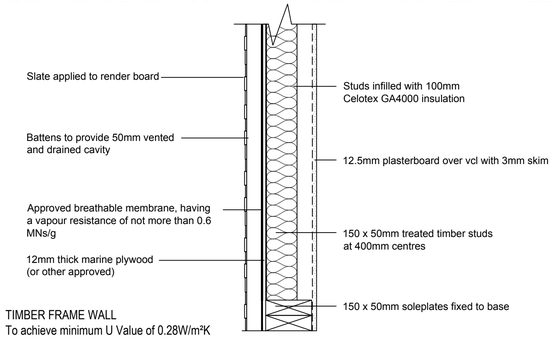
EXISTING TO NEW WALL
Cavities in new wall to be made continuous with existing where possible to ensure continuous weather break. If a continuous cavity cannot be achieved, where new walls abuts the existing walls provide a movement joint with vertical DPC. All tied into existing construction with suitable proprietary stainless steel profiles.

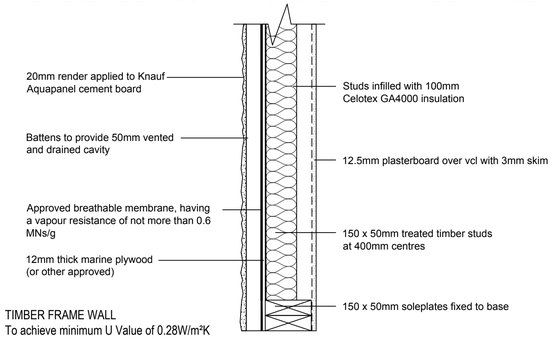
CAVITY BARRIERS
30 minute fire resistant cavity barriers to be provided at at tops of walls, gable end walls and vertically at junctions with separating walls & horizontally at separating walls with cavity tray over installed according to manufacturers details.

SLATE CLAD 150mm TIMBER FRAMED WALL



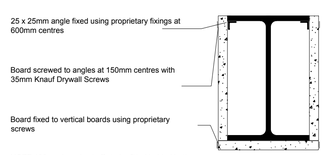
TIMBER FRAME WALL
To achieve minimum U Value of 0.28W/m²K
Slate cladding applied to render board. Board fixed to vertical 25 x 50mm preservative-treated battens to provide vented and drained cavity, battens fixed vertically to breathable membrane (having a vapour resistance of not more than 0.6 MNs/g) and 12mm thick WBP external quality plywood sheathing (or other approved). Ply fixed to treated timber frame studs constructed using 150mm x 50mm head & sole plates and vertical studs (with noggins) at 400mm ctrs or to s/engineer's details & calculations. Insulation to be 100mm Celotex GA4000 between studs. Provide 12.5mm plasterboard with VCL over studs. Finish with 3mm coat of finishing plaster. All junctions to have water tight construction, seal all perimeter joints with tape internally and with silicon sealant externally. (An additional 15mm pur insulation to be provided over studs to prevent thermal bridging if required)

RENDERED 150mm TIMBER FRAMED WALL



TIMBER FRAME WALL
To achieve minimum U Value of 0.28W/m²K
Render finish (to comply with BS EN 13914-1:2005) - applied in 3 coats at least 20mm thick to Knauf Aquapanel cement board. Render should be finished onto an approved render stop. Render lath fixed to vertical 25 x 50mm preservative-treated battens to provide vented and drained cavity, battens fixed vertically to breathable membrane (having a vapour resistance of not more than 0.6 MNs/g) and 12mm thick WBP external quality plywood sheathing (or other approved). Ply fixed to treated timber frame studs constructed using 150mm x 50mm head & sole plates and vertical studs (with noggins) at 400mm ctrs or to s/engineer's details & calculations. Insulation to be 100mm Celotex GA4000 between studs. Provide 12.5mm plasterboard with VCL over studs. Finish with 3mm coat of finishing plaster. All junctions to have water tight construction, seal all perimeter joints with tape internally and with silicon sealant externally. (An additional 15mm pur insulation to be provided over studs to prevent thermal bridging if required)

FIRE PROTECTION OF STEEL BEAM
(Knauf fire board - as section 6 :2012 of manufacturer's details)



BEAMS
Supply and install new structural elements such as new beams, roof structure, floor structure, bearings, and padstones in accordance with the Structural Engineer's calculations and details. New steel beams to be encased in 12.5mm Gyproc FireLine board with staggered joints, Gyproc FireCase or painted in Nullifire S or similar intumescent paint to provide 1/2 hour fire resistance as agreed with Building Control. All fire protection to be installed as detailed by specialist manufacturer.

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job:
New Extension

drawing title:
Specification;
Section Detail Drawings 1:10

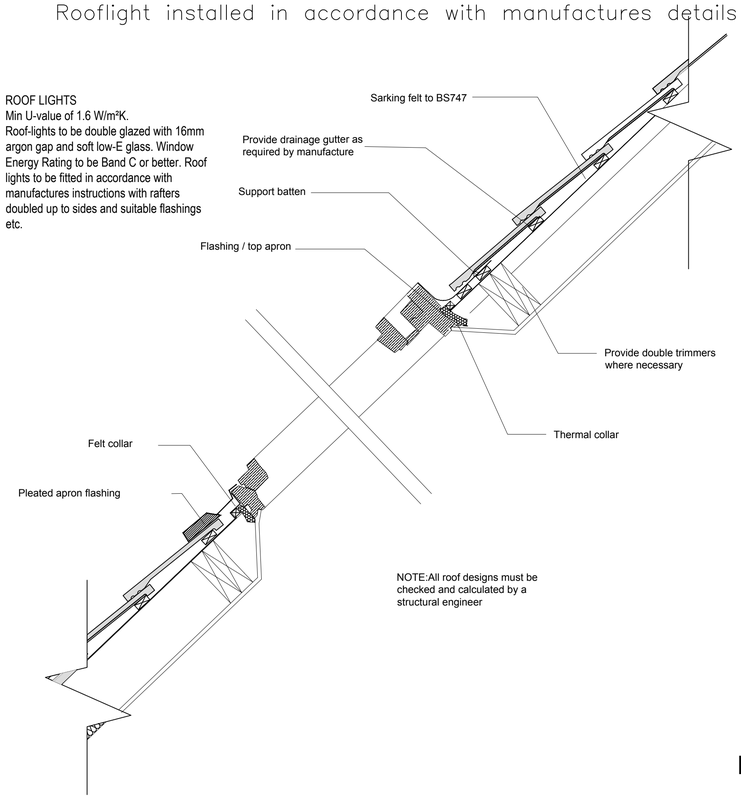
date:
24 February 2020

scale:
As Shown@A1

drawing number:
20-0058 D05

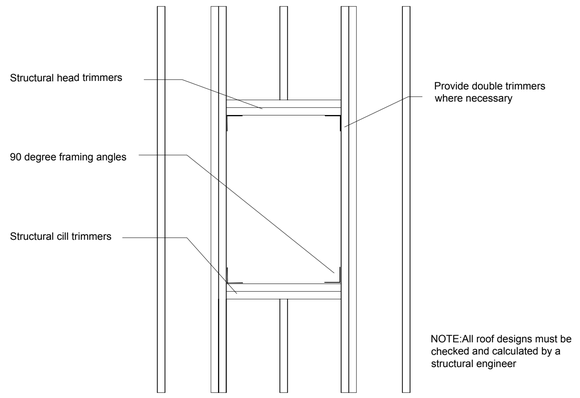
ROOFLIGHTS (SECTION)

Rooflight installed in accordance with manufactures details



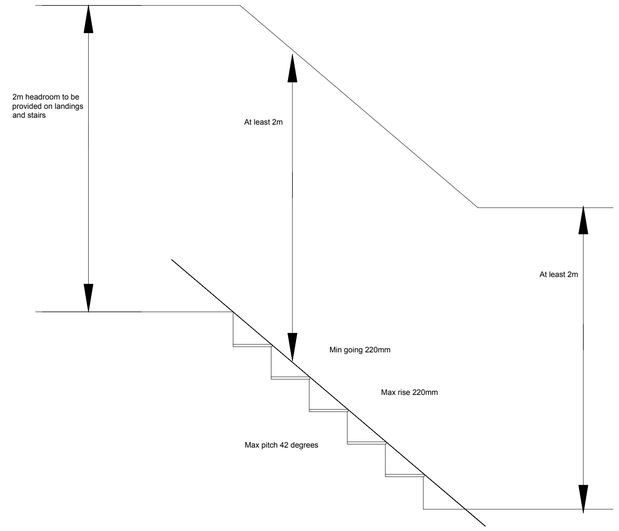
ROOFLIGHTS (STRUCTURE)

Rooflight installed in accordance with manufactures details

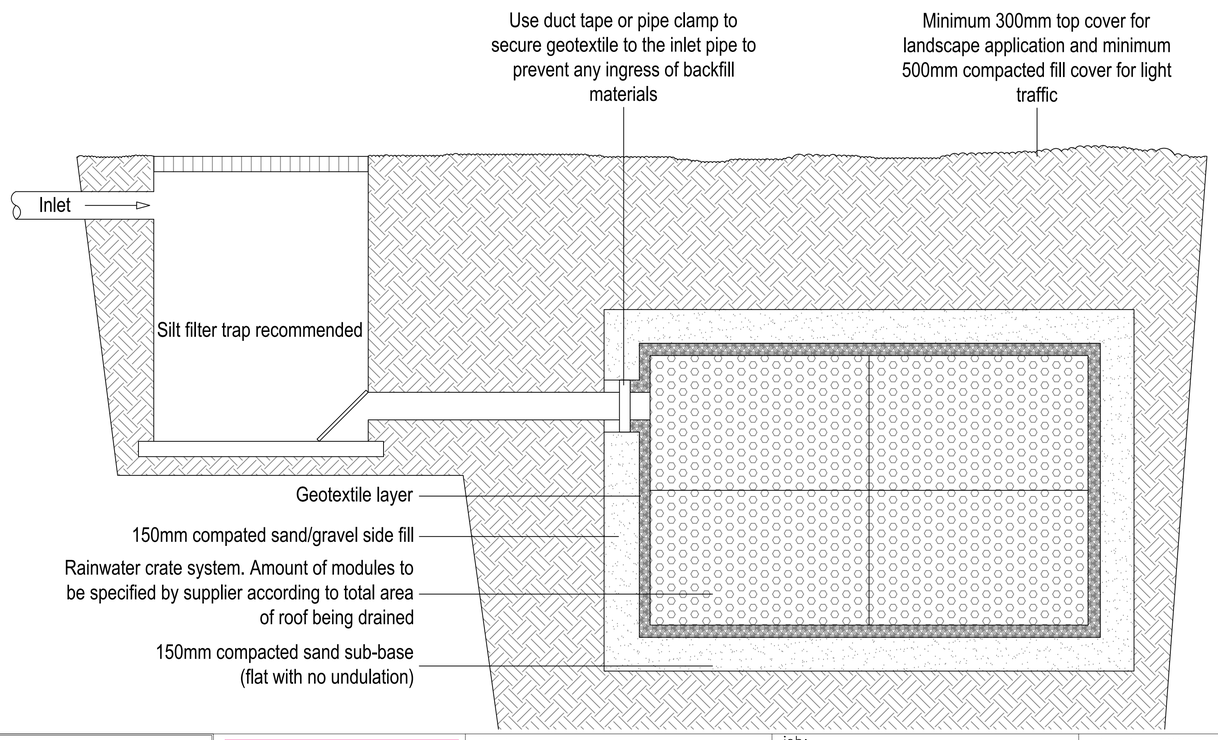


ROOF LIGHTS
Min U-value of 1.6 W/m²K.
Roof-lights to be double glazed with 16mm argon gap and soft low-E glass. Window Energy Rating to be Band C or better. Roof lights to be fitted in accordance with manufactures instructions with rafters doubled up to sides and suitable flashings etc.

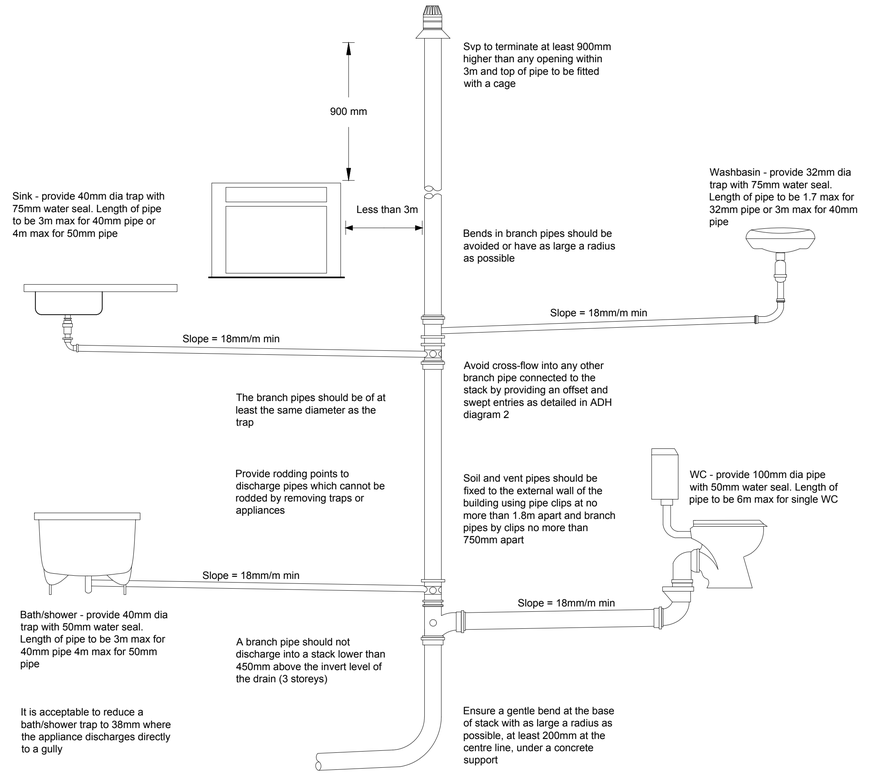
HEADROOM FOR NEW STAIRS



DRAINAGE CRATE SYSTEM



ABOVE GROUND DRAINAGE



ABOVE GROUND DRAINAGE
All new above ground drainage and plumbing to comply with BS EN 12056-2:2000 for sanitary pipework. All drainage to be in accordance with Part H of the Building Regulations. Wastes to have 75mm deep anti vac bottle traps and rodding eyes to be provided at changes of direction.

Size of wastes pipes and max length of branch connections (if max length is exceeded then anti vacuum traps to be used)
Wash basin - 1.7m for 32mm pipe 4m for 40mm pipe
Bath/shower - 3m for 40mm pipe 4m for 50mm pipe
W/c - 6m for 100mm pipe for single WC
All branch pipes to connect to 110mm soil and vent pipe terminating min 900mm above any openings within 3m.
Or to 110mm upvc soil pipe with accessible internal air admittance valve complying with BS EN 12380, placed at a height so that the outlet is above the trap of the highest fitting.
Waste pipes not to connect on to SVP within 200mm of the WC connection.
Supply hot and cold water to all fittings as appropriate.

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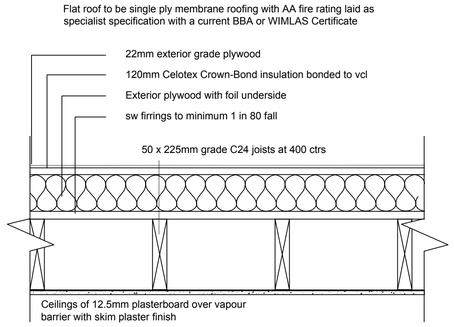
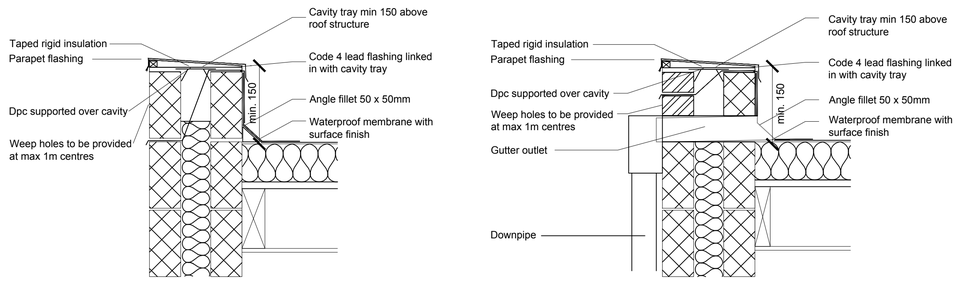
WARM FLAT MEMBRANE ROOF

Flat roof to be single ply membrane roofing with AA fire rating laid as specialist specification with a current BBA or WIMLAS Certificate

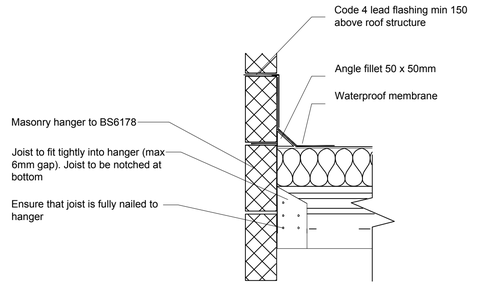


WARM FLAT ROOF
(imposed load max 1.0 kN/m² - dead load max 0.75 kN/m²)
To achieve U value 0.18 W/m²K
Flat roof to be single ply membrane roofing providing aa fire rating for surface spread of flame with a current BBA or WIMLAS Certificate and laid to specialist specification. Single ply membrane to be fixed to 22mm exterior quality plywood over 120mm Celotex Crown-Bond. Insulation bonded to vcl on 22mm external quality plywood decking or similar approved on sw firings to minimum 1 in 80 fall on sw treated 47 x 195mm C24 flat roof joists at 400mm ctrs . Underside of joists to have 12.5mm foil backed plasterboard and skim. Provide cavity tray to existing house where new roof abuts existing house.
Provide restraint to flat roof by fixing of 30 x 5 x 1000mm ms galvanised lateral restraint straps at maximum 2000mm centres fixed to 100 x 50mm wall plates and anchored to wall.

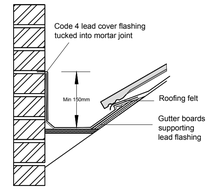
PARAPET WITH FLAT ROOF DETAIL



FLAT ROOF / WALL ABUTMENT

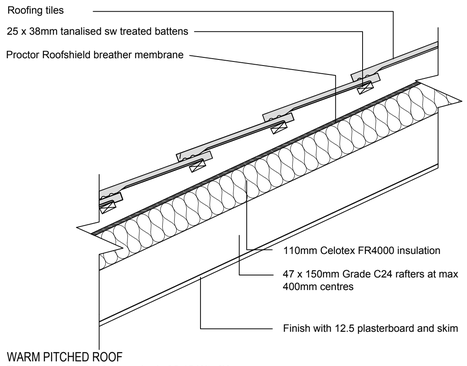


BOX GUTTER



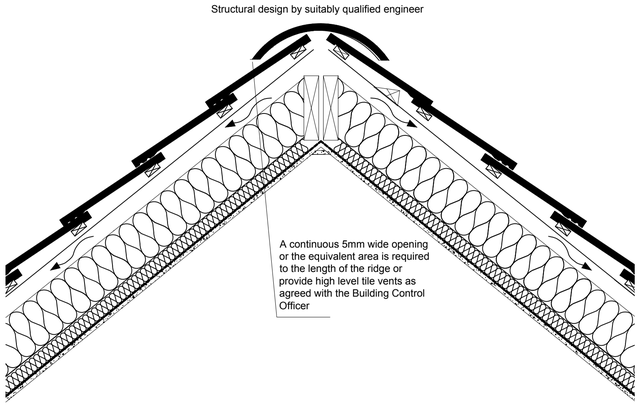
Non-ferrous lead flashing at least Code 4 to be tucked into a mortar joint or chase 25mm deep and at 75mm above the tiling level with a 100mm overlap

WARM PITCHED ROOF

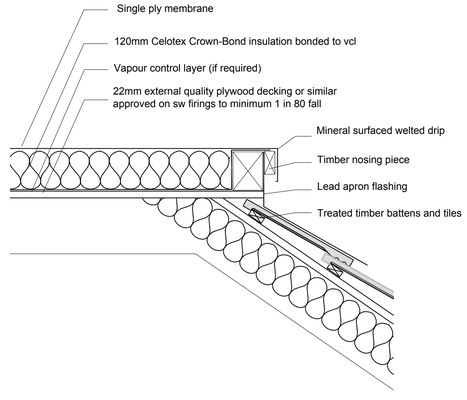


WARM PITCHED ROOF
To achieve min U-value required of 0.18 W/m²K
Timber roof structures to be designed by an Engineer in accordance with NHBC Technical Requirement R5 Structural Design. Calculations to be based on BS EN 1995-1-1. Roofing tiles fixed to tile battens. Proctor Roofshield breather membrane below preservative-treated counter battens (min 38mm x 50mm).. Provide 110mm Celotex FR4000 insulation boards installed under the counter battens and over 47 x 150mm timber rafters strength class C24 at 400 c/c. Finish with 12.5 plasterboard and skim.
Restraint strapping (if raised collar roof consult structural engineer): 100mm x 50mm wall plate strapped down to walls. Rafters held by ridge beam and are to be strapped to walls and gable walls, straps built into cavity, across at least 3 timbers with noggins. All straps to be 1000 x 30 x 5mm galvanized straps or other approved to BSEN 845-1 at 2m centres.

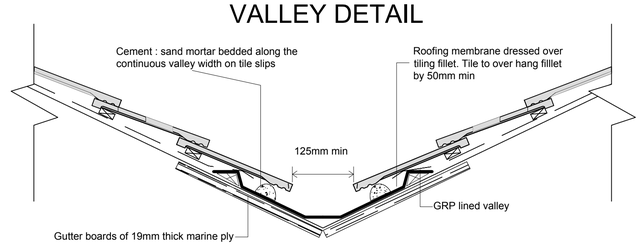
RIDGE VENTILATION



MANSARD ROOF EDGE



VALLEY DETAIL



GRP VALLEYS
Valleys to be formed using GRP as per supplier's instructions. Valley and two tiling fillets to be supported on min 19mm thick and 225mm wide marine ply valley boards on either side of the rafters. GRP sheets to be laid in lengths not exceeding 1.5m with min 150mm lap joints and be dressed 200mm under the tiles.

Roofing tiles to be bedded in mortar placed on a tile slip to prevent direct contact. Valley to have a minimum 100mm wide channel (125mm minimum for pitches below 30°). All work to be in accordance with the roof cladding manufacturers.

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