WINDOWS
All new and replacement windows to be double glazed. Windows and doors to give minimum u-value Of 1.4 w/m²*k. Must comply with Part L of the current Building Regulations.

Safety glazing must be provided to all critical areas so as to comply with Part N of current Building Regs.

NOTE!
All electrical work must be carried out by a person who is competent to do so and must comply with Part P of the current Building Regulations. A certificate signed by a competent person will be required.

If Radon gas is evident, which can be confirmed by obtaining a Geological Report. Then a radon membrane is required, lapped up and through cavity, plus a radon trap ducted to the outside of the extension. The report must be confirmed by the Local Authority Building Control department.
Please refer to the submitted Radon Report.

INTERNAL PARTITIONS
Internal partitions to be 100mm studding with 12mm plasterboard and 5mm plaster skim both sides, with 100mm 'Kingspan' positioned between timber studs.

Ground Floor partitions to be 100mm dense concrete blockwork with render and skim both sides.

NOTE!
If there is no loft insulation (or less than 200mm thick) then the existing must be increased to a thickness of 250mm min. If the dwelling has un-insulated or partially insulated cavity walls, fill with insulation where suitable.
also, if a water cylinder is evident, upgrade the insulation as follows:
1. if the un-insulated provide a 160mm insulated jacket
2. if the insulated jacket existing is less than 100mm thick, add a further insulated jacket to achieve a total thickness of 160mm.
3. if the cylinder has factory fitted solid foam insulation less than 25mm thick, add an 80mm insulated jacket.

VENTILATION
Habitable Rooms
For rapid ventilation each proposed habitable room must have an openable area of at least 1/20th of the floor area of the room served, with some part of the opening at least 1.75mm above ground level.
In addition background ventilation must be provided having an openable area of not less than 8000mm2. The openable area should be controllable, secure and located to avoid undue draughts eg trickle ventilator.
Kitchen
Mechanical extractor fan capable of extracting 30litres/sec if the fan is located in a cooker hood or is located in the ceiling within 300mm of the centre line of the hob, otherwise a fan capable of extracting 60litres/sec should be provided. Also provide trickle ventilation via a secure opening of min area 8000mm2.
Bathroom
Provide a mechanical fan capable of a minimum extraction rate of 15l/s

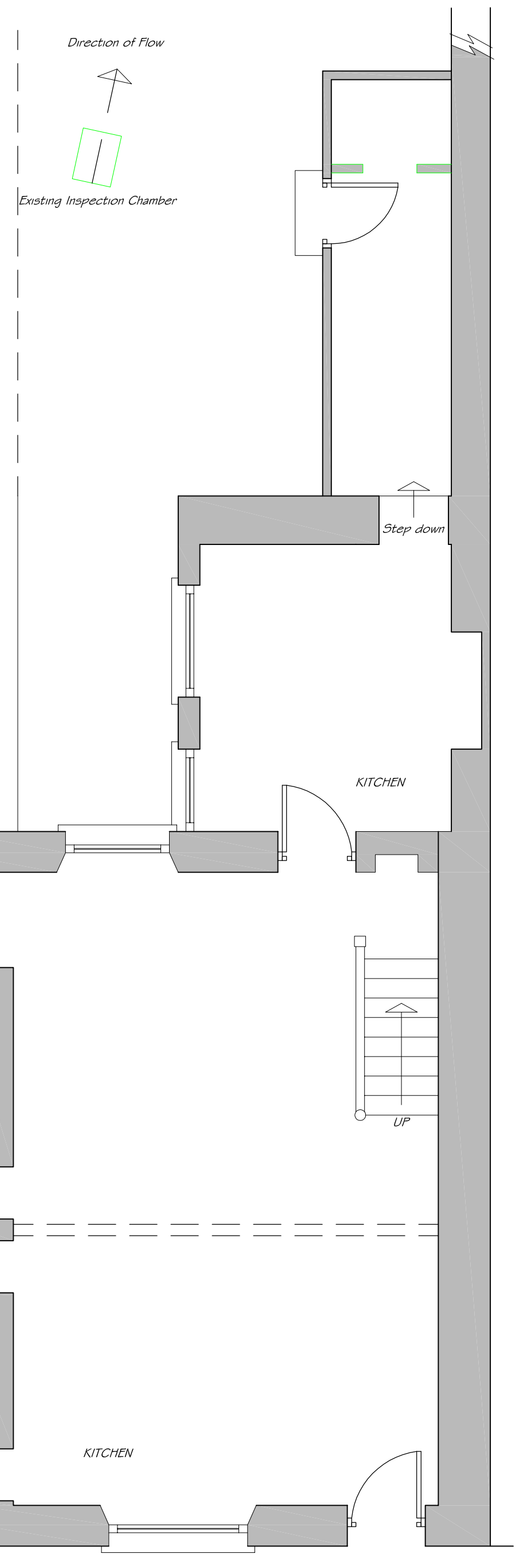
Smoke detectors to be provided in accordance with Part B1.

ABOVE GROUND DRAINAGE
The minimum trap sizes and seal depths for appliances are as per the following table:-

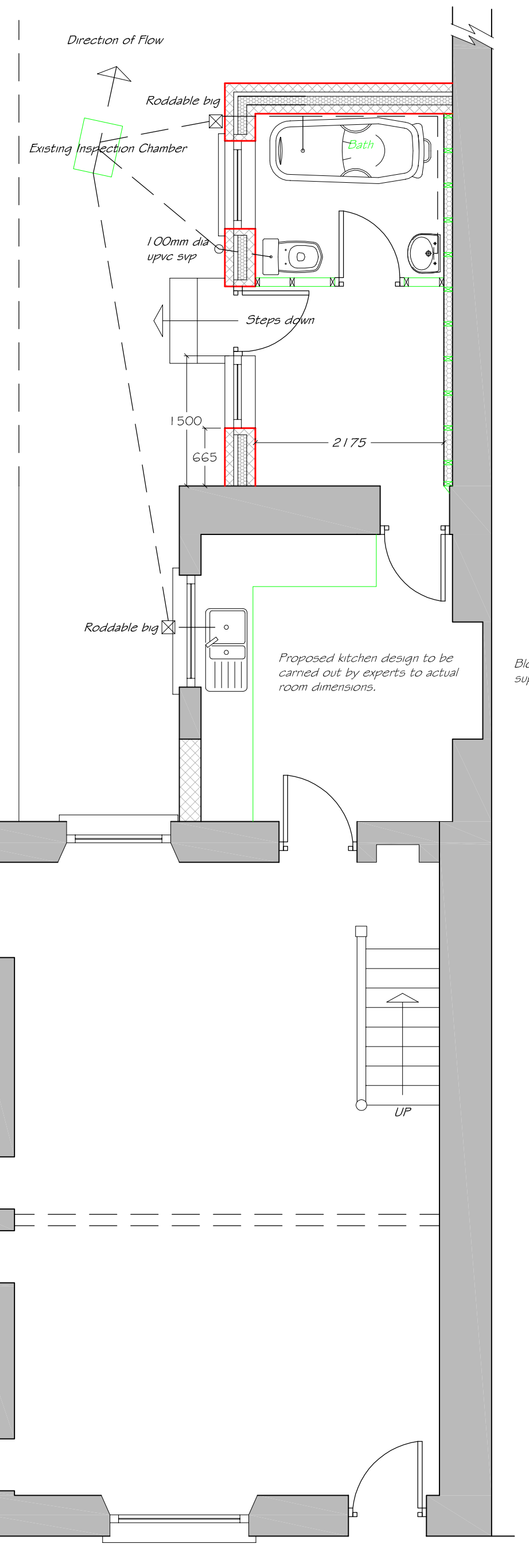
	Diameter of trap	Depth of seal
Sink	40mm	75mm
Wash-hand	32mm	75mm
WC	100mm	75mm
Bath	40mm	75mm
Shower	40mm	75mm

Where the length of branch exceeds 3m for a sink, bath or a shower, install an "anti-vac" valve or increase the pipe diameter from 40mm to 50mm.
Where the length of branch exceeds 1.7m for a wash-hand basin, install same "anti-vac" valve or increase the pipe diameter from 32mm to 40mm.
If the larger branch pipe sizes are used for the sink or wash-hand basin, then the diameter of the trap need not be increased, but the tail of the trap should be 50mm long before increasing the diameter.
The soil and vent pipe is to be 100mm diameter PVC.u or similar, fitted with a 200mm internal diameter rest bend which must discharge at least 900mm above any openable area which is less than 3m from the soil and vent pipe. The top of the soil and vent is to have a cage or perforated cover fitted.
Rainwater down-pipes and gutters are to be PVC.u firmly supported without restricting thermal movement . Use 75mm dia down-pipes and 100mm half round gutters.

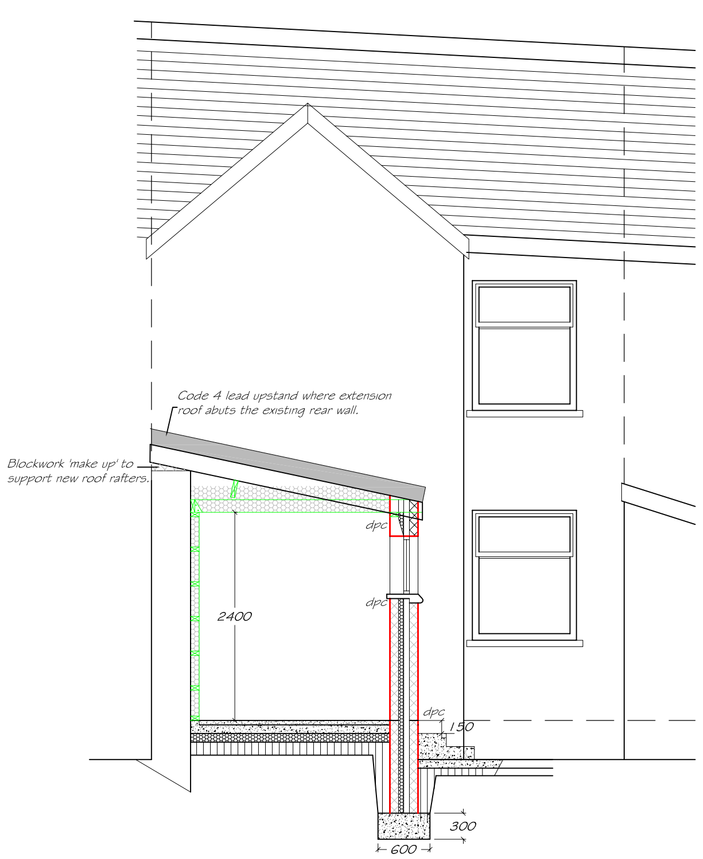
The position and depth of the existing sewer must be located accurately prior to commencement.



EXISTING GROUND FLOOR PLAN 1:50



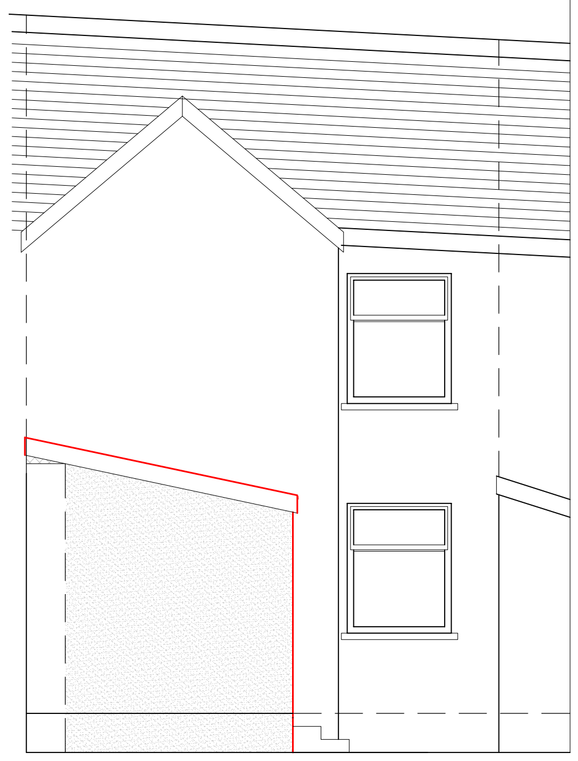
PROPOSED GROUND FLOOR PLAN 1:50



SECTION X-X 1:50

FOUNDATIONS
The foundations for the cavity wall construction are to be C20 grade concrete strip foundations 600 x 300mm. They are to be taken down to a minimum depth of 750mm, however the actual depth will be dependent upon the actual depth sound bearing strata and is subject to a site inspection by the Local Authority's building control department.
Where a drainage trench is within one metre of the building, the trench must be filled to a depth level with the underside of proposed foundation. Where the trench is more than one metre from the building, it must be filled with concrete to a depth of not less than 150mm below the underside of the proposed foundation.

BELOW GROUND DRAINAGE
All new drains are to be 100mm diameter pvc.u, poly-pipe or similar with flexible joints laid to falls on a granular bed, minimum fall 1:40.
Where pipes pass under the building they must be encased with 150mm min C20 grade concrete.
All back inlet gullies and rainwater gullies must have roddable access.
All new manholes are to be constructed of Class B engineering bricks to BS 3921 (1985) and laid in english bond with 1 : 3 sand cement mortar to BS 5628, on a 150mm min C20 concrete base. All entries to the manhole are to be formed using 3/4 section channels. Inspection chambers are to be fitted with light weight galvanised cover and frame. If the manhole is to be internal use double sealed bolted down type.
Note! all works must comply with BS 8301.



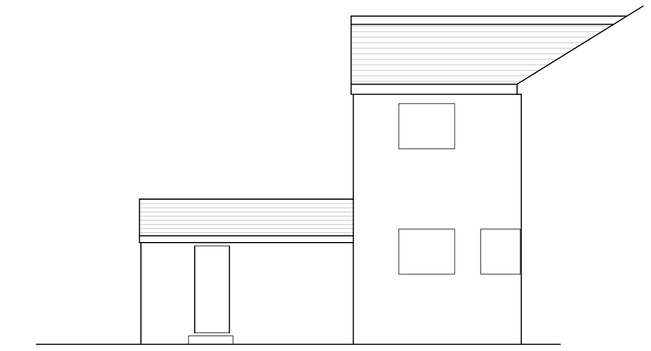
EXISTING REAR ELEVATIION 1:50

PROPOSED REAR ELEVATIION 1:50

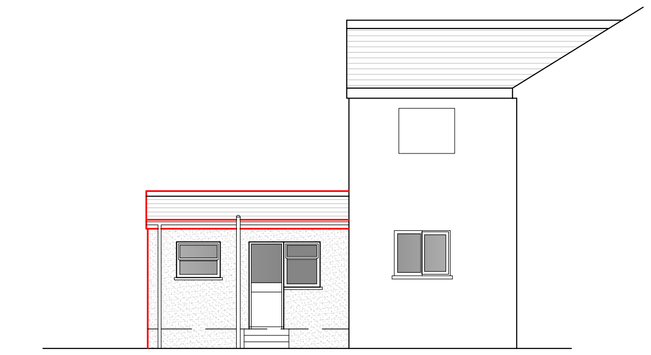
ROOF CONSTRUCTION
This will comprise of concrete anchor centurian low profile tiles, colour to match existing fixed in accordance with manufacturers' instructions. These to be secured to 50 x 25mm tanalised roofing battens over breathable roof felt to BS5534 on proprietary 47x170mm C16 timber rafters at 400mm c/c. The ceiling joists to be 47 x 170mm C16 timbers at 400mm c/c. 50x100mm softwood wall-plate secured using 30 x 5 x 1200mm durable mild steel straps at intervals not exceeding 2metres.75x195mm C16 timber purlin on span of rafters.
The ceilings are to be 9.5mm plasterboard and 5mm plaster skim finish.
Provide 400mm thick quilt or similar approved insulation laid between ceiling joists and 150mm over joists and over the wall-plate to avoid cold bridging. Must give a minimum thermal transmittance (u-value) of 0.13W/m²k
Provide ventilation to roof space by means of a 25mm air gap at soffit with fly-proof mesh and proprietary vent tiles to ensure through ventilation.

EXTERNAL WALLS
BELOW GROUND
These are to consist of a 350mm cavity wall construction comprising of 100mm concrete block, 150mm cavity with galvanised or stainless steel wall ties spaced at 750mm c/c horizontally and 450mm c/c vertically and staggered. The wall ties to be 275mm long.
The internal skin is to be 100mm concrete block. All blocks used below ground must have a minimum compressive strength of 7n/mm2. The cavity is to be filled to a height of 225mm below the dpc with weak mix cement. The dpc is to be a minimum of 150mm above ground level.
ABOVE GROUND
These are to consist of a 350mm cavity wall construction comprising of an external skin of 100mm blockwork, 150mm cavity with 100mm 'Kingspan' insulation fixed to the warm side of the cavity using proprietary clips. Galvanised or stainless steel wall ties of length 275mm and spaced at 750mm horizontally and 450mm vertically and staggered. The internal skin is to be 100mm dense concrete blockwork finished with two coats of sand and cement render and plaster skim. Close cavity at eaves with 'Superlux' or similar.
External finish s/c render with dash finish to match existing.
The Thermal Transmittance (u - value) of the cavity wall construction is to be 0.18w/m²k. It is recommended that the u - value at heads, cills and unbonded jambs does not exceed 1.2 w/m²k. This can be acheved by using 'thermabate' cavity closure system or other methods described in BR 143 thermal insulation; avoiding risks.
The wall ties at unbonded jambs are to be placed at a maximum of 300mm vertically and 150mm maximum horizontally from the unbonded jamb.
All lintels are to be taken from the "Catnic" or "I.G." standard range, with a minimum end bearing of 150mm. Size and type to be verified by manufacturer.
TYING-IN
The new cavity wall to be tied into the existing main wall and the cavity must be continuous.
Provide a vertical dpc.

GROUND FLOOR CONSTRUCTION
This is to comprise of 50mm thick 1:3 sand and cement screed on 100mm C20 concrete. Kingspan or similar approved insulation is to be placed below the oversite concrete in the form of 100mm thick 'Kingspan' or similar approved 2400 x 1200 mm rigid slabs with a maximum k-value of 0.026 w/mk, laid directly on 2 layers of 1200 gauge visqueen clamp-proof membrane laid continuous with the horizontal dpc. Joints between membrane must be sealed to produce an air-tight joint.
The double dpm is laid on 150mm minimum compacted grade 1 sub-base hardcore. Blind with sand. Connect membrane to dpc. The hardcore should be compacted in layers of 100mm with the maximum depth of hardcore not to exceed 600mm. The thermal transmittance (u-value) of the floor construction is to be a maximum of 0.15w/m²k.
Insulation upstand to be provided to the perimeter of the oversite to prevent cold bridging.



EXISTING SIDE ELEVATIION 1:100



PROPOSED SIDE ELEVATIION 1:100



LOCATION PLAN 1:1250

Client:	Project:	Drawing Title:	Date:
MR RICHARD LEWIS	**PROPOSED REAR SINGLE STOREY EXTENSION AT: 4, BRYTIRION STREET, DOWLAIS, MERTHYR TYDFIL**	**PROPOSED PLANS, SECTION & ELEVATIONS**	**DECEMBER 2025**