SURFACE WATER DRAINAGE
Rainwater to be collected in uPVC guttering and uPVC downpipes to match existing. Water to discharge to Polypipe rainwater gullys and to be taken to soakaways located in garden. Soakaways to be 1000mm diameter x 1000mm deep filled with 50mm nominal clean stone up to 300mm minimum of finished ground level, covered with visqueen membrane and back filled up to surrounding finished level with top soil. Soakaways to be at least 5m away from structure within lower ground.

FOUL DRAINAGE
All new drains are to be 110mm diameter uPVC drains laid in granular material at a fall of 1 in 40. Drainage within Kitchen to connect into new Back Inlet Gully (BIG). Drains passing through walls are to be isolated from structure with 600mm long x 100mm wide x 150mm deep reinforced concrete lintels. Drains passing under structure and within 300mm of finished external ground level are to be encased with 150mm concrete. Wastes to connect into new 450mm preformed manhole as indicated, set on 150mm thick concrete base. New pipes to be haunched in sand/ cement mortar. Any new preformed manholes to be bitted in strict accordance to manufacturer's instructions. Invert and cover levels of manholes to be confirmed prior to commencement of any drainage works. Man Holes to connect into Existing drainage run. *Contractor to inspect existing drainage system prior to any drainage works.*

PLUMBING
Wastes from Kitchen sink and Utility appliances to be 50mm minimum diameter uPVC pipe fitted with 75mm deep seal traps. Wastes to connect into new Back Inlet Gully (BIG). Kitchen and Utility plumbing to connect to anti-syphon traps prior to connecting into foul drainage. All connections being made on bossed socket adapters.

ELECTRICAL WORKS
All electrical works are to be completed by a competent person registered with an electrical self-certification scheme and to take full responsibility to ensure that new works are in compliance with BS7671:2001 On completion the client should receive certification signed by the designer, installer and person responsible for testing of the new electrical system. Ensure that electrical sockets and light switches are sited between 450mm and 1200mm above floor level. Avoid placing sockets back to back, stagger with 150mm minimum gap. Ensure cables to be sleeved where possible contact with polystyrene could occur.

EFFICIENT LIGHTING
100% of fixed lights to be fitted with lighting outlets which take lamps of luminous efficacy of at least 40 lumens/circuit watt.

FIRE DETECTION
Provide mains operated interacting smoke/ heat detectors at the positions indicated on floor plan. All detection units are to be provided with battery backup with the ability to be trickle charged to ensure continuity in the event of mains power failure. Detection and warning of fire from one unit must be audible throughout entire building. Smoke detectors to be positioned 300mm minimum away from walls and lights. Detection units are to be interlinked to ensure early warning of fire is achieved.

PLASTERING
Existing internal plasterwork to be inspected for signs of damage. Any defective plasterwork to be repaired and made good with a sand/ cement plaster finish.

HEATING
Existing central heating system to be extended into new areas. Existing boiler to be inspected by nominated sub-contractor to ensure suitability. If existing boiler is deemed inadequate, boiler to be replaced with wall mounted gas fired condensing combi-boiler with SEDBUK rating of at least 90% to power radiators fitted with thermostatic control valves. No radiators to be fitted in positions which would reduce landings/ walkways to less than 900mm wide. Ensure boiler will not discharge opposite boundaries where within 2.5m. Boiler is to be fitted by GAS SAFE registered engineer.

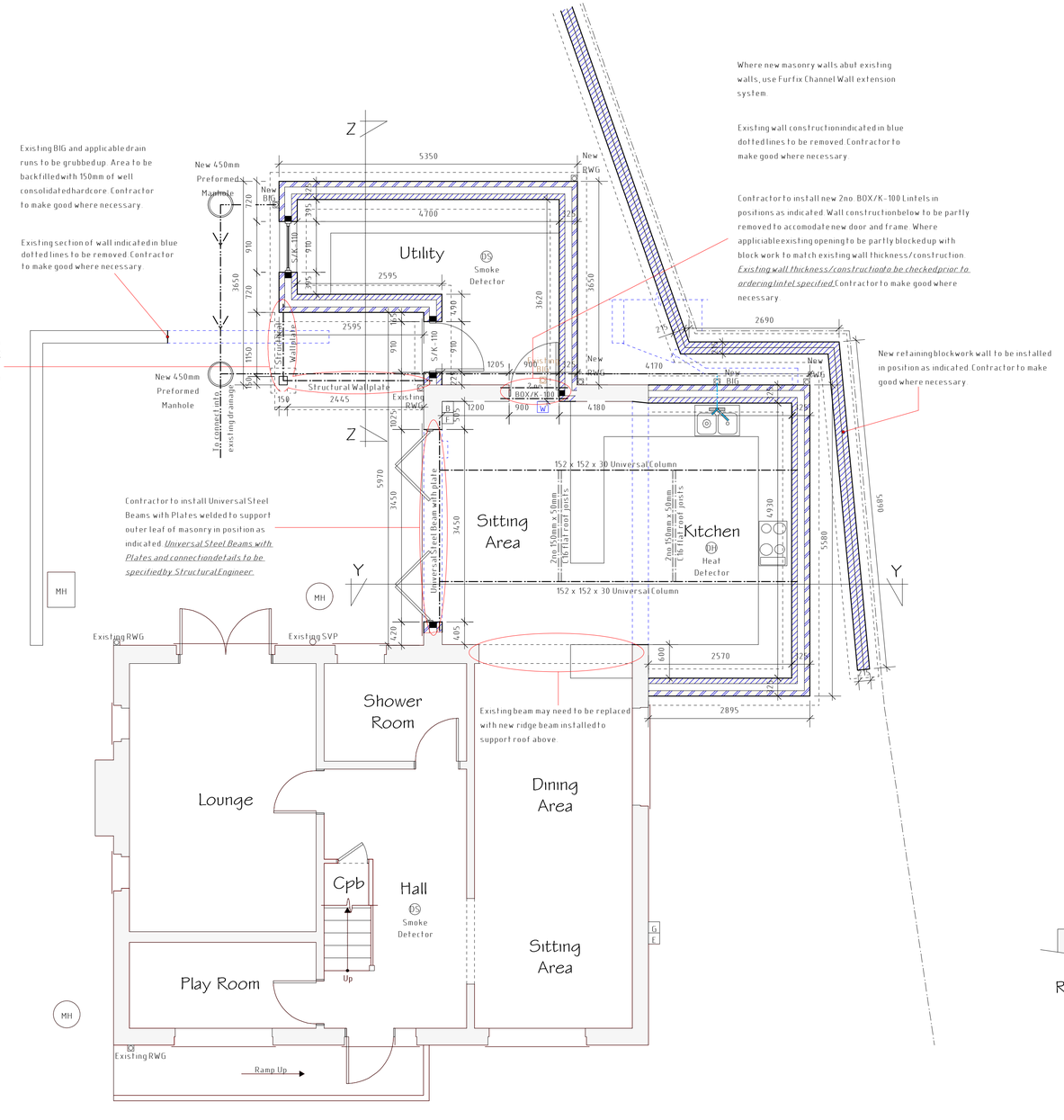
MECHANICAL VENTILATION
Provide mechanical ventilation to Kitchen and Utility by means of Vent Axia or similar electrically operated fan, extracting directly to external air to the following requirements:

Kitchen: Cooker hood to extract at a rate of 30 litres per second.
Utility: Wall mounted fan to extract at a rate of 30 litres per second.

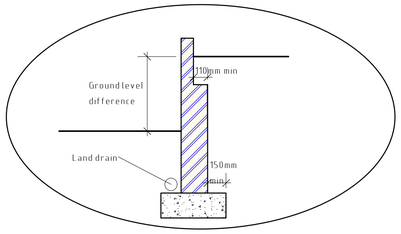
Vents to be covered with weather proof grilles at points of discharge to external air. Fans to duct through external wall or roof void and terminate at tile vent terminal where applicable.

CONSEQUENTIAL IMPROVEMENTS
Due to the extension increasing the habitable space of the dwelling by over 10m^2, the following improvements are required:
- If the dwelling has uninsulated or partially insulated cavity walls, cavity to be filled with insulation where possible (Cavity wall insulation may not be suitable for sites exposed to driving rain)
- If there is no or less than 200mm thick insulation within the loft space, provide 250mm insulation or increase to 250mm thick.

All consequential improvements are to only be undertaken where they are technically functionally or economically feasible



Ground Floor Plan 1:50



Typical Retaining Wall Detail 1:25

Services Key

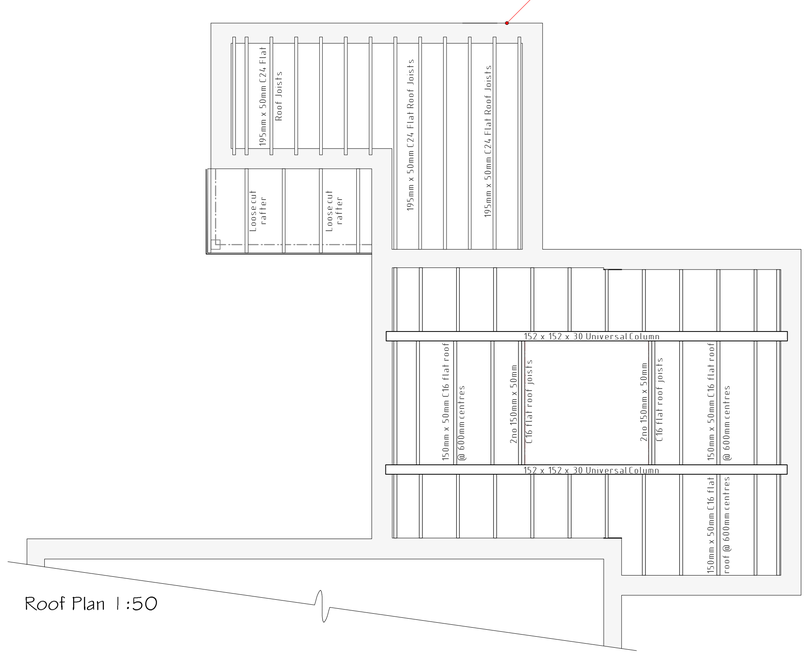
- B — Existing Boiler Position
- G — Existing Gas Meter Position
- E — Existing Electric Meter Position
- F — Existing Fuse Box Position
- W — Existing Stopcock Position to be relocated
- MH — Existing Man Hole Position
- RWG — Existing Rain Water Gully (RWG) Position
- BIG — Existing Back Inlet (BIG) Gully Position
- SVP — Existing Soil Vent Pipe (SVP) Position

All dimensions are taken from brickwork/blockwork face and plasterboard face and to be checked on site prior to commencing work.

Where lintels and foundations are to be subjected to additional loading, they are to be exposed by contractor and checked by the Building Control officer for there adequacy prior to introduction of new loads.

Drainage Key

- 50mm diameter drainage pipe
- 110mm diameter drainage pipe



Roof Plan 1:50

PLANS HAVE NOT YET GAINED LOCAL AUTHORITY APPROVAL AND MAY BE SUBJECT TO CHANGE.

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PLANS TO BE READ IN CONJUNCTION WITH STRUCTURAL ENGINEER'S DESIGNS AND CALCULATIONS.

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A	10/22	Building Control changes	E.M.J.

Project:
Proposed Alterations to,
Cil Tywodfaen,
Ffordd Gwenllian,
Gresford Road, LL12 0UW

Title: Floor Plan & Roof Plan

Scale: (A1) 1:50

Drawn By: E.M.Jackson

Date: Aug 2022

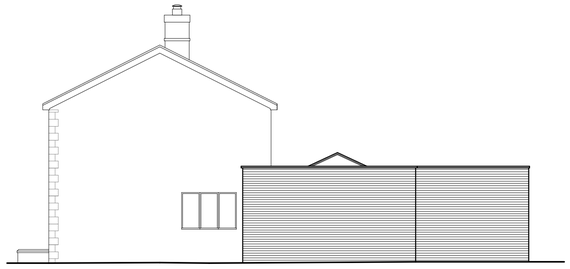
Drawing No: P138/005

Sheet: 1 of 2

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Front Elevation 1:100



Side Elevation 1:100



Rear Elevation 1:100



Side Elevation 1:100

MAIN ROOF CONSTRUCTION
New roof coverings are to be Mendip and Mendip 12.5 interlocking concrete roof tiles to match existing and to Local Authority approval. Tiles to be fixed to 50mm x 25mm treated softwood battens over Tyvek Supro permeable underslating membrane or similar (Tyvek membrane to be draped Approximately 10mm between the rafters for ventilation purposes). Tyvek to be laid on 195mm x 50mm C24 Softwood rafters set at 400mm maximum centres. Losse cut rafters to be supported off *Ridge Beam to be designed and specified by structural engineer* at top of roof slope or 225mm x 75mm Polplate raw bolted to wall at 600mm centres. At bottom of roof slope rafters to be double spiked to 100mm x 75mm wallplate or supported off steel beam above doors (designed and calculated by engineer), 50mm x 100mm C16 ceiling joists to be installed and spiked to side of rafters. Wallplates are to be anchored to walls at 1800mm centres with 30mm x 6mm mild steel straps. Straps are to be of sufficient length and be fixed to masonry of supporting walls, fixings are to be screwed or plugged and screwed. *Position and sizes of rafter/ceiling members and position of wallplates may vary following Structural Engineer design and calculations*, allow for 100mm fibreglass quilt insulation to be between ceiling member of trusses with an additional 300mm layer laid across ceiling members to achieve a minimum U-value of 0.13W/m^2K. Where ceiling follows roof line contractor to install 140mm Celotex XR4000 between rafters ensuring 50mm air gap is retained with 60mm Celotex GA4000 fixed to underside prior to installing 12.5mm thick plasterboard with 3mm thick nominal skim finish to achieve U-value of 0.13W/m^2K. Rafters doubled up as required to trim around roof lights. Cut roof to be deisgned and specified by structural engineer. Allow for code 4 lead flashing at all roof/wall abutments.

PORCH ROOF CONSTRUCTION
New roof coverings are to be Mendip and Mendip 12.5 interlocking concrete roof tiles to match existing and to Local Authority approval. Tiles to be fixed to 50mm x 25mm treated softwood battens over Tyvek Supro permeable underslating membrane or similar (Tyvek membrane to be draped Approximately 10mm between the rafters for ventilation purposes). Tyvek to be laid on 100mm x 50mm C16 softwood loose cut rafters at 600mm maximum centers, suspended between wallplate and poleplate. Poleplates to be 175mm x 75mm C16 softwood and to be rawl bolted to masonry wall at 600mm maximum centres. Ceiling joists are to be installed in positions as indicated, supported off joist hangers and double spiked to side of rafters where applicable. Ceiling joists to be 100mm x 50mm C16 softwood joists set at 400mm maximum centres. Underside of porch to be clad with 19mm thick T & G boarding. Cavity tray and code 4 lead flashing to be installed at all roof/wall abutments.

ATRIUM WINDOW
Specialist manufacturer to specify atrium window. Atrium window to sit on doubled up flat roof joists as indicated. Atrium to be fitted in strict accordance with manufacturer's details. Measurements to be taken on site prior to commissioning of work. Window to comprise sealed double glazed units set within good quality aluminium frames to local authority approval. Sealed double glazed units are to have 16mm minimum air gap and Low-E (soft-coated) glass. Window to achieve a minimum U-value of 1.4 W/m^2K. Glazing is to consist of laminated toughened safety glass in accordance with BS 6206 and permanently marked.

FLAT ROOF CONSTRUCTION
Rainwater to discharge to RWG in position as indicated on ground floor plan. Roof coverings to be Polyroof 185 flat roofing system from Polyroof Products Ltd. Liquid base coat resin applied evenly over substrate. Polymat laid to overlap by 50mm minimum with additional resin coat to be applied and consolidated to eliminate air bubbles. Liquid top coat resin with appropriate colour pigmentation applied over entire surface including all trims. Substrate to consist of 18mm thick external quality ply over vapour control barrier, 165mm thick Celotex XR6000 insulation on 18mm exterior grade plywood fixed to softwood firings to enable roof to discharge surface water at a rate of 1:50. Firings fixed to 195mm x 50mm C24 softwood joists set at 400mm centres or *150mm x 50mm C16 softwood flat roof joists set at 600mm centres above kitchen as specified by Structural Engineer* to achieve a minimum U-Value of 0.13W/m^2K. Existing brickwork from original single storey element to be cut back where required. New flat roof joists to be installed and have 100mm minimum embedment into wall. If required, existing wall construction to be built up to support new roof joists. Alternatively, joists to be hung from joist hangers off existing wall construction. 12.5mm of knauf wallboard fixed to the underside of joists with 3mm nominal skim plaster finish. Allow for cavity tray and code 4 lead flashing at all roof/wall abutments. Roof covering to lap up inside of wall to underside of coping stone as indicated. Copings to be mechanically fixed to wall below.

SEMI EXPOSED STUD PARTITIONS
Semi exposed stud partitions to comprise of 175mm x 50mm softwood stud framing set at 400mm centres. Framework is to be formed on tripled up ceiling joists / trimmers where applicable. Additional framing to be installed as required. Internally fix 12.5mm thick foil backed plasterboard. Provide 150mm thick Celotex R Zero XR4000 insulation to cavity between studding to achieve a minimum U-value of 0.21W/m^2K.

ENGINEERED STEEL BEAMS
All engineered steel beams are to be installed in positions as indicated. Steel beams are to be protected from fire by means of 2 layers of 12.5mm thick plasterboard and nominal skim finish to provide 30 minutes fire protection. *All works in relation to Steel Beams to be as per Structural Engineers specification*

CAVITY WALL CONSTRUCTION
External cavity walls are to comprise 100mm thick brickwork, 125mm wide cavity fully filled with 125mm thick DriTherm 0.032-lambda, with an inner leaf of 100mm thick thermolite turbo block. Internal face of blockwork to be finished with 12.5mm thick plasterboard with 3mm thick nominal skim finish. Wall construction to achieve a minimum U-value of 0.21W/m^2K. Provide insulated Keystone lintels or Universal Steel Beams with plates over openings as specified on plans. All lintels to have a minimum of 150mm end bearing length. Keystone lintels can be supplied by Huws Gray (01978 264269). *Universal Steel Beams with plates and connection details to be specified by Structural Engineer.* Provide stainless steel wall ties across cavity, ties are to be based on double triangle ties as per BR443. Wall ties set at 750mm horizontal and 450mm vertical staggered centre's. Provide additional wall ties at 300mm vertical centres within 225mm of all openings and roof verges. All openings in cavity, ie, around window and door openings, are to be closed with Thermabate 125 insulated cavity closers to prevent thermal bridging. DPC to be installed in new cavity wall as indicated, Cavity trays to be lapped onto DPC with weep holes installed at 900mm centres, to outer leaf of wall to ensure any moisture within cavity is dispersed of adequately.

Walls below DPC level and above finished ground level are to be constructed with brickwork, below ground level use class B engineering brick down to Thermalite trench block. Cavity insulation is to continue in 125mm cavity to prevent thermal bridging down to trench block. All walls are to be constructed centrally on supporting foundations.

GROUND FLOOR CONSTRUCTION
100mm thick concrete slab which is to be continued over inner leaf of cavity wall, allow for 1000mm wide A193 mesh to perimeter of slab. 100mm thick Celotex tuff-R GA4000 rigid polyisocyanurate foam insulation (to ensure U-value <0.18 W/m^2K), with 1200G visqueen DPM below, all joints to have 300mm minimum overlap and be securely taped. 50mm sand blinding on 150mm minimum well consolidated hardcore. Build 650mm x 650mm x 450mm high radon protection sump form with 50mm thick concrete paving slab. Walls of sump to be 100mm brick laid honeycomb bond with perpends left open. Cover with another 50mm concrete paving slab. 100mm diameter uPVC pipe to run from sump to duct to outside air, outlet to be capped at finished ground level. Additionally provide cavity tray as indicated in section bridging the two masonry courses to seal cavity against ingress of radon gas.

FOUNDATION CONSTRUCTION
Provide 650mm wide x 200mm deep concrete foundation below new cavity wall construction and 450mm wide x 200mm deep concrete foundation below new blockwork walls. 450mm wide x 450mm long mass filled pad foundations below posts to support porch as indicated on sections and floor plans. Contractor to ensure 150mm out crop is achieved to all loadbearing walls. All foundations are to be cast onto suitable load bearing strata to the satisfaction of the Local Authority Building Inspector. Foundations are to be cast in one pour to prevent joints in concrete. Contractor to ensure new foundations do not undermine existing foundations on site. Concrete can be supplied by Huws Gray (01978 759516).

External Facing Materials
Extension to be Brick as indicated on elevations to local Authority approval

Roofing Materials
Roof Coverings are to be tile to local authority approval and to match existing

All Windows are to comprise sealed double glazed units set in UPVC frames.

All fascias and soffits are to comprise UPVC to match windows.

Rainwater to be collected in UPVC guttering, to discharge to soakaways located in garden

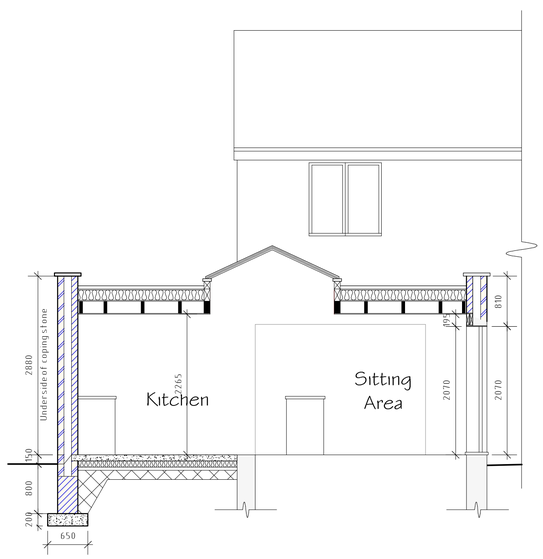
GREEN INFRASTRUCTURE STATEMENT

GREEN INFRASTRUCTURE STATEMENT
The dwelling occupies a developed plot of land within the settlement boundary limit of the village. Occupying a large plot with mature trees located to the southern side of the site, these would remain unaltered by the development. The proposal will have a negligable effect to the GI in the locality.

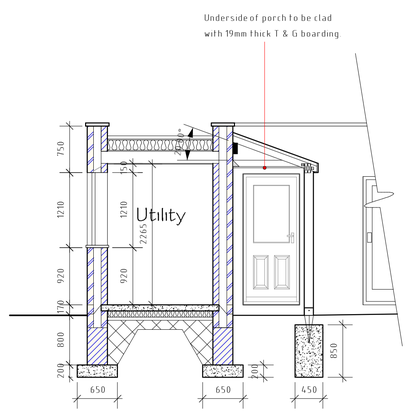
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Section Y-Y 1:50



Section X-X 1:50

Rev	Date	Detail	Initial
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Project:
Proposed Alterations to,
Cil Tywodfaen,
Ffordd Gwenllian,
Gresford Road, LL12 0UW

Title: Sections & Elevations

Scale: (A1) 1:50 & 1:100

Drawn By: E.M.Jackson

Date: Aug 2022

Drawing No: P138/005

Sheet: 2 of 2

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