SOLID FLOOR INSULATION OVER SLAB
To meet min U value required of 0.22 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 a VCL on slab with min 100mm thick Celotex GA4000.
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 over the insulation with a floating layer of min 20mm tongue and groove softwood boards or moisture resistant particle/chipboard grade type C4 to BS EN 312:2010 as required. Lay with staggered joints.
Where drain runs pass under new floor, provide A142 mesh 1.0m wide within bottom of slab 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 built into new cavity wall with cavity tray over.

SUSPENDED BLOCK AND BEAM FLOOR
Remove top soil and vegetation, apply weed killer –
The underside of beams not less than 150mm above the top of the ground. PCC beams to be supplied and fixed to beam manufacturer's plan, layout and details (details and calculations to be sent to Building Control and approved before works commence). Minimum bearing 100mm onto DPC and load bearing walls. Provide concrete blocks to BS6073 pt.1, wet and grout all joints with 1:4 cement/sand mix. Provide double beams below non-load bearing partitions. Lay 1200g DPM/radon barrier, with 300mm laps double welted and taped at joints and service entry points using radon gas proof tape, over beam and block floor. Lay floor insulation over DPM, 75mm Celotex GA4000 applied as a rigid material.
Lay 500g separating layer over insulation. Finish with a floating layer of min 20mm tongue and groove softwood boards or moisture resistant particle/chipboard grade type C4 to BS EN 312:2010. Lay with staggered joints. The top surface of the ground cover under the building shall be above the finished level of the adjoining ground.
Ventilation - Provide cross-ventilation of the under floor to outside air by ventilators in at least 2 opposite external walls of the building. Ventilation openings having an opening area of 1500mm² per metre run of perimeter wall or 500mm² per square metre of floor area, whichever is the greater. Sleeper walls shall be of honeycombed construction or have provision for distribution of ventilation.

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 ¾ depth solid noggins between joists at strap positions.

TIMBER SUSPENDED FLOOR
Ground preparation -Remove top soil and vegetation, apply total weed killer and 150mm min thick sand blinded hardcore, then either –
(i) Provide concrete ground cover of at least 100mm thick or
(ii) Prepare the ground to an even surface and lay a ground cover of concrete at least 50mm thick, on a damp-proof membrane of at least 1200 gauge polyethylene, laid on a bed of fine blinding material.
Floor construction – min 20mm tongue and groove softwood boards or moisture resistant particle/chipboard grade type C4 to BS EN 312:2010 as required. Lay with staggered joints on 47mm x 220mm C24 grade soft wood joists at maximum 400mm centres max span 4.83m. Joists to be supported off proprietary galvanized joist hangers built into new masonry walls or fixed to treated timber wall plates resin bolted to walls at 600mm centres. If required, floor joists also to be supported on 100mm x 50mm treated wall plates and DPC fixed to masonry honeycombed sleeper walls built on thickened oversite concrete. Joists to be infilled with 110mm Celotex XR4000 fixed with Celotex clips.
The top surface of the ground cover under the building shall be above the finished level of the adjoining ground. The underside of the floor joists are not to be less than 150mm above the top of the ground cover. The underside of any wall plate is to be not less than 75mm above the top of the ground cover.
Ventilation of Floor
Provide cross-ventilation under floor to outside air by ventilators in at least 2 opposite external walls of the building. Ventilation openings having an opening area of 1500mm² per metre run of perimeter wall or 500mm² per square metre of floor area whichever gives the greater opening area. All sleeper walls or similar under floor obstructions shall be of honeycombed construction or have similar provision for distribution of ventilation. The under floor space shall be free from debris. Ducts to be sealed using gas proof tap if they pass through the radon barrier.
THIS IS A GENERAL GUIDE BASED ON NORMAL LOADING CONDITIONS FOUND IN DOMESTIC CONSTRUCTION. IT IS YOUR RESPONSIBILITY TO ASSESS YOUR DESIGN TO ASCERTAIN WHETHER ENGINEER'S DETAILS/CALCULATIONS ARE REQUIRED. PLEASE REFER TO THE TRADA DOCUMENT – 'SPAN TABLES FOR SOLID TIMBER MEMBERS IN FLOORS, CEILINGS AND ROOFS FOR DWELLINGS' OR ASK YOUR BUILDING CONTROL OFFICER FOR ADVICE.

VENTILATION OF TIMBER SUSPENDED FLOOR
Provide cross-ventilation under floor to outside air by ventilators in at least 2 opposite external walls of the building. Ventilation openings having an opening area of 1500mm² per metre run of perimeter wall or 500mm² per square metre of floor area whichever gives the greater opening area. All sleeper walls or similar under floor obstructions shall be of honeycombed construction or have similar provision for distribution of ventilation. The under floor space shall be free from debris. Ducts to be sealed using gas proof tap if they pass through a radon barrier.

ABOVE GROUND DRAINAGE
All new above ground drainage and plumbing to comply with BS EN 12056-2 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 3m 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.

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.

PIPEWORK THROUGH WALLS
Where new pipework passes through external walls form rocker joints either side wall face of max length 600mm with flexible joints with short length of pipe bedded in wall.
Alternatively provide 75mm deep pre-cast concrete plank lintels over drain to form opening in wall to give 50mm space all round pipe: mask opening both sides with rigid sheet material and compressible sealant to prevent entry of fill or vermin.

UNDERGROUND FOUL DRAINAGE
Underground drainage to consist of 100mm diameter UPVC proprietary pipe work to give a 1:40 fall. Surround pipes in 100mm pea shingle. Provide 600mm suitable cover (900mm under drives). Shallow pipes to be covered with 100mm reinforced concrete slab over compressible material. Provide rodding access at all changes of direction and junctions. All below ground drainage to comply with BS EN 1401-1.

INSPECTION CHAMBERS
Underground quality proprietary UPVC 450mm diameter inspection chambers to be provided at all changes of level, direction, connections and every 45m in straight runs. Inspection chambers to have bolt down double sealed covers in buildings and be adequate for vehicle loads in driveways.

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 USING CRATES
Trench of soakaway to be provided slightly largely than designed depth after porosity test (if required) but just over 1m3 min from invert level of pipe.
Provide suitable geotextile over the base and up the sides of the trench over 100mm level and compact bed of coarse sand. Install AquaCell crate units or equivalent as manufacturer's details. Geotextile to be wrapped around crates.
Provide 100mm of coarse sand between the trench walls and over the AquaCell structure. Backfill with suitable material.

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 better than 80 lumens per circuit watt. All fixed to have lighting capacity (lm) 185 x total floor area, to comply with Part L of the current Building Regulations and the Domestic Building Services Compliance Guide.

FIXED EXTERNAL LIGHTING
Install low energy light fittings that only take lamps having a luminous efficiency better than 80 lumens per circuit watt.
External light fittings to have both the followiing:
- Automatic controls which switch luminaires off in response to daylight
- If luminous efficacy is 75 light source lumens or less automatic controls which switch luminaires off after the area lit becomes unoccupied, if luminous efficacy is greater than 75 light source lumens, manual control can be installed.

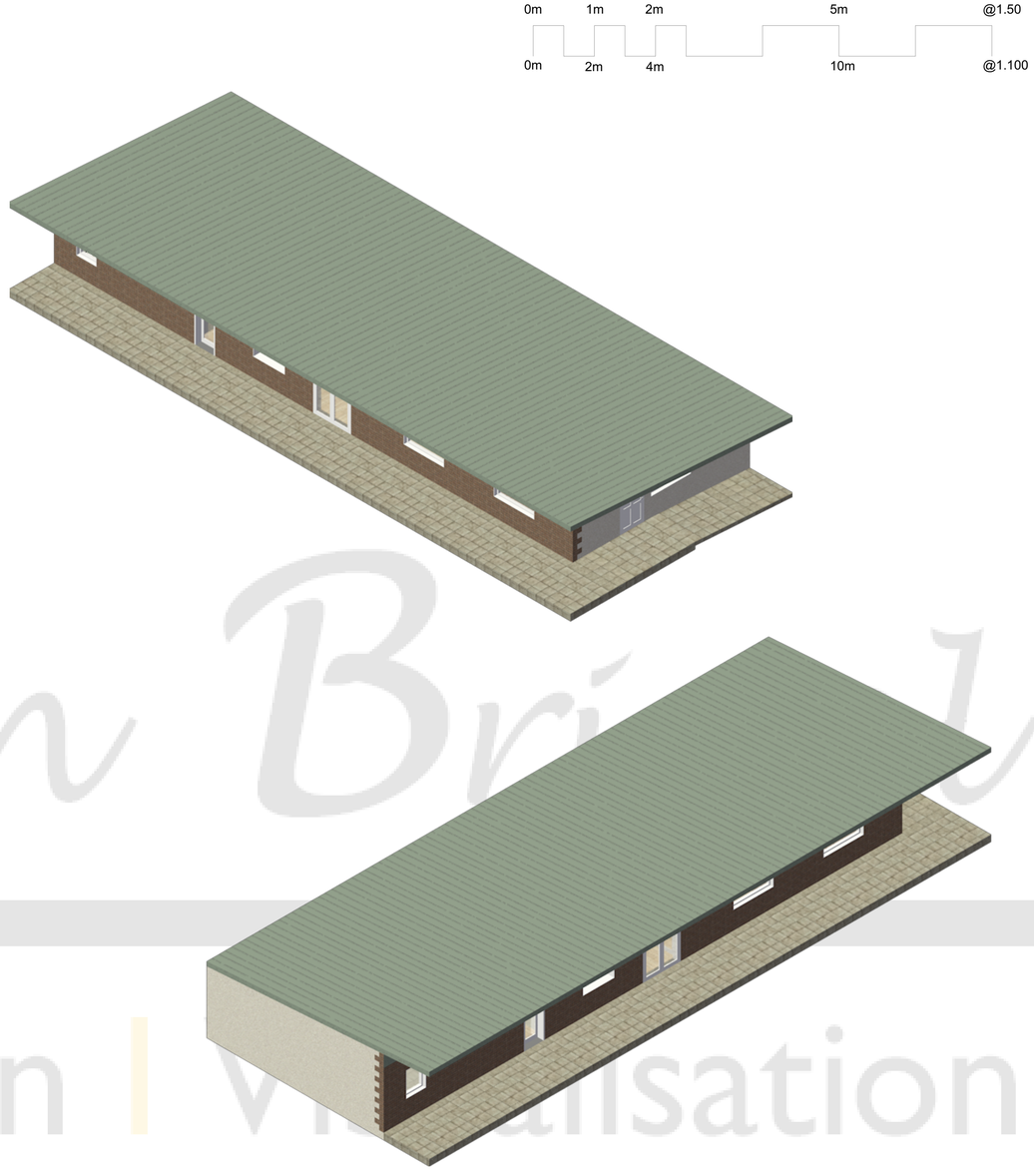
HEATING
Extend all heating and hot water services from existing and provide new TRVs to radiators. Heating system to be designed, installed, tested and fully certified by a GAS SAFE registered specialist. All work to be in accordance with the Local Water Authorities bye laws, the Gas Safety (Installation and Use) Regulations 1998 and IEE Regulations.
The energy performance of the new components to be assessed. The results should be recorded and given to the building owner.
All accessible pipes to be insulated to the standards in Table 4.4 Approved Document L.

NEW GAS BOILER
Heating and hot water will be supplied via a wall mounted condensing vertical balanced flue pressurised boiler with a minimum efficiency of 91% (as defined in ErP(1))
The energy performance of the new components to be assessed. The results should be recorded and given to the building owner.
All accessible pipes to be insulated to the standards in Table 4.4 Approved Document L.
All parts of the system including pipework and emitters to be sized to allow the space heating system to operate effectively and in a manner that meets the heating needs of the dwelling, at a maximum flow temperature of 55°C or lower..
No combustible materials within 50mm of the flue. Rooms to be fitted with thermostatic radiator valves and all necessary zone controls and boiler control interlocks. The system will be installed, commissioned and tested by a GAS SAFE Registered Specialist and a certificate issued that the installation complies with the requirements of PART L. All work to be in accordance with the Local Water Authorities bye laws, the Gas Safety (Installation and Use) Regulations 1998 and IEE Regulations.

Glass reinforced plastic (GRP) system with a current BBA or other approved
VENTILATED FLAT ROOF
(imposed load max 1.0 kN/m² - dead load max 0.75 kN/m²)
To achieve U value of 0.15 W/m²K
Glass reinforced plastic (GRP) system with aa fire rating and a current BBA or other approved accreditation be laid in compliance with manufacturers details by flat roofing specialist, on 18mm exterior grade plywood, laid on firings to give a 1:40 fall on 47 x 150mm grade C24 timber joists at 400 ctrs max span 3.22m (see engineer's details for sizes). Cross-ventilation to be provided on opposing sides by a proprietary eaves ventilation strip to give 25mm continuous ventilation, with fly proof screen. Flat roof insulation is to be continuous with the wall insulation but stopped back to allow a continuous 50mm air gap above the insulation for ventilation. Insulation to be 100mm Celotex GA400 between joists and 70mm under joists. Ceilings to be 12.5mm plasterboard over vapour barrier with skim plaster finish. Provide cavity tray where pitched roof meets existing wall. Provide restraint to flat roof by fixing using 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.
THIS IS A GENERAL GUIDE BASED ON NORMAL LOADING CONDITIONS FOUND IN DOMESTIC CONSTRUCTION. IT IS YOUR RESPONSIBILITY TO ASSESS YOUR DESIGN TO ASCERTAIN WHETHER ENGINEER'S DETAILS/CALCULATIONS ARE REQUIRED. PLEASE REFER TO THE TRADA DOCUMENT – 'SPAN TABLES FOR SOLID TIMBER MEMBERS IN FLOORS, CEILINGS AND ROOFS FOR DWELLINGS' OR ASK YOUR BUILDING CONTROL OFFICER FOR ADVICE.

OR

WARM FLAT ROOF
(imposed load max 1.0 kN/m² - dead load max 0.75 kN/m²)
To achieve U value 0.15 W/m²K
Flat roof to be covering to be glass reinforced plastic (GRP) system with aa fire rating and a current BBA or other approved accreditation be laid in compliance with manufacturers details by flat roofing specialist, onto 22mm exterior quality plywood over 165mm Celotex XR4000 insulation on sw firings to minimum 1 in 40 fall on sw treated 47 x 145mm C24 flat roof joists at 400mm ctrs to give a max span of 3.22m or as Structural Engineer's details and calculations. 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.
THIS IS A GENERAL GUIDE BASED ON NORMAL LOADING CONDITIONS FOUND IN DOMESTIC CONSTRUCTION. IT IS YOUR RESPONSIBILITY TO ASSESS YOUR DESIGN TO ASCERTAIN WHETHER ENGINEER'S DETAILS/CALCULATIONS ARE REQUIRED. PLEASE REFER TO THE TRADA DOCUMENT – 'SPAN TABLES FOR SOLID TIMBER MEMBERS IN FLOORS, CEILINGS AND ROOFS FOR DWELLINGS' OR ASK YOUR BUILDING CONTROL OFFICER FOR ADVICE.



LEAD WORK AND FLASHINGS
All lead flashings, any valleys or soakers to be Code 5 lead and laid according to Lead Development Association. Flashings to be provided to all jambs and below window openings with welded upstands. Joints to be lapped min 150mm and lead to be dressed 200mm under tiles, etc. All work to be undertaken in accordance with the Lead Development Association recommendations.

LEAD VALLEYS
Lead-lined valleys to be formed using Code 5 lead sheet. Valley lead and two tiling fillets to be supported on min 19mm thick and 225mm wide marine ply valley boards on either side of the rafters. Lead 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 and the Lead Development Association recommendations.

ROOF LIGHTS
Min U-value of 1.6 W/m²K.
Roof-lights to be double glazed with16mm argon gap and soft low-E glass. Window Energy Rating to be Band C or better. Roof lights to be fitted in accordance with manufacturer's instructions with rafters doubled up to sides and suitable flashings etc.

NOTE: TO BE CONFIRMED BY BUILDING CONTROL
NOTE: TO BE READ IN CONJUNCTION 'BUILDING REGULATIONS PG 1'

Your Design Bristol
Architecture | Design | Visualisation
605 Fishponds Road, Fishponds, Bristol, BS16 3AA.
studio@yourdesignbristol.co.uk ~ 0117 329 1818

Client:	Winterbourne Parish Council	Drawing:	BUILDING REGULATIONS PG 2	Project Description:	Revisions:	NB
Address:	The Greenfield Centre	Designed By:	CH		A	Author Retains Copyright.
	Park Avenue	Date:	07/12/2022		B	Responsibility is not accepted for errors made by others in scaling from this drawing.
	Winterbourne	Cad File:	CPBS361NJ		C	All dimensions, levels and angles to be checked on site by the contractor.
	BS36 1NJ	Status:	For Comment		D	All boundaries are assumed and we accept no liability for boundary inaccuracy.
		Scale:	Labelled @ A1		E	You are reminded of your responsibilities under the 'Party Wall etc. Act' 1996 where applicable.