

Building Construction Notes

For

Single storey extension

At

11B Hillcrest Close

Scaynes Hill

West Sussex

RH17 7PJ

For

Mr & Mrs C. Goodyear

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1. REVISIONS

ISSUE 1.0 – 09/07/2025 – Original.

2. SCOPE OF THE WORKS

The work comprises of:-

1. Single storey flat roof extension infilling between garage and dwelling.
2. Revision of foul drain.
3. Provision of new soakaway if required.

The persons carrying out the building works are advised to thoroughly read this specification and study the accompanying drawings before commencing the works. The designer is available to clarify all aspects if required.

3. HEALTH AND SAFETY

The Contractor will provide suitable safety, health and welfare measures, all in compliance with the current Safety, Health and Welfare Regulations applicable to the works.

The Contractor will be responsible for compliance by his own staff and all sub-contractors with the Health and Safety at Work Act in the works required to be carried out.

All materials, plant and equipment, supplied, used and installed on site shall comply with all current health, safety and welfare legislation. Any additional cost incurred to ensure compliance shall be deducted from the Contractor's account unless otherwise agreed by the Contract Administrator.

4. CONTRACT DESIGN & MANAGEMENT

The client and builder are responsible for notifying the HSE using their standard F10 form and for compliance with the Health and Safety legislation.

A Small works Construction Phase Plan is to be provided by the contractor and approved before work commences. And all mitigating measures indicated in the plan must be fully implemented on site at all times.

5. **HAZARDS**

The Contractor should undertake necessary investigations to establish locations of services within the site including overhead services.

The Contractor should also undertake necessary investigations to check for hazardous materials including asbestos, lead or other toxic substances and take appropriate measures.

All materials must be used in accordance with the manufacturer's instructions and recommendations. COSHH assessments and data sheets should be obtained by the Contractor prior to use of specified materials.

6. **BUILDING REGULATIONS**

These building works will require Building Control approval. It is the responsibility of the client or building owner to comply with this legislation.

The design may require modification during Building Control assessment. It is therefore recommended that building work does not start before approval is given to reduce the risk of increased building costs resulting from delays or unscheduled alterations.

All work carried out under a building notice before building regulations approval of the designers plans and specifications including the structural engineers calculations and details is done so exclusively at the clients own risk.

7. **PART L1B**

It is proposed to provide reduced levels of insulation to the proposed flat roof and existing walls due to the constraints imposed by the existing dwelling.

The area of the proposed window and door is less than the allowable 25% of the proposed floor area plus existing encapsulated door and windows and is to be used to offset the proposed higher roof and wall U values.

An "extension U Value Check Sheet" is provided.

Proposed U values (min PART L requirement in brackets)

Flat Roof – 0.18 (0.15).

Floor – 0.21 (0.18).

Cavity Wall – 0.18 (0.18).

Internalized Walls – 0.28 (0.18).

Windows & Door - 0.14 (0.14)

8. PLANNING PERMISSION

The proposed extension appears to meet the householder permitted development criteria, however the client/building owner is advised a certificate of lawful development is obtained from the LPA before commencement of the works to confirm this assumption.

9. CHECK EXISTING STRUCTURAL ELEMENTS

All existing structural elements that will be required to take additional loads, lintels, joists, foundations etc, are to be exposed at commencement of the works to allow inspection and their ability to carry the additional loads determined. If deemed necessary they are to be upgraded or replaced in accordance with the structural engineer's calculations to the approval of the Building Control Surveyor.

NOTE

The above applies to the following:-
Lintel over the toilet window.

10. DEMOLITION AND REMOVE

The building contractor is to fully inspect the existing buildings/structures to satisfy himself of the load carrying status of all elements that are to be removed. Where necessary temporary support is to be provided before any pulling down work is started. All useful salvage items are to be offered to the client for their own use and if not required are to be disposed of by the building contractor.

All waste and debris is to be carted away as they accumulate to an approved tip. The building contractor is to allow for the cost of skips and carting away and to keep the site clean and tidy.

11. FOUNDATIONS

Concrete trench fill foundations to suit site conditions to be provided to all new load carrying walls.

The trenches are to be approved by the building control officer for adequate depth before pouring any concrete.

If clay/shrinkable sub-soil is found the foundations are to be designed in accordance with the NHBC chapter 4.2 or LABC foundation calculator to take into account the effect of the adjacent Silver birch. The minimum depth to be 1.1m.

12. CAVITY WALLS BELOW DPC/GROUND LEVEL

100mm brickwork to match existing;
100mm cavity (filled with lean mix up to bottom of cavity wall insulation);
100mm dense concrete blocks.

All masonry below DPC level is to be of a suitable robust specification to resist chemical attack. All blockwork is to be dense concrete blockwork.

13. DAMP PROOF COURSE

All new walls are to be provided with horizontal DPC at ground floor level and an external DPC to the external leaf of the cavity wall located a minimum of 150mm above the finished ground level.

The new wall DPC is to be lapped with and linked to the existing DPC.

14. CAVITY WALL ABOVE DPC

100mm brickwork to match existing;
50mm clear cavity;
50mm Celotex CW4050 cavity wall insulation;
100mm Celcon Hi-7 blockwork;
62.5mm Celotex PL4050 thermalboard and set fixed with plaster dabs and mechanical fixings.

Wall construction is to achieve a U value of 0.18.

15. CAVITY WALL TIES

All cavity walls are to be built up in even and regular lifts and provided with pressed stainless steel cavity wall ties to suit the

width of the cavity complete with cavity insulation retention clips to ensure a minimum 50mm clear cavity is maintained.

Ties are to be provided at maximum 750mm horizontal centres and maximum 450mm vertical centres throughout all walls.

At the jambs of all openings formed in cavitywork wall ties are to be provided at maximum 300mm vertical centres within 225mm of the reveals.

16. CAVITY CLOSERS

Cavity walls are to be closed at plate level using Rockwool TCB cavity closers or similar.

All window reveals formed in cavity walls are to be fitted with RMC Thermabate combined vertical DPC anti-cold bridge insulation units to sills and jambs.

17. EXTENSION NEW /EXISTING WALL JUNCTIONS

Connect new cavity walls to existing solid brickwork garage and house walls using Furfix stainless steel wall plate system or similar approved. To be installed in accordance with manufacturer's instructions.

The vertical plates are to be bolted to existing walls at 400mm vertical centres with a vertical DPC built in between the plate and wall. Then the new masonry attached to the plates via clip in wall ties as per the instructions.

The external joint is to be sealed with a polysulphide mastic sealer colour to suit the existing brickwork.

The internal face of the existing walls is to be painted with two coats of RIW Flexiseal or similar for a horizontal distance of 1.0m in from the walls junction to hold back any penetrating dampness.

All R.I.W. Liquid damp proofing membranes or other similar used to be allowed to fully dry before fitting insulation and/or plastering over.

The RIW is to be blinded with sand when tacky and finished with Celotex thermalboard and set.

18. FLOOR

The extension floor is to be set down 150mm below the level of the existing house floor to achieve an adequate room height. The new floor maybe at ground level in places, therefore additional DPM and tanking has been specified.

Floor finish to the client's approval on;
Minimum 65mm cement and sand screed with Isocrete fibre reinforcement on separating layer on;
80mm Celotex GA4080 insulation with 20mm TB4000 edge insulation on;
2 coats of RIW Flexiseal blinded with sand on;
125mm concrete with Bituthene membrane at perimeter to dress up abutting walls to overlap with the new and existing wall DPC's on;
1200 gauge polythene DPM, dressed up abutting walls and overlapped with the horizontal DPC's on;
50mm sand blinding on;
150mm consolidated hardcore.

The overall U value of the floor is to be 0.21.

19. DOOR & WINDOW

Provide and fit white UPVC window and door to the clients approval as illustrated on the rear elevation fitted with high performance Band 'A' double glazed sealed units to provide an average whole area U value of 1.4.

The glass fitted to the door must be laminated or toughened safety glass. Opening casements to be provided with security locks and draft seals.

Window to be provided with frame vents to provide a minimum 8000mm² background ventilation.

All frames are to be set back 30mm from external face and are to be mechanically fixed to the structure of the building in accordance with the manufacturer's instructions.

Door and window to be supplied and fitted by a FENSA registered company.

20. CATNIC LINTELS

Provide a Catnic CG90/100 standard duty open back steel lintels over the door and window openings on minimum 150mm end bearings.

21. BLOCK UP GARAGE DOOR

Remove door and frame and infill the opening with 100mm concrete blockwork on existing DPC and brickwork wall. Connect new blockwork to existing brickwork using stainless steel wall plates.

22. BLOCK UP TOILET WINDOW

Remove window and infill the opening with 100mm concrete blocks built into existing reveals. Connect new blockwork to existing wall using stainless steel wall plates and finish with render and set to match existing.

23. TOILET WINDOW LINTEL

The existing lintel will carry additional loads from the new flat roof. The existing lintel is to be exposed for inspection and if deemed necessary a 100mm x 65mm high prestressed concrete lintel is to be built in over the opening in the outer leaf as shown on the detail drawing.

ALTERNATIVELY

The outer leaf of the opening maybe in filled with 100mm concrete blockwork to form a recess,

24. BLOCK UP LIVING ROOM WINDOW

Remove window and infill the opening with 100mm concrete blocks built into existing reveals. Connect new blockwork to existing wall using stainless steel wall plates and finish with render and set to match existing.

ALTERNATIVELY

The outer leaf of the opening maybe in filled with 100mm concrete blockwork to form a recess for shelves etc.

25. EXISTING WALLS-INSULATION & FINISH

The existing garage and house walls that are to be internalized are to be cleaned, prepared and clad with 77.5mm Celotex thermalboard and set (with sealed joints) fixed to walls using plaster dabs and mechanical fixings in accordance with the manufacturer's instructions to achieve a U value of 0.28.

26. BOXING/FALSE WALL

Construct a false wall to conceal the soil and vent stack and waste connections from the existing toilet.

12.5mm plasterboard and set on 75mm x 50mm studwork @ 400mm c/c with 75mm x 50mm head and sole plate on new floor.

Form access panel to allow maintenance and cleaning of waste pipes and connections.

27. BEDROOM DOOR

Remove existing exterior UPVC door and frame.

Reduce opening width if necessary using a timber stud and provide and fit a FD20 fire door and softwood frame to the client's selection.

Glazing if used is to be frosted for privacy and must be toughened or laminated safety glass.

Allow to make good reveals and to form step down into bedroom.

28. FLAT ROOF**SETTING OUT**

The new flat roof is to be set out top down, so the upper surface of the built up felt matches (or is lower than) the existing flat roof channel.

12mm solar reflective chippings on;
3 layers of elastomeric built up felt to BS EN13707 on;
18mm T & G OSB3 conditioned structural Sterling Board on;
120mm Celotex XR4120 rigid insulation on;
Air vapour control layer (Sopravap Stick Alu S16) on;

18mm OSB base layer on;
Timber firing pieces to fall the flat roof to the rain water gutter @ 1 in 60 on;
47mm x 147mm C24 flat roof joists @ 400mm c/c on;
100mm x 50mm timber wall plate on cavity wall and 47mm x 147mm timber wall plate bolted to existing wall @ 400mm c/c and GMS joist hangers.

Clad the ceiling with 12.5mm plasterboard and set on 500G polythene VCL with sealed joints.

The roof construction is to achieve a U value of 0.18.

Allow to form verges and drip into rainwater gutter and to dress the felt membrane up the abutting walls/fascias to be fully bonded to the existing roof membrane.

29. ROOF TRIMMER-T1

Provide and install 2no. 47mm x 147mm C24 timbers bolted together @ 400mm c/c to form a timber trimmer to reduce the span of the flat roof joists.

Build into the depth of the roof and connect the flat roof joists to trimmer T1 using GMS hangers.

Trimmer T1 is to be connected to existing walls using GMS hangers, alternatively form pockets in existing walls for trimmer ends to bear into.

30. CONTINUITY OF INSULATION

Between the cavity wall and underside of the warm roof deck/insulation build in 120mm Celotex XR4120 insulation for continuity of insulation between the new warm flat roof and cavity wall.

31. FLAT ROOF ABUTMENT WITH GABLE WALL

Flat roof felt is to be dressed minimum 150mm vertically up abutting cavity gable wall using tilting fillets.

Provide and install Messrs Cavity Trays Ltd Cavitray or similar with code 5 lead DPC and apron flashing dressed over flat roof

membrane upstand to form a weathertight junction. Make good brickwork wall.

Remove existing UPVC bargeboard and soffit as necessary to allow the new flat roof to be constructed and cavity wall tray and flashings to be installed. Allow to reinstate bargeboard and flash around it to form a weathertight junction.

32. FASCIA BOARDS

Provide and fit white UPVC fascia boards.

33. R W GOODS

Provide and fit black UPVC rainwater goods to match existing. Gutters to be half round 125mm. Downpipe to be 75mm diameter.

Allow to alter the existing remaining part of the garage rain water gutter to connect to the new down pipe.

34. STORM DRAIN

From new down pipe location lay 100mm UPVC pipes surrounded in 150mm peabeach at 1 in 60 fall to connect into existing stormwater system if available or to a new soakaway.

PROTECTION OF SHALLOW DRAINS

Where the drain cover is less than 800mm it is to be protected in accordance with Diagram 11 or Approved Document Part H. Surround the UPVC pipes with 150mm peabeach and cover over with 25mm Flexcell board and then protecting by laying 100mm reinforced concrete slab over to be supported on stepped trench sides with min 300mm bearing onto original soil.

If there will be hard paving over the drain the above will not be necessary subject to the building control surveyor's approval.

35. SOAKAWAY

If it is not possible to connect the new downpipe to an existing stormwater system a new soakaway is to be provided in the rear garden.

A rainwater porosity test is to be carried out to determine the designed size of the soakaway and the results submitted to Building Control prior to construction of the soakaway.

New soakaway to be located a minimum of 5.0m from any buildings, and to comprise of circular pre-cast perforated rings or GRP crate type chambers.

Locations and sizes to be to the approval of the building control officer.

36. SOIL & VENT STACK

The existing 100mm vent pipe is to be replaced with a 100mm UPVC soil and vent stack in the same location to pick up the existing toilet handbasin and washing machine waste connections.

The new stack is to be concealed within the new studwork false wall/boxing and taken up between the flat roof joists and out through the new flat roof. Allow to fit weathering slate and domical grill.

37. FOUL DRAIN UNDER EXTENSION

The existing foul drain is to be reconstructed under the extension in a new run between the soil and vent stack and new manhole as shown on plan, in 100mm UPVC pipes at 1 in 40 gradient.

Where the new drain runs under the ground floor surround the 100mm UPVC pipe in 150mm peabeach and cover over with 2no. layers of 12.5mm Flexcell board before backfilling to the formation level of the new ground bearing slab.

NOTE:

If the drain is within 300mm of the underside of the new concrete floor slab surround with concrete and make integral with the floor slab.

Where drains pass through walls below ground level allow to support the masonry over using RCL's.

38. ALTER FOUL DRAIN RUN

Allow to reposition manhole and alter existing drain run slightly to suit using 100mm UPVC pipes laid in 150mm peabeach @ 1 in 40 gradient

PROTECTION OF SHALLOW DRAINS

Where the drain cover is less than 800mm it is to be protected in accordance with Diagram 11 or Approved Document Part H.

Surround the UPVC pipes with 150mm peabeach and cover over with 25mm Flexcell board and then protecting by laying 100mm reinforced concrete slab over to be supported on stepped trench sides with min 300mm bearing onto original soil.

If there will be hard paving over the drain the above will not be necessary subject to the building control surveyor's approval.

39. RECONSTRUCT MANHOLE ON EXISTING DRAIN RUN

Remove existing manhole out of the way of the new wall and foundation.

Construct a new manhole chamber in 100mm class B semi-engineering brickwork on a 150mm concrete base and render externally with waterproof rendering. Form open half channel with easy slipper bend and smooth concrete benching.

Provide and fit a medium duty galvanized steel cover and frame.

Alternatively use a pre-made GRP chamber on a 150mm concrete base and surrounded with lean mix.

40. WASTE PIPES

All waste pipes are to be UPVC with solvent welded joints.

Each sanitary appliance/fitting is to be provided with a 75mm deep seal anti-vac trap with removable trap for cleaning and is to have an individual waste pipe run to the soil stack or gully.

Waste pipe sizes:-

Soil and vent stack-100mm diameter

WC-100mm diameter

Handbasin-32mm diameter

All waste pipes are to be provided with Roding eyes at changes in direction for cleaning.

Waste pipes are to be concealed and boxed in and access panels to be formed to allow pipework maintenance and cleaning.

41. EXTRACTOR FOR TOILET

The existing window is to be blocked up, therefore mechanical extraction is to be provided.

Provide and fit a wall mounted extractor unit to achieve 15 liters per second extraction rate with 20 minute over-run, to be operated by the light switch.

From the extractor unit install a duct between the new flat roof joists and a terminal in the new flat roof fascia board.

COMMISSIONING CERTIFICATES AND LOG BOOK FOR MECHANICAL EXTRACTOR UNITS

All mechanical extractor ventilation rates and the fan units themselves are to be designed and specified and installed and tested and certified by a UKAS approved company and test certificates are to be provided upon completion to be submitted to the building control officer along with the owners log book.

42. SMOKE DETECTOR

Provide and fit in the position shown on the plans, a soffit mounted combined smoke detector/alarm sounder unit to comply with BS5839-6;2019. To be interlinked with the existing smoke detectors if existing.

To be powered by a separate electrical circuit (with built in battery backup) and to be inter-wired to sound in unison.

43. ENERGY EFFICIENT LIGHTING

All the fixed lighting used throughout is to comprise of high efficiency/low energy LED fittings with an efficacy of 95 luminaire lumens per circuit watt or better.

44. ELECTRICAL WORKS AND CERTIFICATION

All electrical works are to be designed and installed by an IEE registered electrician in accordance with part P of the building regulations 2000 and upon completion he or another suitably competent person is to test all circuits and installations and a test certificate issued to the building control officer along with the owners log book.

All switches and sockets are to be located between 450mm and 1200mm above finished floor level in accordance with Part M diagram 29.

45. RECESSED DOWNLIGHTS

If it is proposed to install recessed down-lights it is essential to ensure they are fitted in accordance with the manufacturer's instructions to avoid overheating.

Insulation shall be kept away from the recessed down-lights to ensure they do not over heat. Proprietary hoods or insulation support boxes designed to provide an adequate air space and also support the insulation should generally be provided to each down-light including those with rigid steel body construction. Only where the down-light is marked with an insulating ceiling 'F' mark should insulation be laid directly over the down-light.

Details to be forwarded if the client/contractor decides to fit this type of lighting.

46. HOLDING DOWN STRAPS

Provide and fit 30mm x 5mm GMS holding down straps at 1200mm centres to fix all wall plates down to tops of walls.

Allow to strap flat roof joist ends down to cavity walls with 30mm x 5mm GMS holding down straps at 1200mm centres.

47. ARCHITRAVE/SKIRTING

Provide and fit new softwood architraves and skirting boards, pattern to match existing or to the clients selection, to all new walls and door openings.

48. VAPOUR BARRIERS

All specified vapor control layers (VCL) are to be continuous and inter-linked with sealed joints to form an air tight construction to provide thermal efficacy.

49. CELOTEX

Celotex and Rockwool insulation or similar approved insulation products must be installed in strict accordance with the manufacturer's instructions and details to ensure full thermal performance will be obtained.

50. TIMBER TREATMENT

The roof timbers are to be pre treated with preservative to prevent the infestation of House Longhorn Beetle and are to be certificated and guaranteed for the same. Vulnerable timbers such as cut ends and abutting walls etc are to be dipped in additional preservative, to be compatible with the original pre-treatment.

51. BOILER AND CENTRAL HEATING

The existing gas powered balance flue boiler is to be retained.

The boiler is controlled by a programmer.

The existing radiator circuit is to be extended to serve a new steel panel radiator in the new bedroom complete with thermostatic regulating valve.

Pipework that runs through unheated areas is to be fitted with foam sectional lagging.

Work to the central heating system is to be designed and installed by a GaSafe registered technician/heating engineer and after commissioning and testing the installation a copy of the GasSafe certificate is to be provided to the building control officer along with the owners log book.