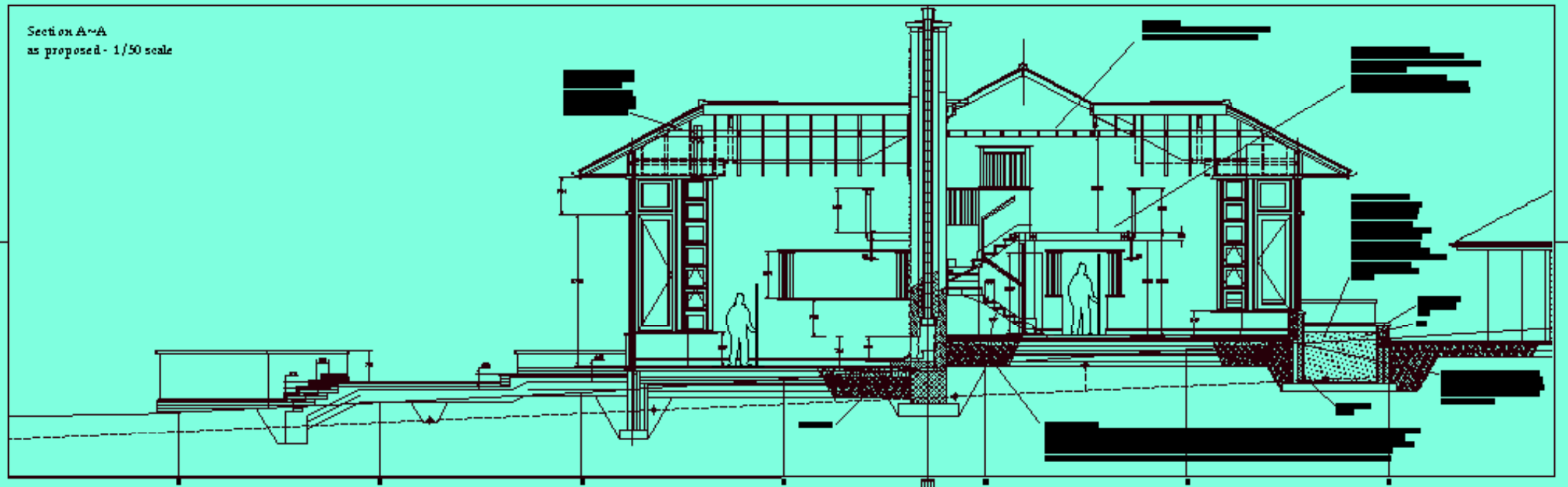
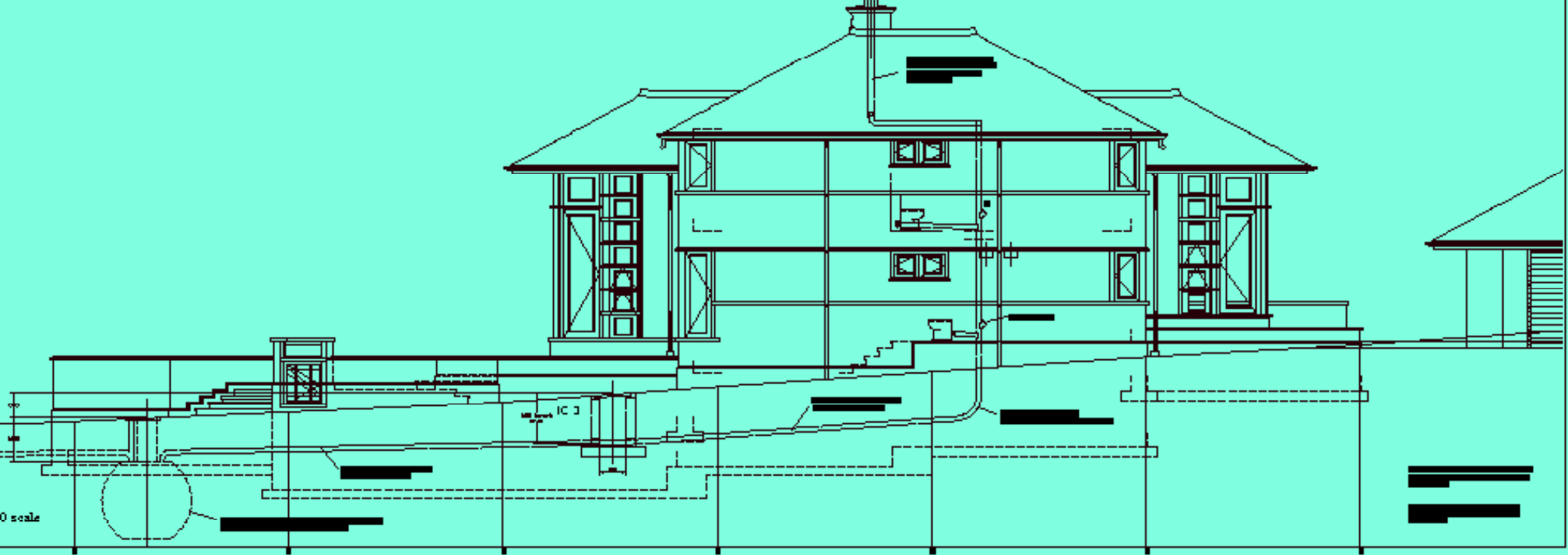


Building Regulations drawings are the heart of the drawings needed to build a given structure. They, together with the Structural Engineer's designs and calculations consist about 70% of all of the information needed to complete a building. This is a typical Building Regulations drawing - a plan of a newbuild residence. It shows the wall construction in detail, has basic setting-out dimensions, section lines referring on to other drawings, and identification of all of the rooms, doors and windows for ease of reference during construction.

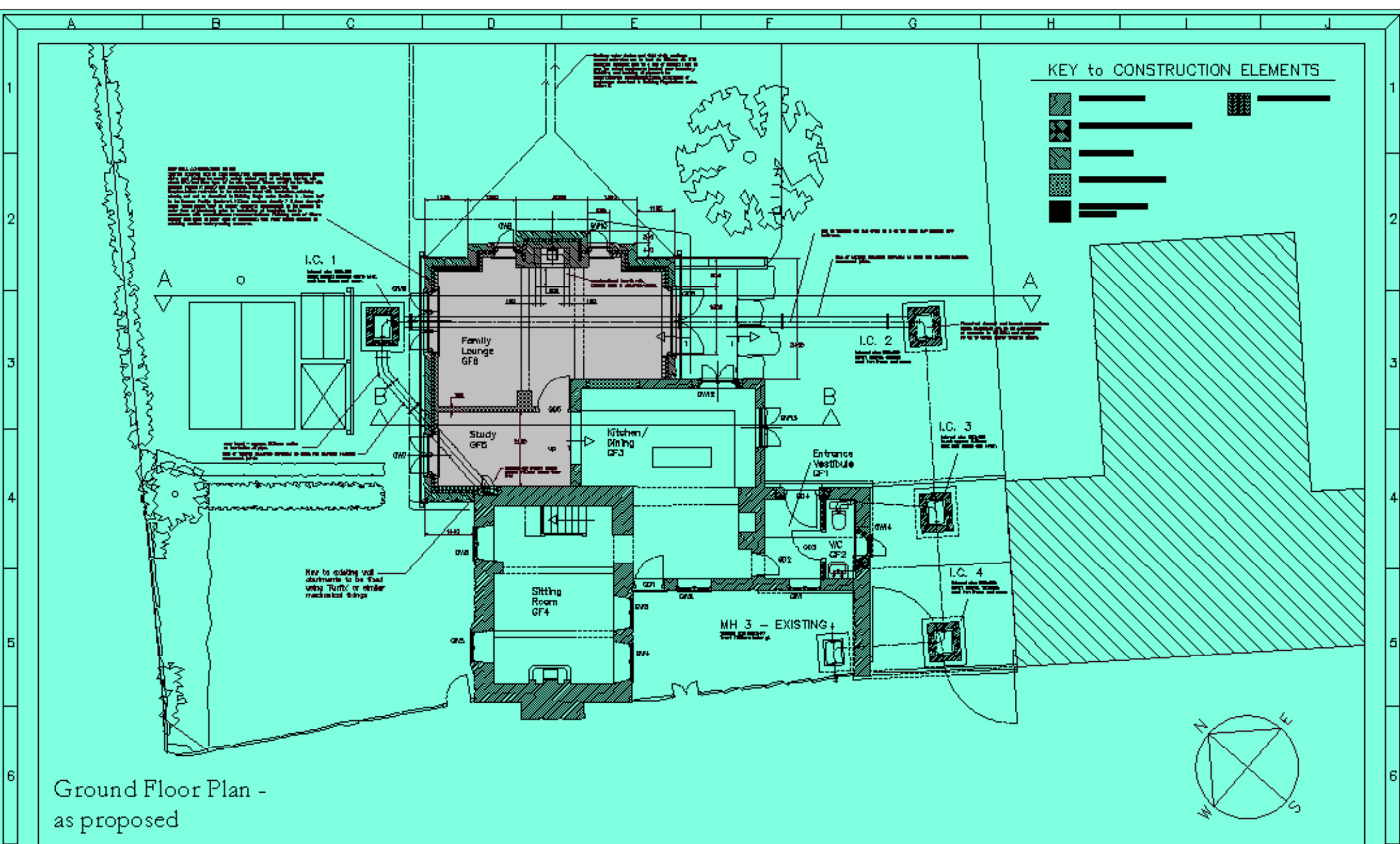
Section A-A
as proposed - 1/50 scale



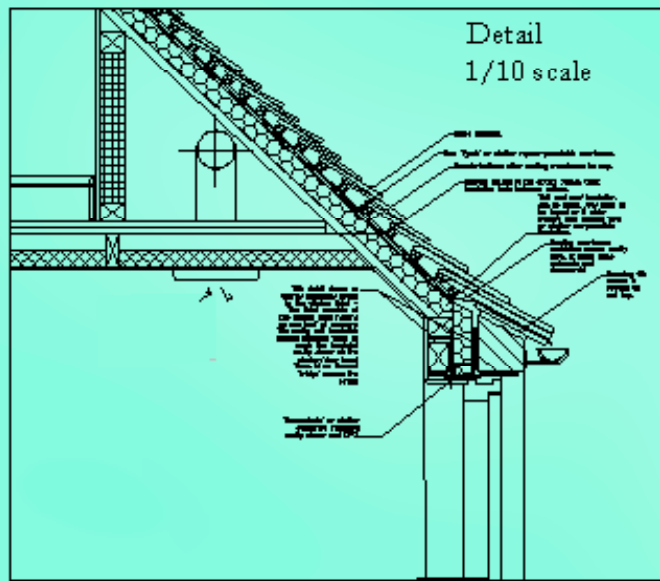
North Elevation
as proposed - 1/50 scale



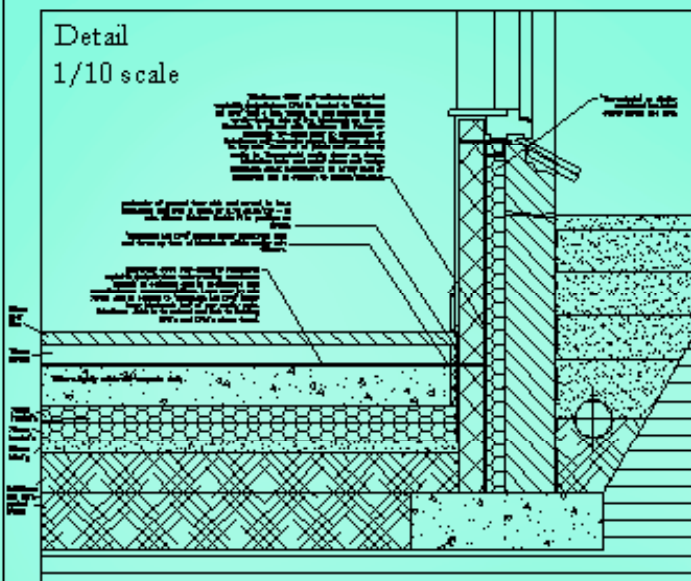
This is another Building Regulations drawing of the same building as the previous sheet. This drawing shows an elevation and a section through the building. Both drawings show details important to the gaining of Building Regulations consent and in the construction of the building. Drain runs are shown as well as the positions of a new manhole and a new septic tank (on the bottom drawing). On the upper drawing the large central chimney stack is shown and on the lower drawing vents at the head of the main drain runs are shown to lead to the stack at loft level. CK vented all drains up through the stack to keep the roof clear of ugly vent pipe penetrations.



This Building Regulations plan drawing shows an extension to an existing cottage. Rooms, doors and windows are clearly identified for ease of reference on site. New walls are shown clearly, and even the line of overhead beams is shown (there are two flanking the fireplace). On this project considerable ingenuity was required to get the drains from the existing cottage to work with the extension in situ and the plans show that this necessitated the construction of FOUR new manholes. Nevertheless Building Regulations consent was gained, the manholes were constructed (they work perfectly) and this extension was successfully completed.



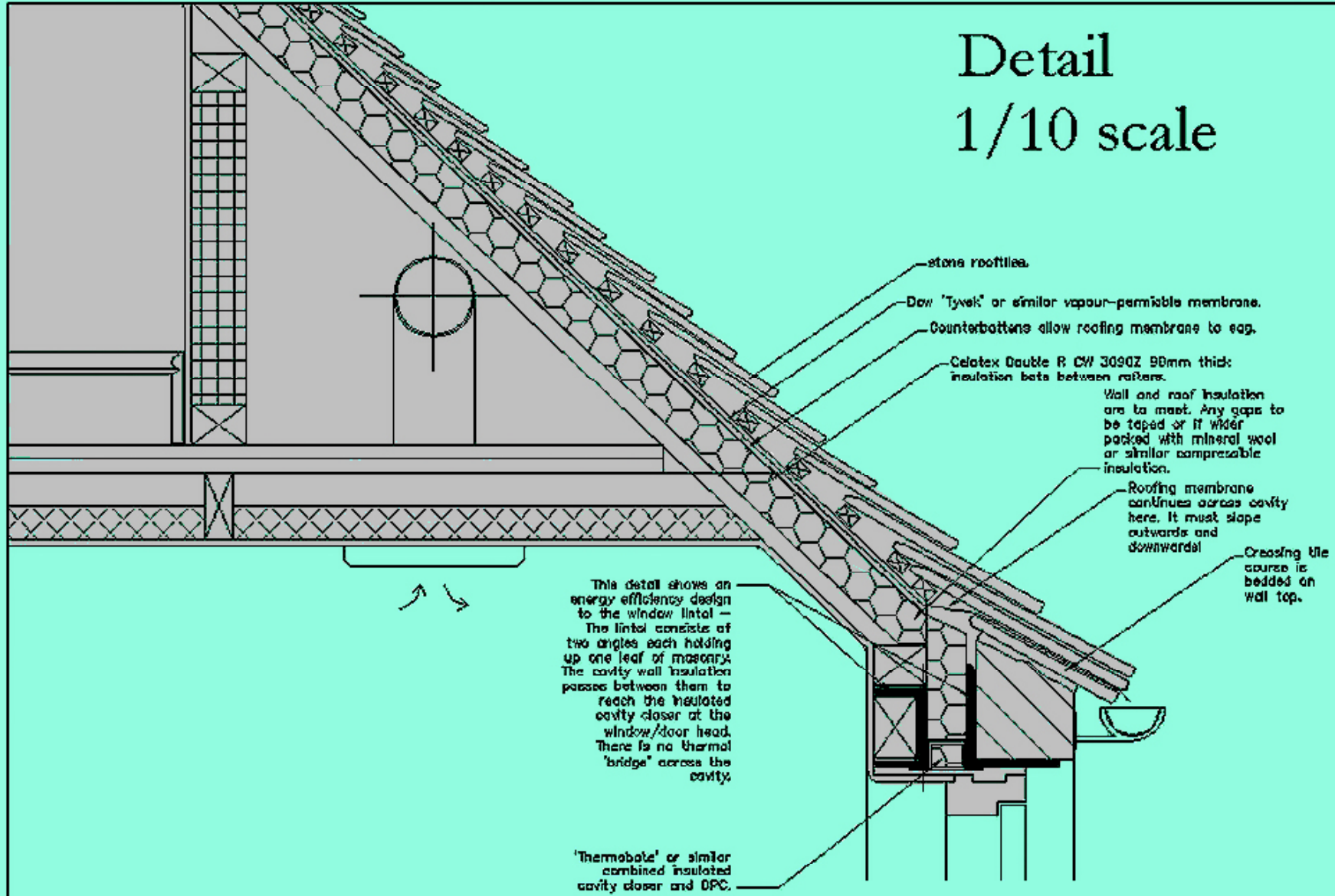
Section AA - as proposed 1/50 scale



North East Elevation - as proposed 1/50 scale

This is another Building Regulations drawing for the extension to a cottage shown on the previous sheet. This drawing shows a cross section through the extension, an end elevation showing the substantial chimney stack, and a couple of important construction details. The builder needed very little additional information in order to construct this extension. On the following sheet the roof eaves detail at the top left of this drawing is shown in greater detail.

Detail 1/10 scale



This is an enlargement of the detail drawing shown at the top left of on the previous sheet. It shows an eaves detail at large scale. What is unusual about it is the double lintol detail at the window head. By having twin lintols - each supporting a separate leaf of the cavity masonry wall - the wall insulation is able to run uninterrupted to the window assembly itself between them. Use of a conventional single-part lintol here would permit a considerable cold bridge. The adoption of this detail throughout a building can bring roughly the equivalent gain in thermal efficiency as double glazing over single glazing. CK apply the most up to date thinking on thermal efficiency to all of our projects.

BUILDING REGULATIONS NOTES

These Notes are to be considered part of the Building Regulations Drawings set and are to be read in conjunction with them.

GENERAL

- Contractor to give Building Inspector min 48 hours notice of commencement of works.
- All materials and Workmanship are to be in accordance with all currently applicable British Standards, Codes of Practice, CDM Regulations and Acts of Parliament.
- Materials are to be suitable in nature and quality in relation to the purposes and conditions of their use.

SECTION A - STRUCTURE

- Structural timber member fixing, bearing and bracing details for roof structure and first floor structure - see Structural Engineer's notes.
- Heavy detailing splices/grade of timber to be fixed by Structural Engineer.
- Joists in beams to be no deeper than 0.125 of the joist depth, and not cut closer to the support points than 0.07 of the span and not further away than 0.125 of the span.
- Holes in beams to be no greater than 0.20 of joist depth in diameter and drilled at the neutral axis not less than 2 diameters apart (centre to centre) and to be located between 0.25 and 0.4 times the span from the support.
- Structural steelwork member fixing and bearing details including floor and rafter levels and pedestals - see Structural Engineer's notes.
- Bearing areas to be not less and uniformly to be in accordance with BS5951: Part 2 (91).
- Masonry masonry walls sections to Studlar (retained existing structure) to be site-cast brickwork outer leaf block bonded to existing existing brickwork, full-st cavity insulation of rigid insulation bats (core carbon fibre/foam), internal leaf of brickwork. Cavity face of inner masonry leaf to be given three coats of RFA asphaltic emulsion or similar prior to insulation and outer leaf being constructed. Cavity wall ties to be stainless steel type to BS7542: 1978. See also notes re drawings.
- Shingles steel wall ties to be spaced as closely as possible to 300mm centres horizontally and 450mm centres vertically. At unbraced joints ties to be as close as possible to 300mm centres vertically and within 200mm of the sides of unbraced gables.
- Block walls to be properly bonded, solidly bedded in mortar, and conform to BS5572: Part 1: 1981.
- See Structural Engineer's details for details of any blockwork separate joints and joint reinforcement.
- Mortar for masonry walls to be as specified by Structural Engineer or as given in BS 5628 Part 1: 1978 or 1:1:6 Portland cement, fine sand and fine aggregate measured by volume of dry materials.
- Lateral support of walls by roof and floors to be to Structural Engineer's details. All masonry straps/anchors/angles to be stainless steel.
- Chases vertically to be no deeper than 1/3 of thickness of wall leaf, horizontally not deeper than 1/3 of thickness of wall leaf. Chases not to be so positioned as to impair the structural stability of the wall.
- Foundations: Refer to Structural Engineer's details - foundations shown on drawings are subject only.
- New walls of Annex are to be mechanically fixed to the existing Studlar walls with 'Tuffit' or similar mechanical fixing strips.

SECTION B - FIRE SAFETY

- Both the Annex and the Studio are single storey construction. The Annex falls within the definition of a dwelling house of category 1G.
- All structural frames, beams, loadbearing walls (internal and external), and floor structures are to have the resistance of 30 minutes - as given in Appendix A table A1 of the Building Regulations 2010.
- The surfaces of every all internal walls and ceilings are to have Class 1 or higher spread of flame - with walls and ceilings plaster-finished. The only exception is the partition in the Annex between the Kitchen and the Bedroom and the Bedroom and the Lounge which is to be of timber board and batten construction. The boards are to be min 25mm thick and the hardwood battens min 18mm thick.
- The stairwell of the new Annex is to be fire protected with 2 coats Mullite '300' Intumescent coating over 2 coats Mullite touch-up primer on dressed and rubbed down sheetrock, with a topcoat of 530 top water. Leadings and application to be to manufacturers instructions, giving 1/2 hour FR to BS476: Part 1: 1972.
- New first floor structure to Annex to have min 25mm T10 boarding or 25mm T60 sheets of plywood/wood chipboard flooring on joists of least 30mm wide, and with a ceiling finish under it of min 12.5mm plasterboard (fixed with min 40mm galvanised nails) min 6mm green plaster finish - all giving 1/2 hour FR.
- New first floor structure of Annex is to have cavity barriers in the form of solid strutting or shown on the open section drawings. Cavities in external timber framed wall structure are to be closed at head and sill.
- Storage gallery of Studio to be re-floored with min 25mm thickness lag ply sheathing.
- Unprotected areas: The closest part of the Annex extension to a boundary is on the Eastman part, where the external walls approach to approx. 0.6 metres of the East nearest boundary. At this distance there is a limit of 18 square metres to unprotected areas to small buildings (Diagram 22 of B4). The area of timber cladding to the East elevation is (length) x (height) = 17.1 square metres - within permissible limits.
- Roof construction: Proposed roof covering to the Annex extension is to be plain slop tile, which has a spread of flame designated of AA, and can be fixed with 8 mm x 40mm nails (the closest approach to any boundary is approx. 3.3 metres).
- The fire resistance of the bulk insulation complies with the recommendations of part J regarding proximity to the roofcovering (due to terminate min 400 above highest section of existing roofline).
- A fire detection and alarm system in accordance with BS5839-1:2002+1:2013 or at least Grade D is to be installed to the Parent Annex. This system is to be combined with a smoke detection system in compliance with BS5846-1:2002 or BS 5446-2:2002. Both systems are to be mains powered with battery backup.
- Bedroom A14 is to be fitted with windows of min 450 clear opening width and 550 clear opening height giving alternative means of escape in accordance with Approved Document B1, paragraph 2.6.6.

SECTION C - SITE PREPARATION AND PROVISION TO MORTARS

- Site preparation: Turf and other vegetable matter to be removed from ground to be covered by eduction to a depth sufficient to prevent later growth.
- All contaminants to be dealt with according to the provisions of Table 2 of Approved Document C2.
- Hardcore to be clean broken brick or similar inert, substantial free from harmful materials - including water-soluble sulphates in quantities which would damage concrete. New floor to Annex is to be with concrete ground-base slab with 150mm thick, with damp proof membrane to prevent moisture reaching the upper surface. Use of concrete and reinforcement to Structural Engineer's detail.
- See drawings for location of Damp Proof Membrane (DPM) and Damp Proof Course (DPC). DPM to be laid and lapped in accordance with manufacturers recommendations and fix to new and existing Damp Proof Courses where found.
- New concrete floor under in Studio to be min 100mm thick concrete slab with DPM and DPC's fixing through to existing DPM and DPC's where found. Studio slab is to incorporate thickened section under new feature brick and wall. See Ground Floor plan. Design of slab and foundation to brick wall to be to Structural Engineer's detail.
- New external walls to Annex are to be masonry work with timber cladding incorporating a vertical vertical cavity behind the timber cladding and a vapour-permeable membrane behind the counterbottom. A further membrane layer between the blockwork and timber cladding is to act as a vapour and moisture barrier with all joints taped.
- Strength of mortar to be compatible with strength of blocks (7 N/mm medium density). Provision of masonry joint reinforcement around openings in blockwork to prevent cracking to be to Structural Engineer's detail (if deemed required).
- Annex floor to have BSHuure 4000 self-adhesive rubberised asphalt/polyethylene waterproofing membrane applied to concrete slab in accordance with manufacturers recommendations. Taps to be min 75mm to existing shears and where bonded to 'Mullithane NR DPC' under blockwork leaf of new external masonry walls. BSHuure 4000 is to extend and fix to existing DPC's and DPM's where found in the Studio structure. See detail on Drawings C and D.
- All external walls are to have horizontal DPC's - min 150mm above existing ground level to prevent moisture ingress up walls. New internal walls are of non-structural and sit on top of continuous floor DPM's. See also details re drawings.
- DPC's to be installed to joints and ends of all external doors and window assemblies.
- Cavity wall fill: All insulation to cavity walls is to be Celvolux Tuff R. G430W02 40mm with rigid insulation bats built into sheetrock walls with fully taped joints where possible. Insulative bats to be pushed to rear blockwork face leaving a 10mm gap to the outside. Fy-filing panels to have max 6mm diameter holes drilled at 100mm centres in the course the ply panel at approx 160mm from the top and bottom of the panel at low and high levels to ventilate all stud cavities.

SECTION D - Does not apply as it is not envisaged to use any thermally-broke foam insulation.

SECTION E - BOUND INSULATION

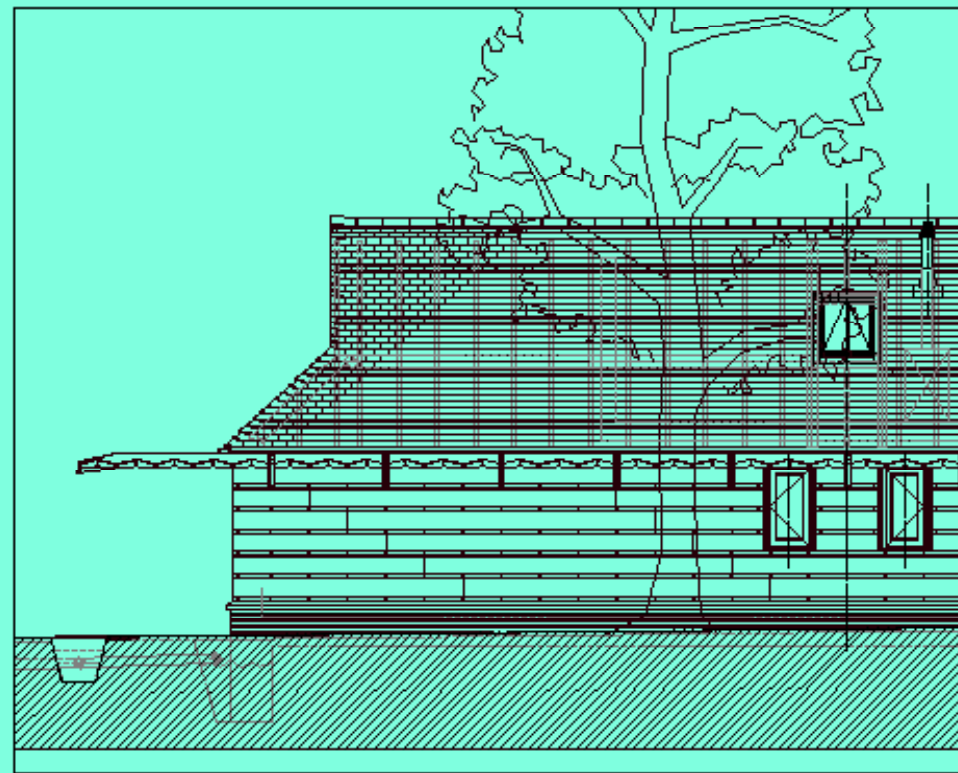
- The subject property is a single occupancy residence, as the provision of Section E do not apply.
- However, sound-insulating measures are to be introduced into all partitions within the residence as follows:
- New sheetrock partitions on Ground Floor within Studio area are to incorporate double plasterboard sheet to each side of the studs, the outermost of which is to be skim plastered.
- The central partition to the Annex which divides the Kitchen, Bedroom and Lounge areas is timber-clad, but it is to incorporate two sheets of plasterboard sheet with the studwork zone together with mineral wool or sheep wool insulation.

SECTION F - VENTILATION

- Notwithstanding the following ventilation provisions the proposed works are to be carried out and in the context of a Historic Building (situated in a Conservation Area), all reasonable steps have been taken to provide ventilation in accordance with Building Regulations requirements except where compliance would compromise the character of the building (in Class D33 system).
- Purge ventilators: Windows and doors to all new and existing habitable accommodation are to open or shown on drawings, and give min. 1/20th of floor area, some part of which is 1.7 m above floor level.
- A12 (Kitchen) is to be fitted with an interlinked extract vent adjacent to the cooker extracting at a rate of 30 litres/sec.
- A15 (WC/Showers room) is to be fitted with an interlinked mechanical extract vent extracting at a rate of 6 litres/sec to be fitted at ceiling level as shown.
- Extract vent ducts to A12 and A15 are to be installed throughout their length and slope downwards towards the external terminal.
- Background ventilation: All habitable rooms and sanitary accommodation are to have doors with a 10mm continuous gap at the sill to provide/permit background ventilation.
- Background Ventilation: Room B12 (Studio) is to have an open ceiling up to rafter level where there is to be a top-fixed Conservation Pufflight. The pufflight is to be fitted with screen-type spacer which allows access and controllable background ventilation without water ingress, greater than 1.7m above floor level and of greater than 0.001 sq m equivalent area.
- Background ventilation: A13 (Annexe Lounge) is to have an open ceiling up to rafter level where there is to be a small triangular gable window facing South (see drawing) and section H for notes on existing windows. The window is to be fitted with a screen-type spacer which allows access and controllable background ventilation without water ingress, greater than 1.7m above floor level and of greater than 0.001 sq m equivalent area.
- Background ventilation: Bedroom A14 is to have two windows (A14A and A14B) fitted with screen-type spacer which allows access and controllable background ventilation of the window sufficient to provide controllable and secure background ventilation of the equivalent effective area of 0.001 sq. m. each. Some part of the background ventilation opening is to be located at least 1750 above floor level.
- Roof ventilation: Roofs of Studio and Annex are to utilize 'Type 1' or similar vapour-permeable roofing felt obstructing the need for ventilation within the roof zone.

SECTION G - HYGIENE

- The property is single occupancy.
- The new water closet in A13 is to have a washbasin in the same room. (See plans).
- The water closet is to be glazed-wireless sink and incorporate a flushing device capable of cleaning it effectively. The washbasin is to be supplied with hot and cold water, hot water for toilet or sanitary purposes.
- Hot water storage: Limited hot water storage is to be incorporated in a proprietary central boiler to be located in the left storage area. The hot water storage installation is to be either (a) approved a member body of CDTA operating a technical approval scheme, or (b) approved by a certification body having NACE2 accreditation.



Compliance with Building Regulations requires a considerable amount of detail on drawings, and copious notes demonstrating compliance to the Building Inspector on items that do not show on the drawings. Of the total of seven Building Regulations drawings for this project for a Music Studio and Parent Annex two drawing sheets (such as this one) were completely given over to notes.