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4 houses by 4 practices

Life outside the M25: homes by Hudson Architects,
Simon Conder, Gareth Hoskins and Dan Brill

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Hudson Architects Feeringbury Barn, Essex



The building is an extremely large 16th-century barn on a working Essex farm, which is Grade-II listed and had lain unused for a number of years. The barn is owned by artists Ben Coode-Adams and Freddie Robins, who wanted to use most of it as a family home, with the remainder and a neighbouring outbuilding used for studio space and workshops.

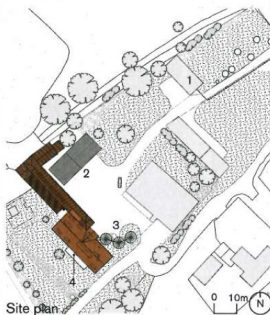
Although the barn would have originally been thatched, the roof materials were lost many years ago and have been replaced by corrugated sheeting. From the outset, planning and conservation officers indicated that the semi-industrial appearance of the building should be maintained, and previous architects had been unable to resolve the particular >>

Above View from south-west with T-washed steel mesh concealing corrugated aluminium cladding and rooflights

Right View across living room with bathroom and staircase enclosed in existing cylinders formed from precast concrete units with exposed steel tension members

Legend

1. Outbuilding
2. Barn
3. Existing silos retained and reused
4. Timber deck on brick retaining wall



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Project data

START ON SITE

April 2009

COMPLETION

April 2011

GROSS INTERNAL FLOOR AREA

525m²

COST

Not disclosed (approx budget £600,000)

ARCHITECT

Hudson Architects (design stage only)

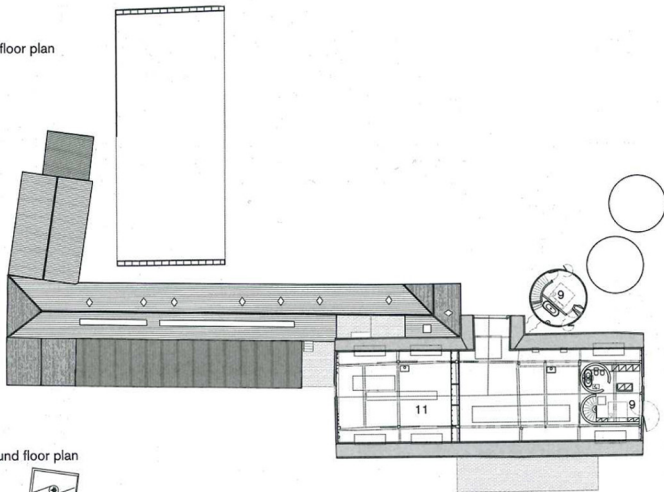
CLIENT, PROJECT MANAGER AND BUILDER

Ben Coode-Adams

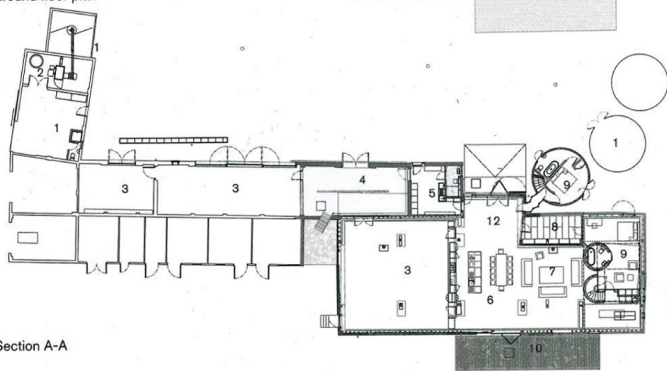
SPECIALIST BUILDER

Restorations

First floor plan



Ground floor plan



Section A-A



Legend

1. Store
2. Boiler room
3. Workshop
4. Covered courtyard
5. Utility
6. Kitchen
7. Living
8. Library
9. Bedroom
10. Terrace
11. Gantry
12. Lobby



JAMES BRITAIN PHOTOGRAPHY

insistence that the large roof should not contain any visible fenestration.

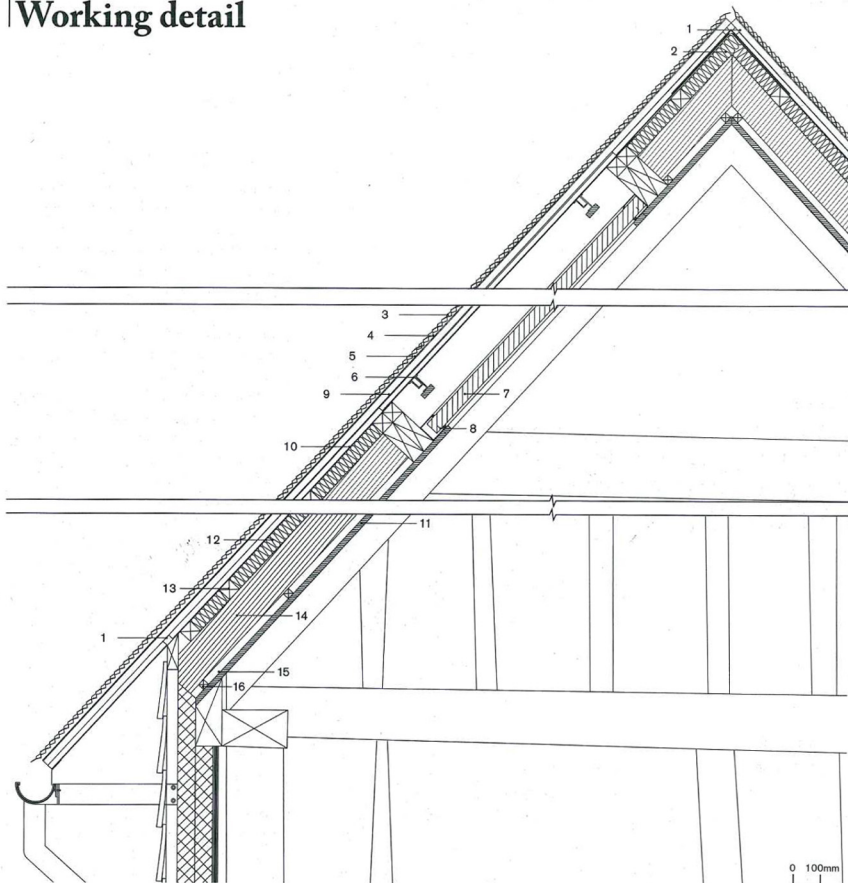
In order to meet these requirements, the roof was constructed with large bay rooflights, made from multi-wall corrugated polycarbonate with a perforated steel mesh laid over the top. The perforations face upwards providing the interior with generous amounts of diffuse light, while externally the rooflights are concealed from view at ground level. The mesh is T-washed and provides an uneven appearance, which echoes both the industrial nature of the building and the texture of thatch. External walls are clad in black-stained horizontal lapped timber to match the original cladding.

Conservation officers asked that the interior of the barn should not be subdivided, setting us a challenge to create a family home within such a large space. Nevertheless, the internal industrial nature of the building has been maintained in a contemporary adaptation, with many playful yet highly practical features created by the client. (It was a huge pleasure to work alongside Ben, who self-built and project managed the conversion, delighting in the extensive use of found and reclaimed materials throughout the project.) Existing concrete silos were moved from one part of the barn to another, to be re-used to create bathrooms and house an oak spiral staircase, providing a strong contrast with the exposed timber frame. Elsewhere, reclaimed timber has been used for cladding and even for furniture, while tangles of reclaimed metal are used for bracing.

The existing timber frame was clad with 18mm fair-faced ply, and a polished concrete reinforced ground-bearing slab with underfloor heating pipes was poured. The conversion includes a number of sustainable features, including a woodchip boiler, re-use of on-site materials and the provision of ample daylight.

*Anthony Hudson, director,
Hudson Architects*

Working detail



Legend

1. Eaves filler
2. Aluminium sheet capping
3. 1.6mm galvanised steel 'Ambasciata' mesh
4. Top-hat sections with plywood strip below
5. Clear corrugated roof cladding
6. Top-hat section with neoprene tape top and bottom to prevent corrosion
7. 65mm Rodeca polycarbonate sheeting
8. Plywood lining fixed to Rodeca with plasterboard fixings
9. Corrugated aluminium sheet, joints sealed with butyl tape
10. Tyvek Metal anti-condensation breathable membrane
11. 18mm birch ply with clear fire-retardant finish
12. 50mm rockwool insulation
13. 50 x 50 treated softwood battens
14. 120mm woodfibre insulation, mechanically fixed to oak beams
15. Vapour control layer
16. 25mm batten

Feeringbury Barn, Essex

Hudson Architects

Corrugated roof detail

We wanted to visually preserve the large, unbroken expanse of the 16th-century barn roof, while at the same time introducing daylight to make the space workable as a home and studio. The solution was to cover the roof with expanded metal mesh with rooflights hidden below. The louvres in the mesh are orientated towards the sky, allowing light in from above but concealing the rooflights from the ground. In addition, the design had to provide good levels

of insulation and work with the irregularities of the historic structure.

The mesh is fixed on 'top hat' sections over corrugated aluminium sheets that provide the waterproofing layer. All joints have neoprene washers or tape to prevent corrosion between metals. Beneath the corrugated aluminium, a breathable anti-condensation membrane wicks away any moisture from condensation. The Rockwool and wood-fibre insulation achieves the U-values required to meet Building Regulations. Internally, the birch ply is exposed as the finish.

Where there is a rooflight, clear corrugated roof cladding interlocks with the aluminium sheeting. Beneath this insulating polycarbonate Rodeca

sheets are framed in timber. These rooflights are aligned perpendicular to each other, with the layers of sheeting and insulation flexible enough to accommodate the historic structure. Each sheet of mesh was T-washed, giving it a varying patina that changes colour depending on humidity levels.



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