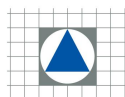


**ROGER COY
PARTNERSHIP**

**Supporting Statement
(Full Planning Application)**

**Barn and land south-west of Cotefield Farm,
Church Street, Bodicote**

August 2016



**ROGER COY
PARTNERSHIP**

**BRICKNELLS BARN
32 LIME AVENUE
EYDON
DAVENTRY
NORTHAMPTON
NN11 3PG**

1 INTRODUCTION

- 1.1 This supporting statement has been produced by Roger Coy Partnership for and on behalf of the applicants Mr and Mrs Bratt.
- 1.2 The statement supports a full planning application that follows on from a Certificate of Lawfulness for the residential conversion of the barn at Cotefield Farm, Bodicote; ref: 15/01780/CLUP decided 19th January 2016.
- 1.3 The proposed scheme is illustrated on drawing no. 3528/23A & 24A showing Floor Plans, Elevations and Sections and a site plan.
- 1.4 The applicant wishes to introduce windows, a roof lantern and a glazed elevation section into the barn to gain more light and provide views out. On behalf of our clients we propose to re-clad the barn with vertical timber fins to create a more warm and natural aesthetic which is more closely associated with domestic architecture, whilst remaining sympathetic to the agricultural use and rural context

2 PLANNING CONTEXT / CONSIDERATION

- 2.1 As noted in the Certificate of Lawfulness 15/01780/CLUP Note 6 operational development is required to be undertaken to facilitate the change of use of the building to residential use. That is the introduction of doors and windows. This full planning application is required for assessment by Cherwell District Council to seek planning permission to implement the operational changes indicated on drawings 3528/23A & 24A (proposed new openings, doors and windows).
- 2.2 The red line indicated on drawing 3528/24A 1:500 scale shows the proposed residential curtilage boundary. This area is less than the footprint of the existing barn in line with requirements under Schedule 2. Part 3, Class Q(a) of The Town and Country Planning (General Permitted Development).

3 DESIGN STATEMENT

- 3.1 **MASS and SCALE**
The mass and scale of the building remains largely unaltered by the design proposals. That is, with the exception of a new gable formed to the east facing elevation. This alteration will provide a second master bedroom suite with rural views and a small balcony. The alteration does not impact upon the building's rural aesthetic.

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3.2 AREA

The gross internal floor area also remains largely unaltered, with the exception of the additional gable described above. The additional gable has increased the gross internal floor area by approximately 2.8m.

3.3 APPEARANCE

The existing building's mass, scale and area have remained largely unaltered to maintain the rural and agricultural appearance when viewed from the local context, highways and footpaths.

The application does seek to make some operational changes which include new door and window openings and a new cladding system. The existing agricultural fenestration is made up by large sliding doors designed to allow ingress of agricultural machinery. We have strived to maintain a form of opening in these locations; to the living spaces and swimming pool. However, it is essential that additional openings are formed as indicated by drawings 3528/23A & 24A to create a light, comfortable domestic space with views to the countryside.

The existing cladding system is a corrugated steel sheet, which has a very agricultural aesthetic, our clients would like to retain the agricultural aesthetic, but with a more warm and domestic feel.

Therefore we proposed that the existing cladding is stripped, and the existing steel primary structure be wrapped in a SIPS panel system, over which a cladding system of vertical timber fins is arranged, in a similar manner to the images 1 & 2 below.



Image 1



Image 2

3.4 LAYOUT

The general internal arrangement has been laid out to meet our client's brief requirements, specifically. That is arrange the living and swimming pool areas both to maximise the south and westerly aspects and to provide external terraces. The kitchen should face west with a breakfast terrace. The vertical circulation is formed in a full height space with the original steel expressed to reference the former agricultural usage. The bedrooms have been arranged in a logical manner, to best use the available space.

3.5 SECURITY

The gate from the highway can be locked to meet Secured by Design Standards, the long vehicular driveway provides surveillance for the occupiers. The windows and doors will all meet requirements set by secured by design and there will be a remotely monitored intruder alarm.

4 ENVIRONMENTAL STRATEGIES / ZERO CARBON STANDARD / THE PASSIVHAUS STANDARD

There are three core requirements which must all be met for a home to qualify as zero carbon:

1. The fabric performance must, at a minimum, comply with the defined standard known as the Fabric Energy Efficiency Standard (FEES) and
2. Any CO₂ emissions that remain after consideration of heating, cooling, fixed lighting and ventilation, must be less than or equal to the Carbon Compliance limit established for zero carbon homes, and
3. Any remaining CO₂ emissions, from regulated energy sources (after requirements 1 and 2 have been met), must be reduced to zero.

What is Passivhaus?

Passivhaus or 'Passive House' is the fastest growing energy performance standard in the world with 30,000 buildings realised to date with the majority of those since the turn of the century. The Passivhaus standards strengths lie in the simplicity of its approach; build a house that has an excellent thermal performance, exceptional airtightness with mechanical ventilation.

This robust approach to building design allows the designer to minimise the 'Heating Demand' of the building and in some residential buildings only specify a heated towel rail as means of conventional heating, this heat can then be recovered and circulated by a Mechanical Ventilation and Heat Recovery (MVHR) unit.

4.1 WHAT IS THE FABRIC ENERGY EFFICIENCY STANDARD?

The Fabric Energy Efficiency Standard (FEES) is the proposed maximum space heating and cooling energy demand for zero carbon homes. This is the amount of energy which would normally be needed to maintain comfortable internal temperatures and in a dwelling this can be influenced by:

- Building fabric U-values
- Thermal bridging
- Air permeability
- Thermal mass
- External heat gain (solar)
- Internal heat gains such as metabolic activity or as a by-product of services

FEES should ensure that a good minimum standard for fabric (the longest-lasting part of a home) will be embedded in all new homes. It is measured in kWh/m²/yr and is therefore not affected by carbon emission factors for different fuel types.

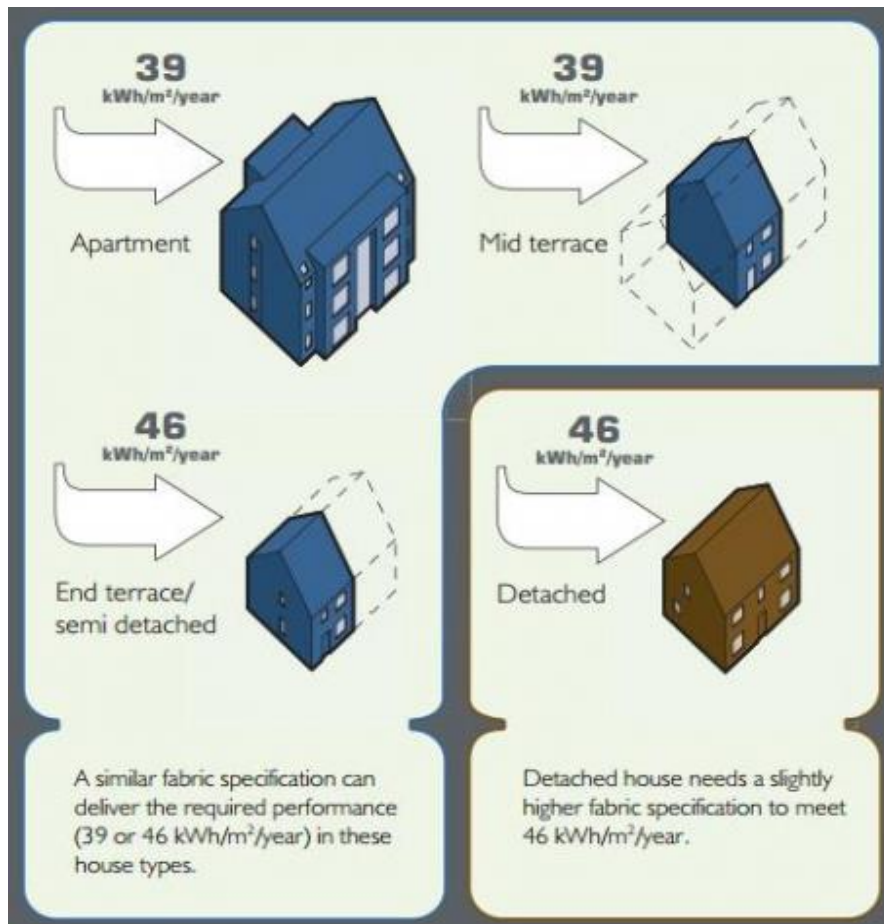
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The Fabric Energy Efficiency Standard allows flexibility in design approach, and can be achieved in a variety of ways and with combinations of different materials or product specifications.

LEVELS RECOMMENDED

For the majority of homes, levels of 39 and 46 kWh/m²/year are proposed:

- 39 kWh/m²/year for apartment blocks and mid-terrace homes.
- 46 kWh/m²/year for end terrace, semi-detached and detached homes.



This conversion would aim to achieve 15 kWh/m²/year, a significant reduction on the zero carbon model.

To achieve this extreme level of efficiency the building will be formed from structural insulated panels (SIPS) which combine super-insulation levels with careful attention to airtightness and thermal bridging details to produce buildings that require minimal heating — less than 15kWh/m² per year. In fact, the heat requirements are so low that a small heating coil added to the mechanical ventilation heat recovery system should be adequate for this conversion.

4.2 WHAT IS CARBON COMPLIANCE?

The Carbon Compliance limit is the maximum permitted amount of CO₂ (and other greenhouse gases expressed as equivalents) arising from a home's heating, cooling, hot water use, fixed lighting and ventilation systems.

This can be achieved by:

- Ensuring an energy efficient approach to building design.
- Reducing CO₂ emissions on-site through low and zero carbon technologies.

The Carbon Compliance Limit is expressed in kgCO₂(eq)/m²/year to provide a clear link with Government's carbon reduction strategy, and it can be met by use of a wide range of heating/fuel types.

Recommended Carbon Compliance levels:

Proposals for Carbon Compliance levels were published in 2011 and represent a challenging but deliverable national minimum standard. Recommended levels are:

- 10 kg CO₂(eq)/m²/year for detached houses.

1. Any remaining CO₂ emissions, from regulated energy sources (after requirements 1 and 2 have been met), must be reduced to zero.

Requirement 3 will be met by deliberately 'over performing' on requirements 1 and 2 so that there are no remaining emissions.

2. Ventilation (heat recovery system)

The building will incorporate natural ventilation in the form of opening windows throughout; however, the building will be made so air tight and consequently less well ventilated that mechanical ventilation will be required. While opening a window does provide ventilation, the building's heat and humidity will then be lost in the winter and gained in the summer.

A Heat Recovery (MHVR) will be integrated. Heat recovery is a process of continuously preheating incoming cool supply air by warming it with the outgoing exhaust air.

Warm air is not simply exhausted to outside. Highly efficient heat exchangers transfer a larger percentage of heat energy to incoming supply air.

3 & 4. Air Source Heat Pump for back up heating

A GSHP or ASHP could use the heat energy stored in the ground to heat the space via a heat pump and exchanger, it would be incorporated with the MHVR system, creating a heating and cooling system that is highly efficient. The space will be heated by underfloor heating, maintaining a better thermal comfort with less energy requirement.

5. Self-Contained Foul Treatment

There could be no need to connect to the existing main water system, the foul water will be treated on site and discharged as clean water to a soak away.

5 SUMMARY AND CONCLUSIONS

- 5.1 This statement and additional supporting documents and drawings accompanying this application seek to demonstrate the particular circumstances which support this proposal.
- 5.2 In conclusion it is therefore considered that the proposed changes can be sympathetically and sensitively achieved.