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DELIVERING BEYOND COMPLIANCE

5 Plot  
Development

# SAP Comprehensive Case Study

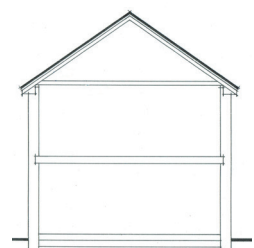
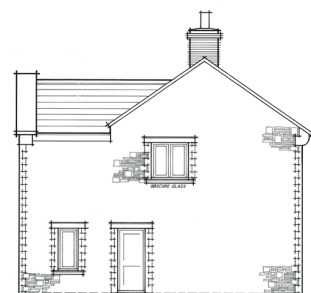
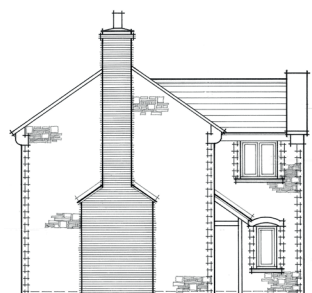
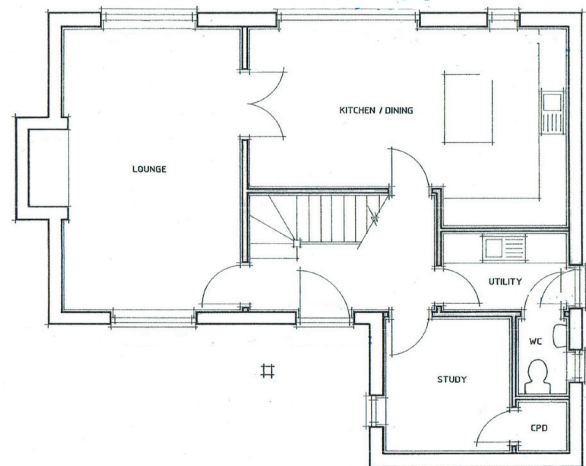
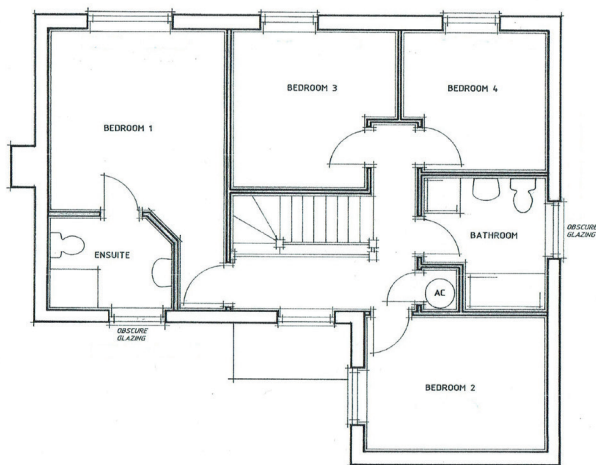


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## Dwelling Details

### 5x Detached Dwellings

- 4 bedroom properties
- Brick and block construction
- Gas heating
- Aim: to achieve compliance for a cost saving



## Initial SAP Result

### Client Specification

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- EPC Rating 84 B
  - CO<sub>2</sub> Emissions – 2,205 kg/year
  - 0.13% Under Compliance
  - Dwelling Emissions Rate (DER) – 15.61 kgCO<sub>2</sub>/m<sup>2</sup>/year
  - Dwelling Fabric Energy Efficiency (DFEE) – 52.3 kWh/m<sup>2</sup>/year
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## Our Cost Saving Changes

### What We Changed

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- Cheaper equivalent floor insulation
  - Replace wall insulation with cheaper alternative
  - Specified cheaper boiler – yet better efficiency within SAP
  - Upgraded lintels – extracost but allows to replace wall insulation
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## Proposed SAP Result

### With Cost Saving Changes

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- EPC Rating 84 B
  - CO<sub>2</sub> Emissions – 2,186 kg/year
  - -0.90% Under Compliance
  - Dwelling Emissions Rate (DER) -15.49 kg/CO<sub>2</sub>/m<sup>2</sup>/year
  - Dwelling Fabric Energy Efficiency (DFEE) – 53.6 kWh/m<sup>2</sup>/year
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## Comparison of Results

### Initial

EPC Rating 84 B

CO<sub>2</sub> Emissions – 2,205 kg/year

-0.13% Under Compliance

Dwelling Emissions Rate (DER) – 15.61 kgCO<sub>2</sub>/m<sup>2</sup>/year

Dwelling Fabric Energy Efficiency (DFEE) – 52.3 kWh/m<sup>2</sup>/year

### Proposed

EPC Rating 84 B

CO<sub>2</sub> Emissions – 2,186 kg/year

-0.90% Under Compliance

Dwelling Emissions Rate (DER) -15.49 kg/CO<sub>2</sub>/m<sup>2</sup>/year

Dwelling Fabric Energy Efficiency (DFEE) – 53.6 kWh/m<sup>2</sup>/year

## Cost Comparison

### Initial

Floor – £1,900

Walls – £3,010

Roof – £540

Boiler – £1,100

**TOTAL £6,550**

### Proposed

Floor – £1,740

Walls – £1,730

Roof – £540

Boiler – £800

Lintel Upgrade Cost – £200

**TOTAL £5,010**

**What We Achieved**  
Savings Made

**£1,540 per plot**

**£7,700 across the development**