

## Design and construction audit: review of design intent (element 1)

To evaluate documentation on how the building should have been constructed and how it is expected to perform.

### Level 1 Collection and review of all available design documents

<b>Cost:</b> ₹	<b>Time:</b> ⌚	<b>Skills:</b> 🙌🙌
----------------	----------------	-------------------

#### Potential tools needed:

- CAD software for raw drawings or models

**How:** Collect and review as much documentation as possible in preparation for the first visit to the building.

Examples include:

- Construction drawings
- Change orders
- Applicable standards
- Air permeability tests
- Commissioning documents
- Static or dynamic energy models
- Green building certification documentation

Note specific areas of interest that should be viewed when visiting the building. Study the design drawings and specifications and then examine the building for construction quality, identifying areas where the 'as-built' seems to differ from the 'as-designed'. As more is learned about the actual construction and operation of the building these documents will provide a baseline on which to match or contrast findings.

When measured data is available, feed this back into any available energy models to compare actual results with designed expectations. Ideally these documents will also provide a quantitative baseline in the form of targets or key performance indicators (e.g. energy consumption, water consumption, U-values, etc.) against which to compare energy consumption and other hard data which could be measured throughout the study.

**Timing:** The collection of these documents will be the first step to any BPE/POE. This can apply to any type of BPE, i.e. if performing a short in-use study these documents will still be extremely helpful.

**Potential barriers:** The documents may be limited or inaccessible. Collect what you can where possible. If inaccessible from the architect or owner, try online sources. As an example, green building certification programs sometimes publish online the design expectations of buildings that have been certified.

