



## **Structural design certification**

Building Control in Scotland is pre-emptive, not reactive. All projects must be shown to be compliant with the Building Regulations *in advance of construction*. This can be thought of as a more stringent version of the “full plans” process operating in other parts of the UK. Structural design certification marks the compliance of the structural design with the Regulations at the time of submittal of the building warrant application to Building Control. A building warrant must be obtained prior to construction in Scotland.

### **Level of information required for design certification**

1. The submission must clearly demonstrate compliance with the Building Regulations (Scotland).
2. The Building Inspector must be able to visit site during the build and verify that the works are in accordance with the drawings.

To this end the specification and location of every necessary structural item must be clearly evident on the drawings. Guidance is available at <http://www.aed.consulting/irfdc>

### **Items whose final design can be completed after the relevant design certificate is issued**

Items permitted below can be performance-specified on the drawings for later design completion by suitable persons. These are known as “Schedule 1 items” and vary according to the building’s risk group.

#### *Building risk Group 1a/1b\**

Piling
Vibro stone columns
Precast foundation systems
Precast concrete floors
Precast concrete stairs
Timber roof trusses
Steelwork connections
Pedestrian barriers
Glazing

#### *Building risk Group 2a/2b\**

Piling
Vibro stone columns
Precast foundation systems
Precast concrete floors
Precast concrete stairs
Timber roof trusses
Steelwork connections

#### *Building risk Group 3\**

Nothing
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*The design of all other items of structure must be complete prior to the issue of the design certificate covering the items.*

*Structural engineers cannot complete their work based on incomplete work by others, so everyone has to complete their work to a suitable level in order for structural design certification to happen.*

\* The Risk Group of your project can be obtained from AED Ltd.

### **Multi-stage warrant or single-stage warrant**

In order to feature items in a project which are not listed above and whose final design is not available at the time of certification (perhaps glazing for Risk Group 2a projects or steel stairs for all Risk Group projects), the warrant must be *multi-stage*. This is a more flexible approach but involves more

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paperwork. It enables early site starts and later design of a wide range of things, provided design is complete by the time the relevant stage is certified.

In common with single-stage warrants, multi-stage warrants may also feature later design completion of permitted items after the stage has been certified (Schedule 1 items). In practice, for staged projects it is usually more straightforward to just place these items in later stages, when the design has already become available.

An exception can be piling and vibro stone columns, which often need to be performance-specified on the first drawings submitted for warrant, when the package including the design has yet to be procured. This means the first certificate of a staged application will, more often than other stages, have a Schedule 1 attached listing either or both of these items. However, use of Schedule 1 is generally discouraged on staged applications.

Where such flexibility is not necessary, a single-stage warrant is quite appropriate.

### **Content of stages**

The content of stages has to be agreed in advance with the Verifier (the Local Authority). These are defined on the first stage's design certificate and are therefore locked into the design and certification process of the project from the beginning. As such named items cannot generally be moved from stage to stage ad-hoc as a project progresses because design work was not complete.

### **Information freeze**

Certifiers are required to submit a list of all information used in certification with the certificate. This must include numbers and revisions of other professional's documents, e.g. architect's drawings and ground investigation reports. This locks the project's data at that time and limits the scope for further design development without triggering an amendment to warrant at a later date.

### **Construction on site**

Construction of elements in a stage (including single-stage projects) should not start on site until the stage is certified and the appropriate warrant granted. This is an aspect of Scottish law and Building Control monitor this. Similarly, construction of any Schedule 1 items for a stage should not commence until they are verified with a Form Q, submitted to Building Control. Building Control monitor this.

### **Fees**

The proportion of fee allocated to early phases of the work can be different in Scotland due to the need to produce full information at the end of RIBA Stage E (or modern "4"), with less opportunity to complete design during the project itself unless staging has been arranged in advance by those making the warrant application. This is unlikely to happen if the relevant person is not familiar with the Scottish system.

Certification is time consuming exercise with appreciable costs. There is also clear potential for conflict between parties driven by cost and programme on the one side and the certifier discharging their duties diligently on the other. This must be managed carefully. Fees for certification vary, but generally add between 5% and 15% to the overall structural engineering fee.