



SER Technical Bulletin No 1- Revision A

Certification of Contractor Designed Details

Introduction

On many construction projects standard components or details are designed by a specialist contractor often some time after the general layout design of the structure has been completed. Typical components which fall into this group are manufactured timber roof trusses, steelwork connections or piling. Other key structural components may be chosen on the basis of information presented in manufacturer's catalogues or test certification however these may not be specified at the time the warrant application has been lodged. Precast floor units or anchor fixings fall into this category.

These details can often have a vital role in ensuring the integrity and performance of the structure and there is no doubt that they fall within the scope of the structural certification process. Design embraces details necessary to ensure the safety and integrity of the structure. This is the opinion of the Institution of Structural Engineers expressed in their publication *Aims of Structural Design: August 1969* which states: *"Detailing must be seen as an integral and important part of design; it is a matter of which the designer cannot lose control"*

The nature of the construction process is such that work frequently commences on site before all of the detailed design has been completed. Building Warrants must be obtained before work commences and can be a precondition of funding being made available to enable the award of specialist sub-contracts. The building warrant process and the associated structural certification process must be sufficiently flexible to accommodate the realities of construction while still providing the necessary safeguards to public safety.

This Technical Bulletin is intended to provide Approved Certifiers with options for discharging their responsibilities for certification while still accommodating the needs of their clients for flexibility in the design and construction of the building.

Requirements of the Legislation

A building warrant must be granted if the verifier is satisfied that nothing in any plan specification or other information submitted with the application indicates that the building when constructed will fail to comply with the regulations. The information to be submitted with the application is detailed in schedule 2 of the Procedure Regulations and, with regard to structure, will include general arrangement drawings showing the layout and dimensions of foundations and structural members.

Verifiers have some discretion regarding the level of detail that they require to accompany the application and BSD have provided guidance (available at www.scotland.gov.uk/bsd), in the Procedural Handbook and the supplementary Procedural Guidance on Certification, regarding the information that is to be submitted with a Building Warrant application when

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the application is accompanied by a certificate from an Approved Certifier of Design. In this circumstance verifiers are not expected to require design calculations or details of reinforcement for example but will require sufficient information to undertake site inspections for construction compliance.

The responsibilities of Certifiers are separately defined by section 11 of the Act. The Act requires certification of the design of the building and design, as we have seen above, embraces details which may not be supplied to the verifier at the time that the warrant is granted. Flexibility is offered to certifiers in section (1) (a) of the Act by the statement “.....or of such part of it as is specified in the certificate.....”. Where structural details are to be confirmed after a warrant has been granted (even once construction has commenced on site) it is this provision of the legislation which has allowed the Scheme to offer some flexibility in the way that certification can be used to provide the information required by the legislation.

Staged Warrants

Staged Warrants may be used to enable an early site start by restricting the content of the design included within the early stages solely to the structure. A verifier may grant a warrant with a condition that information on later stages (which will be listed in the warrant form) is to be provided later. This will allow such stages, accompanied by the appropriate certification, to pass quickly through the local authority verification process. A first stage comprising only piling and sub-structure for example may be lodged as soon as these elements have been certified and work may commence very quickly thereafter. Care must be taken however to ensure that only certified structural works are included in the staged application. If other matters such as drainage have been included in the package then the warrant will take longer to process.

The Approved Certifier must issue a separate certificate for each stage and this must relate only to the work included in the particular stage. It is the responsibility of a Certifier to make sure that a design certified for a particular stage is also consistent with the design of any previously certified stages. One Certifier will sign all of the certificates submitted for a particular project (but see the scheme guide for procedure to be followed where this is not possible).

Work on subsequent stages must not commence until the design of these have been submitted to the verifier and a staged warrant granted. The client carries a risk that subsequent changes, perhaps arising out of building regulation compliance issues not previously identified, could require costly changes to an already constructed stage.

The choice of appropriate stages is a matter for agreement between the applicant and the local authority verifier. The Procedure Regulations do prescribe stages however this is limited to the construction of foundations or any other stages as the verifier considers appropriate having regard to guidance issued by Scottish Ministers. The Approved Certifier should be prepared to offer advice on this matter to the client.

For a detailed explanation of the staged warrant procedure readers should consult the relevant sections of the Scheme Guidance issued by SER Ltd and the procedural guidance issued by BSD.

Post Warrant Contractor Designed Details

Stages are not however a universal solution to this problem. While they may be used with good effect on large projects the use of staged warrants is seldom appropriate to small domestic works where, for example, the timber roof truss may be the only structural element provided by a specialist contractor.

On larger projects it may not be possible to separate all of the structural details from other aspects of the design that are sensibly included within the application or a particular stage. A superstructure stage may for example be applied for once the main structural frame has been designed but before the design of the connections has been undertaken.

To accommodate these situations the SER scheme includes an option which will permit the certification of specific details to be undertaken some time after the certification of the general structural arrangement has been completed and a warrant (or staged warrant) has been granted by the verifier. The key features of this option are:

- The Certificate must be accompanied by a completed Schedule 1, which lists any structural items or details that are subject to detailed design by a specialist supplier or contractor which has yet to be completed.
- The warrant submission must include sufficient information and detail in respect of the scheduled items. Guidance is provided in the BSD publication “Procedural Guidance on Certification including information to be submitted with a Building Warrant Application”. Where this is not possible the elements in question should be deferred for inclusion in a later, separate staged application.
- The warrant submission must contain a performance specification for any items or details listed on Schedule 1. This should include the following information:
 - The specific design standard(s) to which the item is to be designed eg reference to a particular Eurocode or British Standard
 - The loads for which the item is to be designed or sufficient information to enable the designer to make an assessment of the loads
 - The building risk classification eg 1, 2A, 2B, 3
 - Any serviceability criteria eg deflection or vibration limits
 - Any durability requirements eg exposure condition
 - Any fire performance criteria eg minimum period of fire resistance, where relevant
 - Any special requirements eg minimum or maximum member size; minimum material specification
 - Information that is to be supplied to the certifier eg design calculations; drawings; materials specification; details of connections to the supporting structure; details of loads that will be applied to the supporting structure
- The certifier will receive information from the specialist contractor that demonstrates compliance with the performance specification and compatibility with the previously certified design once this is available.

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- If the design does not comply with the performance specification but does satisfy the requirements of the regulations then an application to amend the warrant must be made.
- A building warrant (including the warrant for a stage), granted by a verifier for an application accompanied by a certificate described above, will be accompanied by a notice, Form Q, that is to be returned to the verifier once the certifier is satisfied regarding the design of the detail.
- Form Q will be signed by the certifier and by the approved body for submission to the verifier.
- The Verifier will refuse to accept a completion certificate unless Form Q has been returned.

This procedure should only be used to deal with clearly defined contractor designed structural details. The design certificate(s) must cover all structural elements that are shown on the warrant plans.

This procedure is intended for use with specific identifiable building components. It is not to be used for contractor-designed structural frames, such as steel portal frames or timber kits, or for other primary elements of structure.

Form Q is a generic form (available at www.scotland.gov.uk/bsd) which will be used by all verifiers and certifiers in a model format specified by BSD (see the Appendix for the SER specific Form Q).).

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The steps to be followed when applying this option are set out in the following table:

Procedure	Note
Step1 Building Warrant Application lodged	Certifier issues a design certificate for building or stage accompanied by Schedule 1 listing details to be designed later but which are described in the application by performance specification(s).
Step 2 Verifier issues Building Warrant	The building warrant is accompanied by Form Q : "Notification of Finalisation of Structural Details"
Step 3 Client appoints specialist contractor	Other work included within warrant can commence on site.
Step 4 Specialist contractor supplies project certifier with design for detail(s)	Certifier checks contractor design for compliance with performance specification(s) and for consistency with the overall structural design. Any divergence from this would require an amendment to Warrant.
Step 5 Project Certifier approves design and returns signed Form Q to the Verifier	Notification also needs to be signed by the Approved Body. Certifiers should retain a copy of the signed notification and the design information supplied by the specialist contractor for audit purposes.
Step 6 Client submits completion certificate to verifier.	Before accepting a completion certificate from the applicant the verifier will check that Form Q has been returned relating to any details previously listed in Schedule 1 to the design certificate(s)

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Appendix

MODEL FORM Q

NOTICE OF FINALISATION OF DESIGN DETAILS

Building (Procedure) (Scotland) Regulations 2004

Notification of finalisation of design of elements specified in schedules to certificates issued in accordance with regulations 32 and 34

Part A to be completed by approved certifier

I hereby give notice that the detailed design of the elements specified in the schedule to the certificate of design number -
relating to building warrant reference number –
has been finalised and is in accordance with the relevant performance specification.

Name of certifier-

Registration number of certifier –

Signed - (Certifier)

Dated –

Part B to be completed by approved body

I confirm that the person signing Part A is an approved certifier of design and is a principal in or is employed by this body.

Name of approved body –

Registration number of approved body –

Signed - (Certification co-ordinator of Approved body)

Dated –