



Hurst Setter & Associates Ltd

Health Safety & Environmental Newsletter

October 2021

Hurst Setter aims to provide commercially sound health and safety advice, practical on-site assistance, and training services to help clients to improve their overall health, safety and environmental performance and business efficiency. Health & safety is no longer a business where you just find fault and try to 'stop the job', it is now a role where a common sense approach needs to be applied to ensure a job can be completed safely ensuring that everyone returns home from work to their families at the end of the working day.

At the same time as being an external consultancy who are used for expert advice, we also work hard to ensure they are part of the team for all clients. Hurst Setter pride themselves in being able to use expert knowledge of the industry and legislation to be a cog in the wheel to help our clients achieve their health & safety goals.

The company was established in 1992, we have an experienced team of professional staff throughout the UK with our Head Office in Burton upon Trent, subsidiary offices in Yorkshire and Wiltshire, along with field staff working throughout the UK. In this way we can offer a national coverage to large national based clients.

Our mission is to provide competent health, safety & environmental advice to our clients. We focus primarily on construction, project management and property management sectors.

We provide an extensive range of training including CITB accredited training courses as well as inhouse courses.

Health & Safety Services

At Hurst Setter we provide a range of services that covers the entire spectrum of health and safety provision. Our services include:

- Site Audits & Site Inspections.
- Retainer Service & Assistance with SSIP Accreditation, CHAS, SMAS etc.
- Support with H&S Documentation, Risk Assessments, Policy & Procedure.
- H&S Management Systems.
- Training Courses including CITB, First Aid, Mental Health, and In-House Training Courses, including remote courses during COVID 19.
- Environmental Services, Advice & Support.
- CDM 2015 Services, Advice & Support.
- Other Services Upon Request.

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The HSE & SHP website is gratefully acknowledged as a primary source for information

The Management of Temporary Works in the Construction Industry

Background

"Temporary works" is a widely used expression in the construction industry for an "engineered solution" used to support or protect an existing structure or the permanent works during construction, or to support an item of plant or equipment, or the vertical sides or side-slopes of an excavation, or to provide access. The construction of most types of permanent works will require the use of some form of temporary works.

Temporary works is defined in BS5975: 2019 "Code of practice for temporary works procedures and the permissible stress design of falsework" as "(those) parts of the works that allow or enable construction of, protect, support or provide access to, the permanent works and which might or might not remain in place at the completion of the works".

Examples of temporary works include, but are not limited to:

Earthworks - trenches, excavations, temporary slopes and stockpiles. Structures - formwork, falsework, propping, façade retention, needling, shoring, edge protection, scaffolding, temporary bridges, site hoarding and signage, site fencing, cofferdams.

Equipment/plant foundations - tower crane bases, supports, anchors and ties for construction hoists and mast climbing work platforms (MCWPs), groundworks to provide suitable locations for plant erection, e.g. mobile cranes and piling rigs.

Temporary Works Management

The correct design and execution of temporary works is an essential element of risk prevention and mitigation in construction. BS 5975: 2019 provides recommendations and guidance on the procedural controls to be applied to all aspects of temporary works in the construction industry and on the design, specification, construction, use and dismantling of falsework.

Temporary works procedures

Contractors should be able to demonstrate that they have in place effective arrangements for controlling risks arising from the use of temporary works. These are usually captured in a temporary works procedure which will contain most or all the following elements:

- Appointment of a Temporary Works Co-ordinator (TWC).
- Preparation of an adequate design brief.
- Completion and maintenance of a temporary works register.
- Production of a temporary works design (including a design risk assessment and a designer's method statement where appropriate).

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- Independent checking of the temporary works design.
- Issue of a design/design check certificate, if appropriate.
- Pre-erection inspection of the temporary works materials and components.

Control and supervision of the erection, safe use, maintenance and dismantling of the temporary works – i.e. procedures to:

- Check that the temporary works have been erected in accordance with the design and issue a formal "permit to load" where necessary.
- Confirm when the permanent works have attained adequate strength to allow dismantling of the temporary works and issue a formal "permit to dismantle" where necessary.
- The procedure should include measures to ensure that the design function, the role of TWC, and Temporary Works Supervisor(s) where appropriate, are carried out by competent individuals.
- Smaller contractors may not have the experience to operate their own temporary works procedure and may need to obtain external expertise. It is also common for large and medium contractors to outsource aspects of temporary works design and management.

Temporary Works Coordinator (TWC)

The TWC is responsible for ensuring that the contractor's procedures for the control of temporary works are implemented on site. The TWC is not normally the designer but is responsible for ensuring that a suitable temporary works design is prepared, checked and implemented on site in accordance with the relevant drawings and specification.

On some projects, particularly smaller jobs involving lower risk temporary works, it may be appropriate for the TWC and designer roles to be carried out by the same person, if he/she is competent to carry out each of the roles.

The TWC for a project should be formally appointed and have adequate authority to carry out his/her tasks, including stopping the work if it is not satisfactory. It is essential that those selected to act as TWC are competent with relevant up-to-date training, and experience and qualifications appropriate to the complexity of the project.

Ideally a TWC would:

- Have experience of the relevant types of temporary works.
- Have completed formal TWC training.
- Hold a Degree / HND in civil/ structural engineering.

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- Be a Chartered Civil / Structural Engineer.

Although a Chartered Civil or Structural Engineering qualification is desirable, the numbers with these qualifications and with experience of the co-ordination of temporary works, is unlikely to be sufficient to provide cover for all projects. The key attributes of a competent TWC are in order of priority, relevant experience, formal TWC training and professional qualifications. TWCs should have the competence and authority to be effective.

Temporary Works Supervisor (TWS)

On larger sites, or where several subcontractors are involved, it may be appropriate for one or more Temporary Works Supervisors (TWS) to be appointed. A TWS should be responsible to the TWC and assist the TWC in the supervision of temporary works.

Temporary Works Register

It is useful for a temporary works register to be prepared for any project. It should contain a list of all identified temporary works items associated with the project. These can be set out as a table using appropriate headings, which could include:

- Design brief number (for each item) and date issued
- Short description of temporary works
- Date required
- Category of temporary works
- Designer
- Design Checker
- Date design complete
- Date design checked/approved
- Erection complete and checked or "Permit to Load" "Permit to Dismantle"



Design brief

A design brief should be prepared for each item of temporary works to serve as the focus for subsequent decisions, design work calculations and drawings. It should include all data relevant to the design of the temporary works and should be prepared in good time to allow for all subsequent activities. The brief may be relatively simple for the smaller schemes, but for major work, more information will need to be collected and collated before design work can commence. The TWC should ensure that an adequate design brief is provided to the designer and design checker of the temporary works.

Temporary works design

The design of the temporary works should be based on the agreed design brief. Any proposed alteration or modification of the design brief by the designer should be referred to the TWC. The temporary works should be designed in accordance with recognised engineering principles. The preparation of design calculations, drawings and specification should be undertaken with similar rigour to the procedures applied to the design of the permanent works.

Temporary works designers include the manufacturers and suppliers of proprietary temporary works equipment and those working in a contractor's temporary works department or office. Temporary works designs are sometimes categorised to indicate the complexity/simplicity of the specific temporary works structure and the potential risk.

Simple and/or potentially low risk temporary works:

- Standard scaffold
- Formwork less than 1.2m high
- Hoarding and fencing up to 1.2m high
- Simple propping schemes – 1 or 2 props
- Internal hoarding systems and temporary partitions not subject to wind loading
- Shallow excavations less than 1.2m deep/high

More complex and/or potentially medium risk temporary works

- Falsework up to 3m high
- Formwork for columns and walls up to 3m high
- More complex propping schemes – multiple props at single level
- Needling of structures up to 2 storeys high
- Excavations up to 3m deep/high
- Net systems not fixed to robust primary members

- Hoarding and fencing up to 3m high
- Simple designed scaffold
- Temporary roofs

Complex and/or potentially high-risk temporary works

- Falsework and formwork over 3m high
- Trenchless construction, including headings, thrust bores, mini tunnels
- Working platforms for cranes and piling rigs
- Tower crane bases
- Façade retention schemes
- Flying and raking shores
- Complex propping schemes – multiple props and multiple levels
- Needling of structures greater than 2 storeys high
- Ground support schemes greater than 3m deep
- Complex designed scaffold
- Cofferdams
- Bridge erection schemes

- Jacking schemes
- Concrete erection schemes
- Complex structural steelwork and precast
- Hoarding and fencing over 3m high

In practice, even relatively simple temporary works may require careful consideration in their design, construction, commissioning, inspection and loading. An apparently simple temporary works job could lead to failure and even to fatalities if it is not competently executed.



Design Checks

Before erection commences, the temporary works design should be checked for:

- Design concept.
- Strength and structural adequacy (including foundations and lateral stability).
- Compliance with the design brief.

The design check should be carried out by an independent competent person(s). The ability and independence of the checker should be greater where the temporary works are more complex or where new ideas are incorporated.

Temporary works management arrangements suitable for small contractors

For smaller contractors, the principles of BS5975 should be in place if not the formal and specific procedures, in particular:

- Ensuring a suitably competent temporary works designer/adviser is in place to supply an engineered solution.
- Adequate information flow.
- Design checking to an appropriate level.
- Suitable verification of correct erection of the temporary works and someone overseeing and co-ordinating the whole process.

Smaller contractors may not have anyone sufficiently experienced to plan effectively all but the simplest temporary works. There should be clear evidence that appropriate external expertise has been engaged. This includes obtaining the services of a suitably competent TWC and temporary works designer to ensure temporary works are effectively designed, constructed, inspected, loaded and managed. On some projects, particularly smaller jobs involving low risk temporary works, it may be appropriate for the TWC and designer roles to be carried out by the same person.

