Management of Temporary Works

1.0 Introduction

This procedure ensures that all Temporary Works (TW) on site are designed, checked, constructed, inspected, loaded/used, adapted, maintained and dismantled in accordance with the requirements of Section 2 of BS5975:2008+A1:2011 Code of practice for temporary works procedures and the permissible stress design of falsework (henceforth referred to as “BS5975”).

Note: in some instances temporary structures make need to be submitted to a level of design checking and procedural control that is beyond the requirements set out by this procedure, e.g. for temporary structures erected in close proximity to Network Rail or Transport for London infrastructure. In such cases the Temporary Works Co-ordinator and St James Project Director/Manager shall liaise with the relevant organisation to establish the relevant requirements of that organisation.

2.0 Key Matters to be Addressed

To enable this procedure to function correctly, the following requirements must be addressed by all projects carrying out temporary works:

- Prepare a Temporary Works Management Plan, which is formally reviewed
- Appoint a Temporary Works Co-ordinator for the project
- Trade Contractors carrying out temporary works must appoint Temporary Works Supervisors & identify their Designated Individual
- For all temporary works elements, the following records must be created:
  - An Engineering Design Brief
  - A design (drawings & calculations)
  - The design must undergo a design check
  - An inspection of the completed temporary works must be made before it is loaded/taken into use
  - A permit to load/take into use must be issued
  - When the temporary works are no longer required, a permit to dismantle must be issued
- A Temporary Works Register must be maintained to record the above
- A Method Statement must be in place for the TW
- Inspections must be recorded during the use of the temporary works
- Regularly review the temporary works arrangements on site to confirm that they are being managed properly

Further details of the above requirements are described within this procedure.
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3.0 Definition of Temporary Works

BS5975 defines temporary works as:

“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”

BS5975 further describes temporary works as:

“an engineered solution used to support or protect either 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 during construction operations on site, or to provide access”.

Should any works on site fall under either the definition or description above, then this procedure shall be applied in full, except with regard to access scaffolding for which special provisions apply – see section 3.1.

3.1 Scaffolding

3.1.1 Scaffold Foundations

Regardless of whether a scaffold is a ‘Basic Scaffold’ (as designated by TG20:08 Guide to Good Practice for Scaffolding with Tubes & Fittings) or a ‘design’ scaffold, a suitable foundation is required.

Following an assessment of the ground conditions on site, a generic engineer-design may be utilised. Any subsequent ground preparation/strengthening required by the generic design shall be treated as temporary works and this procedure applied in full.

Similarly, scaffolding that requires support from the permanent works or an existing structure must be approved by the permanent works engineer and recorded on the Temporary Works Register.

3.1.2 Basic Scaffolding

For scaffolding designed within the parameters set by TG20:08 (Guide to Good Practice for Scaffolding with Tubes & Fittings) and designated by TG20:08 as a ‘Basic Scaffold’, this procedure need not be applied, however, normal scaffolding-related requirements of inspection before first use and weekly inspection, etc. must be observed.

The St James Project Director/Manager shall obtain written confirmation from the scaffolding contractor confirming the above designation, i.e. Basic Scaffold). For all other scaffolds (access or otherwise), this procedure shall be applied in full.

The requirement within this procedure for a permit to dismantle to be issued by the relevant TWS when a temporary structure is no longer required, shall not apply to basic scaffolding that is providing access only, i.e. not providing support to the permanent works or other temporary structure. In all other situations, a permit to dismantle will still be required.

3.2 Standard Solutions & Proprietary Systems

For standard solutions and proprietary systems, such as Heras fencing, Oxford Safety Systems products, etc. an engineered design (i.e. drawings and calculations) will not be required if the standard solution is used within the parameters set by the manufacturer (including any generic designs/information provided by the manufacturer, e.g. written
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instructions). A copy of the relevant information provided by the manufacturer must be retained on site, and relevant details entered on the Temporary Works Register.

However, where relevant site-specific restrictions exist e.g. poor/unknown ground conditions an engineered design will be required and this procedure shall be applied in full.

Note: Standard solutions & proprietary systems installed on site must be subjected to recorded weekly inspections.

3.3 Application of this Procedure
This procedure is divided into two sections:

Section 4.0 – Applies where St James is acting as Principal Contractor (as defined by the CDM Regulations)

Section 5.0 – Applies where St James is acting as Client only (as defined by the CDM Regulations)

Section 4.0 or Section 5.0 shall be applied as appropriate to all St James projects to control all temporary works.

4.0 Where St James is Principal Contractor (as defined by the CDM Regulations)

4.1 Pre-Construction – Technical Department
Prior to construction commencing on site, the Technical Manager shall prepare an outline schedule of temporary works required by the nature of the permanent works under consideration. Whilst this schedule will not reflect all temporary works requirements for the project, it shall provide sufficient detail to assess the degree of risk likely to be encountered on site.

The Technical Manager shall maintain/update the schedule until a Temporary Works Co-ordinator has been appointed for the project, and shall make the schedule available to the relevant Construction Director/Project Director/Manager and Commercial Director/Manager to allow planning and trade contractors procurement to progress.

4.2 Pre-Construction – Commercial Department
The Commercial Manager/Surveyor shall ensure that trade contractor tender invitations that involve elements of temporary works, include a clear obligation for the requirements of this procedure to be observed by the trade contractor.

4.3 Duty Holders & Responsibilities
The following duty holders are tasked by this procedure to fulfil the listed responsibilities. Should any duty holder have concerns or questions regarding their responsibilities, they should refer to their line manager and/or the Designated Individual.

4.3.1 Designated Individual
The St James Head of Health & Safety shall act as the ‘Designated Individual’ (DI) for the purposes of this procedure. The DI shall:

i) establish and maintain this procedure, in-line with the requirements of BS5975;
ii) oversee the overall implementation of this procedure;
iii) review & confirm the appointment of proposed Temporary Works Co-ordinators;
iv) respond to concerns raised by any person involved in the management of temporary works.
4.3.2 St James Project Manager/Director
For all projects for which they are responsible, the relevant St James Project Director/Manager shall:

A) Prepare, and maintain up to date, a Temporary Works Management Plan using St James H&S Form SJ-F-36A.

B) Formally appoint a Temporary Works Co-ordinator (TWC) to oversee all temporary works on site. The appointment shall be made in writing using St James H&S Form SJ-F-36B (refer also to TWC competencies.).

Under normal circumstances, the appointment of the TWC shall not be made via a trade contractor, i.e. the TWC must normally be under the direct control of St James and not employed by a trade contractor carrying out temporary works on site.

If, under exceptional circumstances, a trade contractor is to be appointed as TWC, then written approval must be obtained prior to making the appointment from the relevant Operating Company Managing Director, Director Responsible for Health & Safety and the DI. Furthermore, in all such circumstances a formal monthly review of the temporary works arrangements on site must be undertaken.

C) Submit details of the proposed TWC to the DI for review. The installation or loading of temporary works on site may not commence until the DI has confirmed the appointment in writing.

D) So arrange the appointment of the TWC to allow the TWC to discharge their duties effectively, including attendance at formal temporary works reviews.

E) Provide such information as required by the TWC to allow the TWC to discharge their duties effectively.

F) Confirm that the temporary works arrangements on site are compliant with this procedure by completing formal, recorded reviews of the temporary works arrangements. Reviews shall:

i) be undertaken at, not less than, monthly intervals;
ii) be attended by the Temporary Works Co-ordinator;
iii) be attended, as necessary, by the Temporary Works Supervisors of trade contractors actively undertaking temporary works at the time of the review;
iv) examine site records for the temporary structures on site at the time of the review.

G) Ensure that temporary works that are to be used for purposes other than that originally designed, a design check is completed by a competent designer, e.g. a piling mat needed to support a mobile crane, which is outside the scope of the original Engineering Design Brief. N.B.: St James H&S Form SJ-F-36F Design Check Certificate may be used for this purpose.

H) For Temporary Works Designers appointed by St James, ensure that they are aware of this procedure and in particular are aware of section 4.3.4.

I) Ensure that arrangements are made to inspect and maintain temporary structure(s), that remain in use when the trade contractor whom originally constructed and maintained the structure completes their work and leaves the project; also formally appointing a replacement TWS (using St James H&S Form SJ-F-36D) and notifying the TWC of the revised arrangements.
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4.3.3 Temporary Works Co-ordinator (TWC)
For every temporary works structure, the appointed TWC shall:

A) Confirm that all Temporary Works Supervisors have been formally appointed in writing by their employers, and that the appointments clearly state the limits of authority of the TWS, including whether or not the appointee is authorised to issue Permits to Load/Take Into Use.

B) Review the competency of Temporary Works Designers appointed by St James and trade contractors.

C) Ensure that an Engineering Design Brief is prepared by the organisation, company or trade contractor requiring or installing the temporary works (St James H&S Form SJ-F-36E Engineering Design Brief may be used for this purpose).

D) Review the Engineering Design Brief to ensure that it meets the following criteria/includes the following information:
   i) it is proportionate to the complexity of the temporary works required;
   ii) it reflects the actual situation on site;
   iii) refers to the assumed method of construction of the permanent works;
   iv) loading constraints imposed by the permanent works designer;
   v) if required, approval from the permanent works designer;
   vi) residual risks identified at the design stage.

E) Ensure that the temporary works design is checked in accordance with BS5975 clause 9.2 Design Check Category 0-3, as determined by the temporary works designer and Temporary Works Co-ordinator.

F) Where necessary, provide temporary works design information to other interested parties, e.g. the designer(s) of the permanent works.

G) Register or record the drawings, calculations and other relevant documents relating to the temporary works design on the Temporary Works Register, i.e., maintain an up-to-date Temporary Works Register, using St James H&S Form SJ-F-36C, or other form of register approved by the Designated Individual.

H) For each temporary works element (as entered on the Temporary Works Register) ensure that appropriate records have been prepared by completing St James H&S Form SJ-F-36i Temporary Works File Checklist.

I) Review and evaluate risk assessments and method statements that involve temporary works.

J) Ensure that Temporary Works Supervisors possess details of the temporary works design, including restrictions/constraints and guidance.

K) Monitor trade contractors for compliance with this temporary works procedure through periodic site visits at a frequency proportionate to the complexity and volume of temporary works on site and at least on a monthly basis.

L) Participate in formally reviewing the temporary works arrangements on site and the Temporary Works Management Plan, at the frequency agreed with the St James Project Director/Manager.

M) For any temporary structure that involves elements of temporary works constructed or installed by multiple trade contractors, carry out a final inspection, and if the
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- If the inspection proves satisfactory, issue a written Permit to Load/Take Into Use (use St James H&S Form SJ-F-36G).

N) Prevent temporary works being taken into use or loaded until they are satisfied that it is safe to do so, and notify the St James Project Director/Manager of any such incident verbally and in writing.

O) Refer to the Project Director/Manager and DI any temporary works matters that are not being satisfactorily managed on site.

4.3.4 Temporary Works Designers
For all elements of temporary works that they design, the Temporary Works Designer shall:

A) Only issue a design for approval following receipt of a written Engineering Design Brief.

B) Determine the appropriate category of design check for the temporary structure, as defined by BS5975.

C) Highlight to the TWS and TWC any specific requirements for the installation and dismantling of the temporary structure.

D) Clearly state the relevant types of materials/components required to construct the temporary structure.

E) Highlight to the TWS and TWC any assumptions used for the design;

F) Mark design drawings as ‘for construction’ upon receiving written confirmation:
   i) of the design’s adequacy from the TWS commissioning the design;
   ii) of the design check having been successfully completed;
   iii) from the TWC and St James Project Director/Manager that the design allows for the conditions on site, and that third-party considerations have been allowed for (e.g. Network Rail, TfL, etc.)

G) Provide written approval for any design changes requested during the construction and dismantling phase.

4.3.5 Temporary Works Supervisors (TWS)
For all elements of temporary works that they supervise, the TWS shall:

A) Co-operate with the appointed TWC in discharging the duties of the TWC.

B) For all temporary works elements, ensure that an Engineering Design Brief is prepared that:
   i) is proportionate to the complexity of the temporary works required;
   ii) reflects the actual situation on site;
   iii) has been submitted to and reviewed by the appointed TWC;
   iv) has been submitted to an appropriately qualified and experienced, i.e. a competent, temporary works designer.
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C) Only commence construction or installation of temporary structures on site when:
   i) a design has been prepared, that has been issued “for construction”;
   ii) a design check has been successfully completed;
   iii) a specific method statement has been prepared for the construction and dismantling of a temporary structure, which includes any sequence or method of construction imposed by the temporary works designer and/or permanent works designer;
   iv) the method statement has been reviewed and accepted by the TWC and St James;
   v) the method statement has been briefed to operatives involved in the construction or dismantling.

D) Ensure that the materials and components used to construct temporary structures are fit for purpose and comply with the specification of the design – if any doubt exists, the TWS must consult the temporary works designer and resolve the matter prior to constructing the temporary structure.

E) Carry out inspections at appropriate stages of construction to ensure that temporary structures are constructed in accordance with the design and maintain records of such inspections.

F) Obtain written approval from the Temporary Works Designer(s) and TWC for any deviation from the temporary works design, before a temporary structure is brought into use or loaded.

G) Ensure that agreed changes to temporary works designs, or correction of installation faults are completed before temporary structures are brought into use or loaded.

H) Carry out a final inspection of completed temporary structures, and if the inspection proves satisfactory, issue a written Permit to Load/Take Into Use (if authorised to do so). Note: Only the TWC is authorised to issue a Permit to Load for temporary structures comprising of multiple elements constructed by multiple trade contractors.

I) Carry out and record appropriate inspections and maintenance during the use of temporary structures (normally weekly inspections and also following severe weather).

J) When a temporary structure is no longer required, issue written permission to dismantle/strike the temporary structure (St James H&S Form SJ-F-36H may be used for this purpose), specifying any relevant sequence of dismantling to be followed (if authorised to do so).

K) Dismantle temporary structures in accordance with the relevant method statement.

L) Provide information and records required by the TWC, to enable the Temporary Works Register to be maintained.

M) Prevent temporary works being taken into use or loaded until they are satisfied that it is safe to do so.

N) Refer to the TWC, their line manager, St James Project Director/Manager, and/or DI any temporary works matters that are not being satisfactorily managed on site.

O) Attend any formal reviews of temporary works, as required by the appointed TWC or the St James Project Director/Manager.
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4.4.1 Competencies of the Temporary Works Co-ordinator (TWC)
The following competencies are listed in order of priority; when selecting a TWC, the competencies should be read in the context of the temporary works to be undertaken, i.e. the level of competency should be proportionate to the type, volume and complexity of the temporary works to be undertaken – see Appendix A for further information.

As a minimum, the appointed TWC shall have the following competence criteria:

i) Have experience relevant to the type of temporary works to be undertaken on site;

ii) Have attended a Temporary Works Co-ordination course;

iii) Have the personal qualities to act with authority and be effective in the role of TWC.

For temporary works that are complex due to, e.g. the type and volume of temporary structures, the appointed TWC shall also hold a Degree or HND in Civil or Structural Engineering and, preferably, be a Chartered Civil/Structural Engineer.

In exceptional circumstances, the above competency requirements may be varied on a per-project basis, at the discretion of the Designated Individual and the relevant Director Responsible for Health & Safety.

4.4.2 Competencies of Temporary Works Supervisors (TWS)
The following competence criteria should be read in the context of the temporary works to be undertaken, i.e. the level of competency should be proportionate to the type, volume and complexity of the temporary works to be undertaken – see Appendix A for further information:

i) Have experience relevant to the type of temporary works to be undertaken on site;

ii) Have attended a Temporary Works Supervision or Temporary Works Co-ordination course;

iii) Have the personal qualities to act with authority and be effective in the role of TWS.

The TWS must also hold evidence of competence in-line with the requirements of St James Operational Policy SJ-O-01 H&S Competence of Persons Employed by Trade Contractors.

4.4.3 Competencies of Temporary Works Designers
Temporary Works Designers shall meet the following competence criteria:

i) Have experience relevant to the type of temporary works that the Engineering Design Brief require;

ii) Hold a Degree or HND in Civil or Structural Engineering.

Evidence of the above competencies must be submitted to the St James Project Director/Manager and TWC for review. Evidence submitted to support competency shall be retained on site.

Should the Temporary Works Co-ordinator or St James Project Director/Manager have any doubt over the competency of a Temporary Works Designer, they shall submit the design in question to a Category 3 design check, carried out by a Chartered Civil or Structural Engineer with relevant experience of the type of temporary works in question.
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5.0 Where St James is Client-only (as defined by the CDM Regulations)

5.1 Principal Contractor's Temporary Works Procedure
The St James Designated Individual shall ensure that a proposed Principal Contractor (PC) has a formal, written procedure for the management of temporary works that follows the principles of BS5975 and provides for:

i) the formal appointment of a Designated Individual;
ii) the formal appointment of a competent Temporary Works Co-ordinator;
iii) the formal appointment of competent Temporary Works Supervisor(s);
iv) the preparation and maintenance of a Temporary Works Register.

In the event that the appointed PC does not have a formal, written procedure for the management of temporary works, the PC must formally commit to adopting the requirements of Section 4 of this procedure.

At the end of the PC contract, a formal handover of all temporary works records and information shall take place with the TWC and the project management team appointed by any subsequent PC, e.g. the substructure PC handing over to the superstructure PC.

Supporting Documentation

The following documents are available from the St James Intranet:

- Health & Safety Executive Sector Information Minute: Management of Temporary Works in the Construction Industry
- SJ-F-36A Temporary Works Management Plan
- SJ-F-36B Appointment of Temporary Works Co-ordinator
- SJ-F-36C Temporary Works Register
- SJ-F-36D Appointment of Temporary Works Supervisor
- SJ-F-36E Engineering Design Brief
- SJ-F-36F Design Check Certificate
- SJ-F-36G Permit to Load or Take Into Use
- SJ-F-36H Permit to Dismantle
- SJ-F-36i Temporary Works File Checklist

Further Information

Is available from the H&S Department.
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Appendix A – Extract from HSE Sector Information Minute: The management of temporary works in the construction industry

The following table lists common types of temporary works into three broad risk categories; the table can be used as a guide when assessing the competence requirements for the various duty holders that are required to manage temporary works.

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<th>Simple and/or potentially low risk temporary works</th>
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<tbody>
<tr>
<td>• Standard scaffold</td>
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<tr>
<td>• Formwork less than 1.2m high</td>
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<tr>
<td>• Hoarding and fencing up to 1.2m high</td>
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<tr>
<td>• Simple propping schemes – 1 or 2 props</td>
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<tr>
<td>• Internal hoarding systems and temporary partitions not subject to wind loading</td>
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<tr>
<td>• Shallow excavations less than 1.2m deep/high</td>
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<tr>
<th>More complex and/or potentially medium risk temporary works</th>
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<tr>
<td>• Falsework up to 3m high</td>
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<tr>
<td>• Formwork for columns and walls up to 3m high</td>
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<tr>
<td>• More complex propping schemes – multiple props at single level</td>
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<tr>
<td>• Needling of structures up to 2 storeys high</td>
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<tr>
<td>• Excavations up to 3m deep/high</td>
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<tr>
<td>• Safety net systems fixed to robust primary members</td>
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<tr>
<td>• Hoarding and fencing up to 3m high</td>
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<tr>
<td>• Simple designed scaffold</td>
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<tr>
<td>• Temporary roofs</td>
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<table>
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<tr>
<th>Complex and/or potentially high risk temporary works</th>
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<tr>
<td>• Falsework and formwork over 3m high</td>
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<tr>
<td>• Trenchless construction, including headings, thrust bores, mini tunnels</td>
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<tr>
<td>• Working platforms for cranes and piling rigs</td>
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<td>• Tower crane bases</td>
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<td>• Façade retention schemes</td>
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<tr>
<td>• Flying and raking shores</td>
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<tr>
<td>• Complex propping schemes – multiple props and multiple levels</td>
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<tr>
<td>• Needling of structures greater than 2 storeys high</td>
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<td>• Ground support schemes greater than 3m deep</td>
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<td>• Complex designed scaffold</td>
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<tr>
<td>• Cofferdams</td>
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<tr>
<td>• Bridge erection schemes</td>
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<tr>
<td>• Jacking schemes</td>
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<tr>
<td>• Complex structural steelwork and precast concrete erection schemes</td>
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<tr>
<td>• Hoarding and fencing over 3m high</td>
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