



# **Wilts & Berks Canal Trust Temporary Works Procedure**

**V3**

Rev 08/12

## **Contents**

- 1. Introduction**
- 2. Temporary Works Control Measures**
- 3. Responsibilities**
- 4. Temporary Works Step Chart**

### **APPENDIX**

- A Temporary Works Register
- B Temporary Works Design / Checking Brief
- C Temporary Works Permit
- D Temporary Works Co-ordinator Job Spec.
- E Temporary Works Designer
- F Temporary Works Checker
- G Temporary Works Supervisor Job Spec.

# 1. Introduction

The **Health & Safety Executive (HSE)** publishes online guidance for five main sectors of the economy: Agriculture & Food; Construction; Manufacturing; 'STSU' ( Services, Transport and Safety Unit); and Public Services (e.g., Asbestos management; Control of Legionella; Military air shows and similar events, etc.).

Most of the Canal Trust's work comes under the Construction sector, in particular **the proper control of 'Temporary Works'**, which if uncontrolled can lead to accidents.

The HSE has created **British Standard 5975**, a code of practice for Temporary Works procedures which is regularly updated. Basically, contractors and organisations 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** as defined within BS 5975.

This document provides an interpretation of the code of practice for volunteer groups involved in restoration projects. At the very least, a competent person known as a **'Temporary Works Coordinator'** should create a 'Temporary Works Plan' that documents the risks and methods used to minimise those risks, ideally including a sketch of what is planned. Thus, a WPO would outline what is needed at the beginning of a working party; then at the end of the working party if the works are unfinished, the temporary works should be left in a safe and secure state. Photographs can also supply evidence of work done.

More complex construction projects require more sophisticated plans and designs, approved and checked by someone with the skills to do so. A **Temporary Works Register** should be kept in order to demonstrate that the correct procedures are being followed.

The next section sets out how risks and hazards associated with Temporary Works are identified, classified and controlled. In addition, it sets out the individual responsibilities for the appointed volunteers.

**Close management control** is a critical element of the control process which in turn requires effective communication between all parties.

This document includes several Appendices including an example Temporary Works Register, a Design/Checking Brief, a Temporary Works Permit, plus job specifications for the Temporary Works Coordinator (TWC), Supervisor (TWS), Designer (TWD) and Design Checker (TWDC).

## 2. Temporary Works Control Measures

### Definition of Temporary Works

'Temporary Work' is a temporary structure that is required to construct a permanent structure, or used to support a permanent structure during its erection or excavation until it becomes self-supporting or stable.

### **Legislation**

According to the HSE, "The person organising the temporary works needs to be aware of the problems that can occur at each stage of the process and how to prevent these. They need to coordinate design, selection of equipment, appointment of contractors, supervision of work, checking completion, authorisation to load and removal. Unless this is done in a thorough and systematic way, problems are likely to occur. If you take this on yourself, you must ensure each part of the process is correctly carried out."

The **Construction (Design and Management) Regulations 2015 (CDM)** and **Associated Code of Practice (ACOP)** are directly applicable to the design and management of temporary works.

CDM Regulation 13 (2) requires that temporary works are planned, managed and monitored in a way which ensures, so far as is reasonably practicable, they are carried out without risks to health and safety. Any support or temporary structure must be designed, installed and maintained so as to withstand foreseeable loads. The definition of a structure in the regulations includes "any formwork, falsework, scaffold or other structure designed or used to provide support or means of access during construction work."

For smaller contractors and for volunteer organisations, the principles of BS 5975 should be in place, if not the formal and specific procedures. We must be able to demonstrate that we took reasonable steps to manage the risks posed by the TW, proportional to the size and complexity of the task.

### **Hazard Identification and Risk Assessment**

The hazards associated with Temporary Works are usually those of collapse and/or failure of the equipment in place. These failures occur mainly because of: -

- Lack of effective communication
- Poor design
- Use of unsuitable or insufficient materials and equipment
- Lack of knowledge or experience of persons involved in Temporary Works design and/or erection/maintenance.

### **Causes of Failure**

- Incorrect estimation of load to be supported
- Design error or load programme changed after design completed
- Inadequate maintenance
- Inadequate detailing and/or execution of points of load transfer
- Inadequate horizontal and/or diagonal bracing to resist lateral loads
- Inadequate foundations
- Uncontrolled changes

## **Risk Check List**

- Risk to persons from collapsing structures ('fall into')
- Risk to persons falling from collapsing structures ('fall from')
- Risks to persons being hit by falling materials
- Risk of excavation collapse
- Risk of plant/equipment damage arising from any of the above
- Risk to persons handling equipment (manual handling injuries)

## **Control Measures**

- The control measures required for the safe operation of all Temporary Works are listed here as headings. The specific details in relation to the controls are contained in procedures, which follow and the Step Chart, set out in section 2.

## **Temporary Works Procedures**

These include:

- The allocation of duties and responsibilities to competent staff for all Temporary Works activities.
- The formal appointment of volunteers taking on TW roles and their responsibilities. The notice of formal appointments should be made in writing by the Design Co-ordinator (Project Director) and included in the Project Control Document (PCD).
- The maintenance of a Temporary Works register.
- The preparation of the concept and design brief based on hazard identification and risk assessment.
- The checking of all materials for adequacy, prior to erection.
- The formal checking of the Temporary Works design and
- Inspection before any works or loadings commence.

## **Duties and Responsibilities of Volunteers for Temporary Works**

It is essential that those involved with Temporary Works at any point in the process are fully aware of their duties and responsibilities. These must be clearly defined by the Design Coordinator.

**Note:** A TW appointed person can have more than one role, depending on the complexity of the project.

## **Temporary Works Register**

The TWC will maintain an up-to-date register of all the items of Temporary Works on the site with each item classified as defined. An example of a Temporary Works Register is attached at Appendix A of this procedure.

The purpose of the register is to ensure that each item of Temporary Works, is formally identified, designed and checked. The register shall be established at each contract handover or Project meeting and updated as necessary by the TWC throughout the duration of the contract/Project.

## Classification of Temporary Works

A Risk Assessment will be carried out for all Temporary Works. All Temporary Works will be designed and checked.

Those Temporary Works which are so minor as not to require registering e.g. Shallow trenches for drainage below 1200mm in depth; formwork less than 1200mm in height; Heras fencing in standard settings, need not be defined. Not all Temporary Works need to be registered if the risk assessments show that the risks are low. Each item of Temporary Works shall be assessed and classified by the TWC as defined below, to fix the level of design and checking necessary

### Categories of Design Check (based on BS 5975: 2008)

Category	Scope	Comment	Independence of Checker
0	<b>Restricted to standard solutions only</b> , to ensure the site conditions do not conflict with the scope of limitations of the chosen standard solution.	This applies to the use of standard solutions and not the original design which will require both structural calculations and checking to category 1, 2 or 3 as appropriate.	Because this is a site issue, the check may be carried out by another member of site or design team, e.g. Project Construction Manager, to check WPO / TWS designs.
1	<b>For simple designs.</b> These may include: formwork, false work (where top restraint is not assumed), needling and propping to brickwork openings in single storey construction.	Such designs would be undertaken using simple methods of analysis and be in accordance with the relevant standards, supplier's technical literature or other reference publications.	An independent member of the Engineering team to check the TWC/TWD's design.
2	<b>On more complex or involved designs.</b> Designs for excavations, for foundations, for structural steelwork connections, for reinforced concrete.	Category 2 checks would include designs where a considerable degree of interpretation of loading or soils' information is required before the design of the foundations for excavation support or slope.	The design checks should be carried out by an individual, not consulted by the TWC/TWD, e.g. Chief Engineer (TWDC) or outside consultant.
3	<b>For complex or innovative designs</b> , which result in complex sequences of moving and/or construction of either the temporary works or permanent works.	These designs include unusual designs or where significant departures from standards, novel methods of analysis or considerable exercise of engineering judgement are involved.	An internally produced specification to be put out to a third party for design and construction.

## **Risk categories listed with examples of the type & scale of task for each category**

It is anticipated that categories 0 and 1 will cover most of the tasks undertaken by the Trust. It is possible that on some projects, category 2 may also come into play. If so, a careful assessment of the task must be carried out to ensure that there are sufficient skills, competencies and knowledge within the Trust team to safely carry out the task. **If in doubt, contract out.**

## **RISK CLASSES OF TEMPORARY WORKS (including a non-exhaustive list of examples)**

### **Category 0 (Low risk)**

- Internal hoarding system and temporary partitions not subject to wind or differential air pressure or crowd loading
- Fencing and hoarding up to 1.2m high
- Formwork less than 1.2m high
- Shallow excavations less than 1.2m deep in good ground
- Simple propping schemes – 1 or 2 props
- Simple shuttering (e.g. as required to facilitate the casting of coping stones in situ)

### **Category 1 ( Low/Medium risk)**

- Hoardings and fencing up to 3m high
- Simple designed scaffolds up to 1.2m
- Falsework up to 3m high
- Small MEWPs operating on a pavement designed for HGV's or on internal ground bearing slabs and working within the level of tolerances set by the manufacturer.

### **Category 2 (Medium/High risk)**

- Formwork for concrete columns and walls up to 3m high
- More complex propping schemes – multiple props at single level
- Needling of structure up to 2 storeys high
- Foundation underpinning not using piles
- Excavations up to 3m deep in good ground
- Safety net systems fixed to robust primary members
- Temporary roofs

### **Category 3 (High Risk)**

- Falsework and formwork over 3m high
- Hoarding and fencing over 3m high
- Facade retention schemes
- Complex designed scaffold
- Scaffolding over 1.2m
- Complex propping schemes – multiple props and multiple levels
- Needling of structures greater than 2 storeys high
- Working platforms for cranes and piling rigs; tower crane bases
- Ground support schemes greater than 3m deep
- Trenchless construction including heading, thrust bores, mini tunnels
- Complex structural steelwork and pre-cast concrete erection schemes

## **The Concept and Design Brief for Temporary Works**

### **The Concept**

The Concept of the Temporary Works will be established by the TWC, and a Risk Assessment will be carried out in conjunction with the TWC and TWD following full consultation with the TWS as to the preferred method of construction, the choice of materials or systems, plant and labour and any access problems which may exist.

WBCT will, wherever reasonably practicable, use Standard Design Solutions for Temporary Works. The nature and scope of the Permanent Works will also be a major consideration in the choice of scheme – particularly any stated sequence of working or time related restrictions called for in the project. It is important therefore that the Designers and the relevant Statutory Bodies are consulted where appropriate during the formulation of the concept, to prevent adoption of unacceptable methods and materials.

### **The Design Brief**

The TWC will prepare the design brief and carry out a Risk Assessment and confirm its sufficiency with the TWD. The design brief should also include a control programme, which will define who provides what and when.

The full details of the Permanent works, site ground conditions, possible change to ground conditions (e.g. after rain), adjacent overhead or underground services and any other relevant information, should form a complete statement of the working performance required of the Temporary Works and the circumstances affecting them.

All communication must be channelled through the Temporary Works Co-ordinator, who is authorised to apply and progress the requirements of the brief and the programme.

At all stages, from design brief to dismantling of the Temporary Works, it is necessary to check that the information being used is correct and that the work is carried out as specified. Changes in the requirements of the design brief should be recorded as well as being incorporated in the design drawings.

As specialist equipment suppliers accept virtually no responsibility for the use of equipment, particular attention should be given to the physical and functional interfaces between these suppliers and any Temporary Works controls defined.

The health and safety aspects of design need to be communicated to, and where necessary discussed with, the CDM Co-ordinator so as to: -

- (i) Avoid or reduce risks arising from any interaction with the works of other involved in design and planning
- (ii) Enable the information to be incorporated into the Health and Safety Plan.

The person responsible for communication this information will be the Temporary Works Co-ordinator.



## **Design Brief Checklist**

- Drawings of Permanent Works, including relevant specification
- Soil and ground water conditions
- Details of site conditions, including services and access
- Preferred methods of construction and dismantling
- Available materials, equipment and plant
- Loads, including impact
- Control programme
- Acceptance of tolerances

### **Checking of Temporary Works**

Checking is essential at every stage of Temporary Works; from initial concept, through design stage, to erection, use and dismantling.

The result of all inspections and checks will be recorded in writing, and action will be taken to correct any faults.

Checking will be carried out in a systematic manner regarding checklists. Return inspections to verify the correction of faults will follow the same systematic routine to check every feature that could have altered in the intervening period.

Particular care will be taken to ensure that above the obvious technical load bearing properties of the Temporary Works, the safety of the people involved with constructing them is assured. The adequacy of access ways and working platforms and their edge-protection measures must be paramount considerations.

Statutory requirements must be met at all stages of the process.

All Temporary Works designed or erected by sub-contractors must be checked by the TWC for the site using the same regime of checks.

### 3. Responsibilities

Job Title	Responsibilities
<b>Health &amp; Safety Officer</b>	Responsible for ensuring that where temporary works are necessary, a Temporary Works Coordinator is appointed. That the process described within this policy has been followed prior to an authorised start on site. Ensuring that all relevant statutory Health, Safety and Environmental regulations and guidelines are planned, observed and implemented during the complete processes associated with temporary works.
<b>Design Coordinator</b>	(Usually the Project Director) Responsible for liaising with TWC to establish the requirements, the concept and the financial repercussions of temporary works from the tendering process through to start on site, providing due consideration for the risks, the design and methods employed to address the full scope of the works.
<b>Temporary Works Coordinator (TWC)</b>  (Usually the Project Manager)	Responsible for the management and implementation of the temporary works procedures, and that all such works are recorded in the site's temporary works register. The co-ordination of all temporary work activities as follows: Ensuring that the various responsibilities have been allocated. Ensuring that a satisfactory temporary work risk assessment and design is carried out. Ensuring that those responsible for on-site supervision receive full details of the design including any limitations associated with it. Ensuring that checks are made at appropriate stages covering the more critical factors. Ensuring that, during use, all appropriate maintenance is carried out after final check, issue permission to load / start to build permit, if this check proves satisfactory. When it has been confirmed that the permanent structure has attained adequate strength, issue formal permission to dismantle the Temporary works.
<b>Temporary Works Designer (TWD)</b>	(Member of Engineering team) Responsible for the production of individual temporary works designs and risk assessments which comply with all legislation and regulations.
<b>Temporary Works Design Checker (TWDC)</b>	(WBCT Chief Engineer) Responsible for, an independent appraisal of temporary works produced by appointed temporary works designers, issue certification which will signify that temporary works design is satisfactory. All temporary works which carry the highest risk must be approved by the TWDC.  In cases of 'simple' temporary works, the TWC may provide standard solutions.
<b>Temporary Works Supervisor (TWS)</b>	(Usually the Project Construction Manager) Responsible for ensuring that temporary work is constructed, loaded, altered or dismantled in accordance with the approved temporary works design.

## **The Main Items of Responsibility**

Responsibility must be allocated for the following key elements of the Temporary Works:

- (i)** The concept of the scheme – **Design Coordinator**
- (ii)** The design brief – **Temporary Works Coordinator**
- (iii)** The design (drawings and specification etc.) – **Temporary Works Designer**
- (iv)** Checking of the design if required – **Temporary Work Coordinator or Design Checker**
- (v)** Integration of the Temporary Works design with the Project design – **Temporary Works Coordinator**
- (vi)** Adequacy of materials used – **Temporary Works Coordinator / Temporary Works Supervisor**
- (vii)** Communicating details to those who need to know – **Temporary Works Coordinator**
- (viii)** Site control of erection, maintenance and dismantling – **Temporary Works Supervisor.**
- (ix)** Checking of site control – **Temporary Works Coordinator**
- (x)** Authority to use or remove – **Temporary Works Coordinator**

## **The Design Coordinator**

- Will formally appoint Persons to Carry out Individual TW Duties
- Must appoint suitably experienced individuals to carry out all the key elements of the Temporary Works.
- The appointment will be individually confirmed in writing, giving clear instructions on their duties, responsibilities and authority.
- Trade Contractors' personnel may be appointed as TWC or TWS. However, when appointing trade contractors, the appointee should assure themselves as to the competence of the individual in relation to the role they are expected to fulfil. This should involve some element of performance appraisal. Once appointed, individuals must be formally briefed in respect of all aspects of their responsibilities and the content of this policy.
- The following appointments must be made for every Contract, or for separate parts of the Contract depending on the nature and extent of the Temporary Works: -
  - (i)** Temporary Works Co-ordinator (TWC)
  - (ii)** Temporary Works Designer (TWD)
  - (iii)** Temporary Works Design Checker (TWDC)
  - (iv)** Temporary Works Supervisor (TWS)

For medium-risk and low-risk projects, the individuals may be appointed on a visiting basis. WBCT projects and major works would fall into these two categories. Projects deemed as high-risk will be contracted out.

It is recommended that if the TWS is not available to be on site, a nominated competent deputy takes over this role.

## 4. TW Process Step Chart

**Step 1:** H&S Officer to ensure that the Project Management Team are aware of the Temporary Works requirements for the Project.

**Step 2:** The Trust's Project Director, acting as the Temporary Works Design Coordinator, formally appoints, in writing, the key members of the Project team, consisting of Temporary Works Coordinator, Temporary Works Designer and Temporary Works Supervisor.

**Step 3:** The Temporary Works Coordinator determines the temporary works requirements for the Project and records these requirements in the Temporary Works Register with details of which category they fit in to. See section 3.3\*\*

**Step 4:**

(A) Tasks in Categories 0 and 1 can be developed to the design stage, and any associated Method Statements and Risk Assessments can then be produced by the TWC and /or TWD.

(B) Tasks in Category 2 to be assessed against the level of skill, knowledge and experience within the team. If this assessment proves that the team has the required levels, then the tasks can be progressed to the design stage as set out in (A) above.

If it is confirmed that the team does not have the required levels, then a task specification will be produced by the TWC and, dependent on where the skill shortage sits, the design or the construction, or both, will be put out to third party contractors, in line with (C) below.

(C) Any task in Category 3 will be outsourced both for design and for construction. The TWC acts as the Client, as defined in the CDM regulations 2015

**Step 5:** For in-house design & construction of TWs.

TWC to confirm that the design is fit for purpose.

- If so, the documentation is approved and passed to the Temporary Works Supervisor, together with the Temporary Works Permit. Proceed with the temporary works.
- If any approved changes are made during the TW build phase, these must be documented in the TWR and a new Temporary Work Permit is issued giving the date of the changes.

**Step 5:** For out-sourced design, construction or both.

TWC to appoint contractor and provide design brief.

- If the design & construction elements of the tasks are outsourced, on receipt of an acceptable submission by the contractor, the TWC will issue the Temporary Works Permit.
- If only one element (design or construction) has been outsourced, on receipt of an acceptable submission the TWC will issue the Temporary Works Permit for the appropriate element.

**Step 6:** The Temporary Works supervisor will complete the temporary works in line with the Method Statement. The TWC will inspect the temporary work, and if satisfied, will issue the Temporary Works Permit to load or start the build.

**Step 7:** On completion of the permanent works, the TWC will, if satisfied with the integrity of the structure, issue a permit to dismantle, and updates the Temporary Works Register.



## Appendix A

## Temporary Works Register

Name of Project: Top Lock Project

Reference Number TLP 0001

Temporary Works Co-ordinator: Malcolm Hitchinson (joint PM)

						TW BRIEF							
							Designed By	Checked By	Approved By	Permit to start TW construction	Permit to Dismantle	Checks	Temporary Works Item Complete
					TW DESIGN BRIEF BY	DATE Completed and Issued	WHOM/ DATE	WHOM/ DATE	WHOM/ DATE	REF/ DATE	REF /DATE	REF DATE Sign Off	Sign Off DATE
TW Item	Operation	Programme Start	Sub-Contractor	TW Classification									
1	Site Heras fencing up to 2m			0	RC	17/01/17	KV	RC	MH	17/01/17			
2	Lock Scaffold		Chippenham Scaffolding	3	RC	23/01/17	Contractor	RC	TWC				
3	Lock and wing wall edge protection			0									
4	Formwork for Tail bridge construction and supporting falsework.			2									
5	Shuttering for coping stones			0									
6													
8													
9													



## Appendix B: Temporary Works Design/Checking Brief

<b>Project Location:</b>	<b>Project Reference Number:</b>
<b>Name &amp; position of the person who prepared this brief:</b>	<b>Telephone numbers:</b>  <b>Email address:</b>
<b>Temporary Works Details:</b>	

Information & considerations	TW Class (0,1,2 or 3)	List of Documents, or state details
<b>Site Information attached:</b> Location plan showing position of Temporary Works Service location plan Details of any adjacent structures	1 2 3	
<b>Geotechnical Information:</b> Groundwater information Boreholes/trial pits location plan Interpretive Report/Lab test results	1 2 3	
<b>Design Requirements/Considerations:</b> Site Sketch of proposed Temporary Works Relevant permanent works drawings/specifications Special loadings Access requirements Construction phasing Duration of Temporary Works, if known Programme requirements Environmental constraints & considerations Special constraints	1 2 3 4 5 6 7 8 9	
<b>Project Preferences:</b> Details of preferred suppliers / subcontractors Details of any suitable materials available on site	1 2	
<b>Deliverables:</b> Specify any minimum requirements of materials to avoid delays and additional costs		
<b>Drawings available:</b> Y/N	<b>Calculations completed:</b> Y/N	<b>Report completed:</b> Y/N
<b>Third Party Check Certificates:</b> Y/N	<b>Designs &amp; Checks completed</b> Y/N	

<b>Date information required by:</b> Preliminary issue for review: ..... Final issue for review: .....
---





### Appendix C: Temporary Works Permit

<b>Project Name:</b>	<b>Date:</b>
<b>Project Location:</b>	<b>Project Reference Number:</b>
<b>Name of TWC:</b>	<b>Appointed by:</b>
<b>TWC Contact Details:</b> Address: Tel Number: _____ Email: _____	
<b>Specialist Contractor Details: (where applicable)</b> Address: Tel Number: _____ Email: _____	
<b>Name of TWS:</b> Address: Tel Number: _____ Email: _____	
<b>Description of Temporary Works / design brief reference:</b>	
<b>Temporary Works specific location/location plan:</b>	
<b>Pre-erection arrangement checks:</b>	
<b>*Proceed:</b>	<b>Date:</b>
<b>*Alter, adjust, maintain or use:</b>	<b>Date:</b>
<b>*Load:</b>	<b>Date:</b>
<b>*Permit to dismantle:</b>	<b>Date:</b>
<b>TWC Signature:</b>	<b>Date:</b>

\*Delete where necessary.

In each of the applicable cells the TWC will confirm that the relevant checks have been carried out and that the design criteria, including Risk Assessments and Safe Systems of Work (where applicable) have been met.

In addition, the Permit to Dismantle will only be granted providing the Permanent Works are in a sufficiently advanced state, in terms of strength and stability to allow the Temporary Works to be removed in line with design requirements and Method Statement.

## Appendix D; Temporary Works Co-ordinator - Job Specification

The HSE recognises that, 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. Therefore, the key attributes of a competent TWC are in order of priority,

- (i) relevant experience,
- (ii) formal TWC training and
- (iii) professional qualifications.
- (iv) TWCs should have the competence and authority to be effective.

Thus, WPOs should have the relevant experience to act as TWCs for tasks within their remit.

TWCs for more complex tasks have the responsibility to carry out:

- (i) Control and co-ordination of all TW activities
- (ii) Communication of information amongst all the parties involved in TW
- (iii) Registration and recording of all correspondence and documents relating to TW
- (iv) Preparation of a meaningful and comprehensive design brief
- (v) Progress monitoring at all stages
- (vi) Verification of the design and the construction methods

To ensure that:

- (i) The design is checked
- (ii) The methods and materials satisfy the requirements of the design
- (iii) Changes and corrections are designed, verified and carried out as required.
- (iv) Inspections are carried out at critical stages during construction and before loading
- (v) The strength of the Permanent Works is adequate to permit removal of the TW
- (vi) Formal permits to Load/Dismantle are issued
- (vii) Liaison exists with the CDM Coordinator.

Authority to enforce the requirements of:

- (i) The organisation's Safety Policy;
- (ii) The Contract;
- (iii) The design brief;
- (iv) The design approval.

## **Appendix E Temporary Works Designer – Job Specification**

Who is suitable?

- (i) An appropriately qualified and experienced consultant
- (ii) A supplier's or sub contractor's design office which has appropriately qualified and experienced staff

Responsibilities to produce:

- (i) A conforming design – which satisfies all the requirements of the design brief
- (ii) Detailed documents – comprehensive and easily understood by those using them
- (iii) Resolutions to technical queries
- (iv) Design changes – as requested by the TWC
- (v) An appreciation of the effects of the TW on the Permanent Works
- (vi) Design notes to highlight all critical stages of construction and necessary checks

Duties:

- (i) To conform to codes of practice and design standards appropriate to the Works
- (ii) To produce a safe, economic design within the timescale of the programme
- (iii) To liaise fully with the TWC to resolve any queries
- (iv) To consult recognised specialists when required to expedite the design, as agreed with the TWC
- (v) To liaise with the CDM Co-ordinator, through the TWC
- (vi) To advise the TWC of any risks (erection, use, dismantling) not obvious to a competent contractor

## **Appendix F: Temporary Works Design Checker - Duties**

The Temporary Works Design Checker must be independent of the Temporary Works Designer.

In all cases of Temporary Works design, a suitably qualified and experienced Engineer will be appointed in this capacity.

In the case of 'simple' Temporary Works, the TWDC role may be undertaken by any competent person independent of the Designer.

The qualifications, duties and authority of the TWDC are similar to that of the TWD. The responsibility of the TWDC is to verify the design and confirm that to the TWC.

## Appendix G: Temporary Works Supervisor - Job Specification

Who is suitable?

- (i) A Contracts Manager, a Project Manager, a General or Trade Foreman or Site Supervisor who:
  - (a) Is suitably qualified and experienced – able to spot potential hazards;
  - (b) Has acknowledged relevant experience of the construction method;
  - (c) Is technically able – can understand the drawings and methods involved.

Responsibilities:

- (i) Safety at all times – especially during erection, use and dismantling of TW
- (ii) To contribute to the design brief – method, skills, plant materials, access, etc.
- (iii) To ensure the standard of workmanship is good – careful attention to detail
- (iv) To supervise erection, loading and removal in the correct sequence
- (v) To activate the checking procedures called for by the design and the Contract
- (vi) To organise the Works – to meet programme

Duties:

- (i) Safety
- (ii) To understand the drawings
- (iii) To ask for more detail from the TWC if not completely sure of what is required
- (iv) To recognise the authority of the TWC and carry out his/her instructions
- (v) Not to change any details or method unless with the written agreement of the TWC
- (vi) To advise the TWC of unforeseen conditions, impractical details etc. if they arise.

Authority:

- (i) To organise all construction activities relating to the Temporary Works.
- (ii) To enforce the checking regime required by the TW design specification.

## References:

- (1) HSE web-page on 'The management of temporary works in the construction industry' (URL: [https://www.hse.gov.uk/foi/internalops/sims/constrct/2\\_10\\_04.htm#appendix-1](https://www.hse.gov.uk/foi/internalops/sims/constrct/2_10_04.htm#appendix-1) ).
- (2) HSE Managing Health and Safety in Construction: Construction (Design and Management) Regulations 2015 (URL: <https://www.hse.gov.uk/pubns/books/l153.htm> ).
- (3) IWA Restoration Hub presentation on 'Temporary Works in Restoration' given by Emma Greenall CEng MICE, Costain Temporary Works Engineer, on 6<sup>th</sup> September 2019 (available on OwnCloud).