

# MANAGEMENT OF TEMPORARY WORKS

# TEMPORARY WORKS

- Introduction
- Temporary Works
- BS 5975 :2008
- TWC and TWS, what are their roles and responsibilities
- Summary

# WHAT IS TEMPORARY WORKS?



- Section 3.40 BS 5975:2008 +A1 2011

“part 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”

Look back through your lists and confirm whether it remains in place on completion?

[Difference between Permanent and Temporary Works](#)

# WHAT HAS GONE OR IS WRONG?



# WHAT HAS GONE OR IS WRONG?





# BRAGG REPORT LODDON BRIDGE OCTOBER 1972



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# BRAGG REPORT

## LODDON BRIDGE OCTOBER 1972



- Berkshire County Surveyor, Mr. Edward Davies, said yesterday morning that the cause of the tragedy was "A complete mystery".
- "We are mystified", he said at a Press conference at Marples-Ridgway site headquarters. "The number of things which could lead to the collapse is infinite", said Mr. M. Simpson, the county council's resident engineer on the site.
- Both, however, strenuously denied that the design of the bridge, or its method of construction, was in any way to blame. "This has been done since the 1850s", said Mr. Davies. "There is no reason at all to suggest that the design was in any way inadequate".
- The collapse happened when tons of liquid concrete was being poured into the bridge "false work" – a temporary bridge of steel piles and girders. After the concrete has set, the falsework is taken away and a bridge of concrete is left.

# BRAGG REPORT

## LODDON BRIDGE OCTOBER 1972



- This falsework had previously been used on the west-bound bridge at the beginning of August and was due to be moved along the river to help construct the lower slip road. "We had no other problems with it at all", said Mr. Simpson.
- **Altogether there will be 33 spans in the viaduct and the one which was being constructed was the eighth.**
- Most of the 500 tons of concrete – a completed span has 1,000 tons – is now lying in the river. Mr. Davies admitted that there might well be problems in one already drained area, and added that the contractors might resort to blasting to get it out.
- He again repeated that the cause of the tragedy was a mystery but said: "We all want to find out. The engineers will want to find out, the department will want to find out and the contractors certainly will".



# WHAT IS TEMPORARY WORKS?

- BRAGG Report June 1975



- At the Loddon Bridge Report - 3 deaths and 10 injured
  - Note: it was lunch time
- 27 Recommendations for Falsework – What do you think they were?
- Do you think these are followed today when considering TWs and the items you have listed?
- Which led to the publication of BS 5975:1982
  - COP for Falsework

- Subsequent editions in 1996 and the 2004
- The 2004 revision was provided to ensure compatibility with BS EN 12812:2004 (Falsework Design)
- The European Standard on Falsework
- Still not Temporary Works
- Until 2008
  - Design of falsework needed to be brought up to date with current practice
  - To allow for Wind Loading in line with the National Annex
  - CDM 2007 (now 2015)
  - The Term Temporary Works Coordinator

- Title
  - “Code of Practice for temporary works procedures and the permissible stress design of falsework”
- Three sections
  - General – scope, terms, definitions, abbreviations, legislation
  - Procedural control of temporary works – appointments, design process (brief), coordination with site, bringing TW into use and dismantling.
  - Falsework – A design guide

# BS 5975:2008 + A1:2011



- General - Section 5 of the COP
- Deals with relevant legislation
  - Health and Safety at Work Act 1974
  - Management of Health and Safety at Work Regulations 1999
  - CDM was 2007 now 2015
  - Work at Height Regulations 2005
  - Lifting Operations and Lifting Equipment Regulations 1998
  - Personal Protective Equipment at Work Regulations 1992
  - Provision and Use of Work Equipment Regulations 1998

- Procedures – Section 6 through to 14.
- Section 6.1 General

Temporary works is 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.



- Section 6 also covers:
  - Control of procedures
  - Roles and responsibilities of organisations
  - Organisational interfaces
- Section 7
  - Appointment of the temporary works co-ordinator and the temporary works supervisor (TWC and TWS)

- Section 8
  - Design Brief
- Section 9
  - Design – Permissible Stress (elastic) or Limit State (plastic)
  - Design Check – Categories?
- Section 10
  - Co-ordination and supervision of work on site

- Section 11 - Checking on site
- Section 12 - Alterations
- Section 13 - Loading (bringing) the temporary works (into service)
- Section 14 - Dismantling

- Section 7 – Appointment and Responsibilities
- Both appointed by the designated individual
- What do you think are the 19 principal activities a TWC is expected to do in line with BS 5975?

- TWC

- The point of contact between the designer and site team
- Ensuring the TW are implemented as per the company's process and as the drawings and design
- The TWC has the authority to stop the works, to check the installation, issue a permit to load,
- Ensure a TW register is established and maintained

- TWC continued
  - Ensure the design brief is prepared
  - Ensure all residual risks are identified and liaison is made with the permanent works designer
  - Ensure the design is carried out and the check is appropriate
  - Ensure all site supervisors have access to the design and the guidance required.
  - Ensure checks/inspections are carried out at agreed intervals inline with the design requirements.
  - Ensure any changes in design, material or conditions are checked with the designer.
  - Issue a permit to unload/dismantle



- TWS
  - These appointments should be made when required to assist the TWC
  - The TWS is responsible to the TWC
  - Assists the TWC in supervision and checking of the TW
    - Must be proven and competence recorded
    - Must be formally appointed
    - Limitations of authority are recorded
  - Therefore, a TWS can issue a Permit to Load/Dismantle if the Designated Individual has passed on this authority following verification of the TWS competency.

# SUMMARY

- BS 5975:2008 +A1 2011
- TWC and TWS are appointed following assessment
- TW Register or Schedule is completed
- Design Brief is required
- Record checks on design
- Record checks on installation against the Approved drawings
- Permit to use/load/dismantle

# TEMPORARY WORKS

- Who is the TWC?
- What process do you have to control the work?



- Stuart Thomas – Chief Engineer
- Construction Risks, Safety and CDM 2015

- The successful delivery of any project is measured in a number of ways including:
- Stakeholder satisfaction
  - Client – Right solution, on time and within cost  
(value for money)
  - Sustainability – Social, Economic and Environment
- Profit
- Safety



- Health and Safety at Work Act 1974
- Construction Design Management Regulations 2015
  - Roles
    - Client
    - Principal Designer,
    - Principal Contractor,
    - Designers
    - Contractors
- Workplace, LOLER, PUWER, PPE etc.
- Management of Health and Safety at Work Regulations 1999
  - Principle of prevention
- Code of Practice for Temporary Works
  - BS 5975:2008



## **Health and Safety at Work Act 1974**

**Anyone entering these premises  
must comply with regulations  
covered by the above act**



- Detailed Design
  - Calculations/modelling output
  - Drawings
  - Design Risk Assessment
    - Significant hazards that exist following design
      - Construction
      - Maintenance
      - Dismantling
  - Methodology

