Appendix M
Risk Assessment & Method Statement Register (to be updated as work progresses)

REF:	ACTIVITY	CONTRACTOR (STATE IF KIER)	DATE EVALUATED	DATE ACCEPTED	DATE BRIEFED TO OPERATIVES
1	Asbestos R&D survey	TBC			
2	Hoarding erection and installation	TBC			
3	Site cabins and welfare delivery	Wernick	TBC		
4	Demolition works (RAMS required for each individual element not as a collective)	TBC			
5	Scaffolding adaptions	TBC			
6	Propping the basement	TBC			
7	Ground preparation	TBC			
8	Piling	TBC			
9	Grouting	TBC			
10	Basement car parking	TBC			
11	Steel erection (no oversailing)	TBC			
12	Crane driver	TBC			
13	Building envelope	TBC			
14	Curtain walling	TBC			
15	New substation installation	TBC			
16	M&E installation (RAMS required for each individual element not as a collective)	TBC			
17	Joinery	TBC			
18	Partition walls	TBC			
19	Ceiling installation	TBC			
20	Firestopping	TBC			
21	Plastering	TBC			
22	Decoration	TBC			
23	Flooring	TBC			
24	External works	TBC			
25	Highways work	TBC			

Appendix N
Site Personnel Appointment Sheets

Signed copies to follow.

KIER

Project: 11 York Street, Manchester

Site Appointments & Responsibilities Revision 1 - 25/07/2017	Name									
	Lee Williams	Snr Site Manager	Site Manager	Assistant Site Manager	Senior Engineer	Engineer	Commercial Manager	Quantity Surveyor	Assistant QS	
Temporary Works Co ordinator										
Temporary Works Co ordinator Deputy										
Temporary Works Supervisor										
Enviromental Co-ordinator										
COSHH Co-ordinator										
COSHH Co-ordinator Deputy										
Electrical Duty Holder										
First Aider										
Fire Safety Co-ordinator										
Fire Marshall" Lead Role Daily site check"										
Fire Marshalls										
Site Safety Supervisors										
Asbestos Co-ordinator										
Asbestos Co-ordinator " Deputy"										
Service Co-ordinator										
service Co-ordinator "Deputy"										
Update Construction Phase SHE Plan										
Traffic management plan										
Fire & Emergency Plan										
Work @ height Plan										
Update RAMS Register										
RAMS Evaluations										
Hoarding Check "Daily"										
Collection of Delivery tickets										
Daily Hot Work Permit										
Daily Digging Permit										
Daily Briefing to Kier operatives										
Inductions										
Weekly Scaffold inspections										
Daily Excavation inspections										
Daily edge protection inspection										
Co-ordinating plant inspections										
Delivery Manager										
Mobile tower register/check daily										
Management of Data scope										
Banksman										
Management of Quality Plan										
Quality itp's and check sheets										
QA "groundwork and structure"										
QA "Envolope"										
QA " Internal fit out"										
Sub Contractor Briefings										
Site Diary										
Management of CR Plan										
Weekly monitoring										

KIER	Project: 11 York Street, Manchester									
	Name									
Management of sub contractors Revision 01 - 25/07/2017	Lee Williams	Snr Site Manager	Site Manager	Assistant Site Manager	Senior Engineer	Engineer	Commercial Manager	Quantity Surveyor	Assistant QS	
Piling										
Scaffolding										
Demolition										
Insitu concrete basement works										
Structural steel frame										
Insitu concrete floor slabs										
Precast concrete façade										
Curtain walling										
Rollwe shutter										
external doors										
Blockwork										
Dry lining										
Joinery										
MEP installations										
Lifts										
Raised access flooring										
Ballustrades and handrails										
Miscellaneous metalwork										
Decoration										
Carpets										
FF&E										
Welfare accommodation										
Temporary Electrics										
Tower crane										
Hoist mast Climbers										
Scaffolding										
Edge protection										
Security & CCTV										

Appendix O
Kier Training Matrix

[Insert training matrix for Kier site personnel]

Appendix P
Company Policy Statements

The following policy Statements are included within Appendix P

SHEMS-POL-GR-001 - **Safety and Health Policy Statement**
SHEMS-POL-GR-002 - **Environmental Policy Statement**

Kier Group plc is a leading property, residential, construction and services group which invests in, builds, maintains, supports and renews the places where we work, live and play. We operate across a range of sectors including defence, highways, education, housing, industrials, power, transport and utilities.

Statement of Intent

Kier recognises its responsibility under current safety and health legislation and believes that incidents are preventable and this belief underpins our commitment to people and assets in support of Vision 2020, Kier's five year strategy. We will ensure that all workplace risks are identified and mitigated to an acceptable level.

Kier is actively committed to the provision of strong and active leadership; the engagement of the workforce in the promotion and achievement of safe and healthy conditions and the formal assessment and review of Kier Group's performance. Kier will provide adequate resources, information and training to ensure that the management teams will deliver this policy and its objectives.

Policy Aims

To ensure effective implementation of this policy we will:

- Through visible and active leadership, ensure that employees are aware that working safely is a condition of employment;
- Identify and mitigate to an acceptable level, workplace safety and health hazards;
- Ensure employees are trained to undertake the tasks required;
- Ensure employees are empowered to delay or postpone any activity that is considered unsafe;
- Integrate safety and health matters into our business decisions;
- Engage with our stakeholders, business partners and supply chain colleagues to ensure that their safety and health management standards and practices meet or exceed the expectations of this policy;
- Comply with applicable safety and health legislation;
- Strive for continual improvement in safety and health performance, and publicly report our performance on a regular basis;
- Provide our employees with information on occupational health, health promotion, rehabilitation and wellbeing;
- Share this policy with employees, stakeholders, business partners and members of the public;
- Comply with client specific requirements including, but not limited to, occupational health, working hours and fatigue management;
- Enhance performance based upon behavioural programmes, observations, coaching and safety and health maturity tools.

Senior management will review this policy annually, or following a major operational or organisational change, and establish objectives and targets that are consistent with Vision 2020.

This policy will be communicated to all our employees and organisations working on our behalf, displayed at our offices, on our intranet, and are made available to third parties.



Haydn Mursell
Chief Executive
For and on behalf of Kier Group plc

Environmental Policy

Kier Group plc is a leading property, residential, construction and services group which invests in, builds, maintains, supports and renews the places where we work, live and play. We operate across a range of sectors including defence, highways, education, housing, industrials, power, transport and utilities.

Statement of Intent

The Kier Group strategy for sustainability - "Responsible Business, Positive Outcomes" - recognises that our business has an impact on the environment and we are committed to managing and reducing that impact through the adoption of our environmental policy.

Policy Aims

To ensure effective implementation of this policy we will:

- Identify and fulfil our compliance obligations, including all legislation, standards and codes of practice, which are relevant to our business;
- Continue to improve our environmental performance through effective communication, provision of staff training and adoption of best techniques available;
- Use energy and fossil fuels efficiently so as to reduce our carbon emissions;
- Prevent pollution incidents;
- Reduce the amount of waste generated by our activities, sites and premises and the percentage that is sent to landfill;
- Conserve water by reducing demand at our sites and premises;
- Be a respectful neighbour by minimising the impact that our activities, sites and premises have on local communities;
- Protect and, where feasible, enhance biodiversity on sites and premises where we hold responsibility or can influence those that do;
- Seek to influence our clients to adopt, and our designers to provide, solutions that benefit the environment;
- Promote, as far as is reasonably practicable, responsible sourcing and the purchase of materials and services that through their use, sourcing or manufacture, have the least harmful effect on the environment;
- Minimise the need to travel but, where travel is unavoidable, use modern and efficient modes of transport;
- Work with our supply chain to help them improve their own environmental performance.

Senior management will review this policy annually, or following a major operational or organisational change, and establish objectives and targets that are consistent with Vision 2020, Kier's five year strategy.

This policy will be communicated to all our employees and organisations working on our behalf, displayed at our offices, on our intranet, and are made available to third parties.



Haydn Mursell
Chief Executive
For and on behalf of Kier Group plc

Appendix Q
Company Objectives & Targets

[Insert SHE Objectives & Targets]

Appendix R
Air Quality Plan

Information is contained within the Environmental Management Plan.

Appendix S
Human Impact Management Plan

Kier Building UK (Northern) employ **Corporate Social Responsibility Managers** who work with the project team, Client and local Councils to develop an **Employment and Skills Plan** / **Community Engagement Plan** with consideration given to the specific demographic and need of the area. This will include local labour and procurements targets, commitment to training, apprenticeships and work experience placements and wider education and community engagement activities.

The Corporate Social Responsibility Manager will;

- Devise a structured Communications Plan in conjunctions with the Client and key stakeholders to understand the needs and priorities of neighbouring businesses. The plan will include; project contact details, project information, commencement and completion dates, key dates in the construction programme and PR opportunities.

- Circulate quarterly project newsletters to neighbouring businesses updating the public and neighbouring businesses on project information, construction, community engagement activities.

- In line with environmental and planning requirements inform neighbours and stakeholders of any activities that may affect their everyday lives such as; traffic management, pedestrian access, deliveries, parking etc.

- Use social media (where practicable) to keep the wider city centre community aware of the project and it local impact.

Kier Building UK is a Partner Member of the **Considerate Constructors Scheme (CCS)**. We therefore commit to registering all Building UK sites, that are over six weeks in duration and complying with the CCS Code of Considerate Practice.

Our sites are visited and monitored by independent assessors proving our commitment to comply with all aspects of the Scheme's Code of Considerate Practice.

The Considerate Constructors Scheme provides us with a robust framework in which to ensure that Kier is as good as it can be; improving performance in areas that matter most to our customers and making a measureable difference to local communities. The Scheme's Code of Considerate Practice outlines the expectations of CCS and describes those areas that are considered fundamental for registration. These five areas are:

- Caring about our appearance
- Respect for the community
- Protection for the environment
- Securing everyone's safety
- Valuing our workforce

Comments, compliment and complaints received from the general public will be addressed immediately and recorded on a monitoring form kept on site by the project team.

Appendix T
Site Waste management Plan

Information is contained within the Environmental Management Plan.

Appendix U
Kier SHE Standards and Minimum Standards

The following is a summary of the Kier SHE Standards and Minimum Standards.

Examples are also included for reference. Copies of these Standards and Minimum Standards, along with all other Kier QA Documentation, can be obtained from the Kier management team.

Kier Building UK SHE - Standards
SHEMS-STD-GR-003 Safety Health Environment
SHEMS-STD-GR-005 SHE Legislation Evaluation
SHEMS-STD-GR-006 Just and Fair Culture
SHEMS-STD-GR-007 Visible SHE Leadership
SHEMS-STD-GR-008 Audit, Inspection and Weekly Monitoring
SHEMS-STD-GR-009 Competency, Training and Appointments
SHEMS-STD-GR-010 Documentation
SHEMS-STD-GR-011 Incident and Near Miss Reporting
SHEMS-STD-GR-012 Incident Investigation
SHEMS-STD-GR-013 Major Incident Response Plan
SHEMS-STD-GR-014 Risk and Impact Assessment Standard
SHEMS-STD-GR-015 Monthly Reporting
SHEMS-STD-GR-016 Management Review and Improvement
SHEMS-STD-GR-017 Procurement
SHEMS-STD-GR-018 Consultation and Participation
SHEMS-STD-GR-019 Premises Management
SHEMS-STD-GR-020 Fire Safety Risk Management-Fixed location
SHEMS-STD-GR-021 Fire Safety Management-Site
SHEMS-STD-GR-022 Enforcement Authority Contact
SHEMS-STD-GR-025 Construction Design and Management
SHEMS-STD-GR-026 Welfare Arrangements Workplaces
SHEMS-STD-GR-028 First Aid Standard
SHEMS-STD-GR-031 Overhead Services
SHEMS-STD-GR-032 Radiation
SHEMS-STD-GR-033 Managing Scaffolds
SHEMS-STD-GR-034 Inspection of Structures

SHEMS-STD-GR-035 Control of Occupational Noise

SHEMS-STD-GR-036 Confined Spaces

SHEMS-STD-GR-038 Young Persons

SHEMS-STD-GR-040 Working On the Highway

SHEMS-STD-GR-041 Asbestos Management

SHEMS-STD-GR-043 Thrustbore Operations

SHEMS-STD-GR-045 Management of Lifting Operations

SHEMS-STD-GR-046 Personal Protective Equipment (PPE)

SHEMS-STD-GR-047 Working on Near or Adjacent to Water

SHEMS-STD-GR-048 Temporary Works

SHEMS-STD-GR-049 Work at Height

SHEMS-STD-GR-050 Chlorination

SHEMS-STD-GR-051 COSHH

SHEMS-STD-GR-053 Lead at Work

SHEMS-STD-GR-054 Legionella

SHEMS-STD-GR-055 Lone Working

SHEMS-STD-GR-056 Pressurised System

SHEMS-STD-GR-057 Vehicles, Plant and Equipment - PUWER

SHEMS-STD-GR-059 Underground Services

SHEMS-STD-GR-060 Archaeology and Heritage

SHEMS-STD-GR-061 Earthworks and Contaminated Land

SHEMS-STD-GR-062 Ecology and Biodiversity

SHEMS-STD-GR-063 Nuisance Management

SHEMS-STD-GR-064 Pollution Prevention

SHEMS-STD-GR-065 Waste Management

SHEMS-STD-GR-071 Electrical Compliance

SHEMS-STD-GR-081 Display Screen Equipment (DSE) Assessment

SHEMS-STD-GR-082 Occupational Health (Exposure) Monitoring

SHEMS-STD-GR-083 Occupational Health

SHEMS-STD-GR-084 Vibration

SHEMS-STD-GR-085 Safety Critical inc. Mobile Plant Operatives - Medical Fitness Standard

SHEMS-STD-GR-086 Drug and Alcohol

SHEMS-STD-GR-087 Infectious Disease Control

SHEMS-STD-GR-088 New and Expectant Mothers

SHEMS-STD-GR-090 Demolition

SHEMS-STD-CIS-042-High Pressure Water Jetting

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Kier Building UK SHE - Minimum Standards

SHEMS-MST-GR-0001 SHE in Joint Ventures

SHEMS-MST-GR-0002 Excavator Quick Hitches

SHEMS-MST-GR-0003 Metal Fixtures and Fittings Purchasing

SHEMS-MST-GR-0004 Metals and Steelwork Purchasing

SHEMS-MST-GR-0005 Natural Stone Purchasing

SHEMS-MST-GR-0006 Workwear Purchasing

SHEMS-MST-GR-0007 Timber Purchasing

SHEMS-MST-GR-0008 Recycled Aggregate Purchasing and Use

SHEMS-MST-GR-0009 Topsoil Purchasing and Use

SHEMS-MST-GR-0010 Hazardous Waste Storage

SHEMS-MST-CIS-0001 Bio Hazards

SHEMS-MST-CIS-0002 Temporary Fire Alarm System

SHEMS-MST-CIS-0003 Lorry Loader Operations

SHEMS-MST-CIS-0004 Erection and use of Silos

SHEMS-MST-CIS-0005 Flexible Intermediate Bulk Containers

SHEMS-MST-CIS-0006 Safeguarding Against Falling Objects

SHEMS-MST-CIS-0007 Fall Arrest Safety Nets

SHEMS-MST-CIS-0008 Crane Lifting of Waste Skips

SHEMS-MST-CIS-0009 Low Level Access Systems

SHEMS-MST-CIS-0010 Mobile Elevating Work Platforms

SHEMS-MST-CIS-0011 Mobile Aluminium Towers

SHEMS-MST-CIS-0012 Site Accommodation Welfare Units

SHEMS-MST-CIS-0013 PAV Access Equipment

SHEMS-MST-CIS-0014 Permanent Running Line Systems

SHEMS-MST-CIS-0015 Podium Acess Equipment

SHEMS-MST-CIS-0016 Preventing Unauthorised Access from Occupied Premises onto Scaffolding

SHEMS-MST-CIS-0017 Proprietary Soft Landing System

SHEMS-MST-CIS-0018 Protection of Risers and Openings

SHEMS-MST-CIS-0019 Protection of Public Occupied Premises

SHEMS-MST-CIS-0020 Protection to Stairways Landings Corridors

SHEMS-MST-CIS-0021 Roof Slab and Floor Edge Protection

SHEMS-MST-CIS-0022 Rope Access

SHEMS-MST-CIS-0023 Self Erecting Tower Cranes

SHEMS-MST-CIS-0024 Site Organisation- Housekeeping

SHEMS-MST-CIS-0025 Site Organisation - Material Storage

SHEMS-MST-CIS-0026 Site Organisation - Pedestrian Segregation Access

SHEMS-MST-CIS-0027 Security Hoardings Fencing Signage

SHEMS-MST-CIS-0028 Site Organisation (Vehicle Parking)

SHEMS-MST-CIS-0029 Telehandler Planning and Use of

SHEMS-MST-CIS-0030 Telehandler Forklift Skips

SHEMS-MST-CIS-0031 Temporary Lift Shaft Gates

SHEMS-MST-CIS-0032 Loading and Unloading of Lorry Trailers

SHEMS-MST-CIS-0033 Waste Chutes

SHEMS-MST-CIS-0034 Pedestrian Walkways

SHEMS-MST-CIS-0035 Asbestos - Decontamination Unit and Hygiene

SHEMS-MST-CIS-0036 Asbestos Enclosures Transit and Waste Routes

SHEMS-MST-CIS-0037 Asbestos Licensed Works

SHEMS-MST-CIS-0038 Asbestos Notifiable Non Licensed

SHEMS-MST-CIS-0039 Asbestos Non Notifiable Non Licensed

SHEMS-MST-CIS-0040 Use of Harness and Lanyards

SHEMS-MST-CIS-0041 Concrete Washout

SHEMS-MST-CIS-0042 Chemical and Paint Storage

SHEMS-MST-CIS-0043 Nesting Birds

SHEMS-MST-CIS-0044 Pumping Out Excavations

SHEMS-MST-CIS-0045 Oil and Fuel Storage - above ground

SHEMS-MST-CIS-0046 Refuelling

SHEMS-MST-CIS-0047 Temporary Works Design Briefs

SHEMS-MST-CIS-0048 Temporary Works Element Standards

SHEMS-MST-CIS-0049 Temporary Works Foundations

SHEMS-MST-CIS-0051 Demolition - Mobile rock crushing and-or screening operations

SHEMS-MST-CIS-0054 Specialist WAH Teams Responsive Repairs

SHEMS-MST-CIS-0055 Spill Response

SHEMS-MST-CIS-0063 Concrete Pumping

SHEMS-MST-CIS-0064 Excavations

SHEMS-MST-CIS-0065 Free Standing Circular Saws

SHEMS-MST-CIS-0067 Mobile Phones and Devices

SHEMS-MST-CIS-0068 Requirement and Selection of Automatic External Defibrillators

SHEMS-MST-CIS-0069 Screed Pumping

SHEMS-MST-CIS-0070 Forward and Side Tipping Dumpers

SHEMS-MST-CIS-0071 Mast Climbing Work Platforms

SHEMS-MST-CIS-0072 Mobile Cranes

SHEMS-MST-CIS-0073 Piling

SHEMS-MST-CIS-0074 Pedestrian Operated Self-Erecting Tower Cranes

SHEMS-MST-CIS-0075 Tower Crane Safety

SHEMS-MST-BUK-0001 Avoiding UG Services

SHEMS-MST-BUK-0002 Drug and Alcohol - Oral Fluid Screening

SHEMS-MST-BUK-0050 Working at Height -Stilts

SHEMS-MST-BUK-0052 Building UK PPE

SHEMS-MST-BUK-0061 Fit to Work Certification

SHEMS-MST-BUK-0062 Chandelier Lifting

SHEMS-MST-BUK-0070 Setting People to Work

SHEMS-MST-BUK-0071 Temporary Electrical Installations

SHEMS-MST-BUK-0072 Tower Crane Safety

SHEMS-MST-BUK-0073 Use of Remotely Piloted Aircraft (Drones)

SHEMS-MST-BUK-0074 Wind Speeds

SHEMS-MST-BUK-0075 Temporary Works Design Checks

MINIMUM STANDARD
Personal Protective Equipment

Building UK

The following Minimum Standard is applicable on all projects within the following Business Units:

- Building South – Western and Wales
- Building South – Southern
- Building South – London
- Building South – Major Projects
- Building North – Northern
- Building North – Scotland
- Building North – Central
- Building North – Eastern



Hard Hat to EN397
Kier Employees and Subcontract Personnel
Black: Supervisor
Orange: Slinger/Signaller
White: Site Manager/Operative/Vehicle Marshal
Blue: Anyone coming to site not in the above categories

All Kier staff to wear helmets with Kier Logo's
Helmet stickers to denote 1st Aiders & Fire Marshals
Individuals name to be displayed on the front of the helmet (except visitors)
ICE ID tags to be worn by all site based personnel.



Eye Protection to EN166 Optical Class 1

Type F – Low energy impact eyewear to be worn as minimum standard.

Type B (medium energy impact) or Type A (high energy impact) to be determined via task specific risk assessment.

Hand Protection to EN388

Gloves will be worn as a minimum standard. The type and grade to be determined via task specific risk assessment.

Hi-Visibility Yellow Waistcoat to EN471*

Clothing to be layered as required – base, mid and outer layers. Hi visibility clothing will always be worn as an outer layer.
NB: The requirement for heat & flame retardant clothing to be determined via task specific risk assessment.

**unless alternative colour is specified by the client*
For road works full sleeves may be required.

Foot protection to EN20345 c/w midsole protection.

Laced ankle boots.
Alternative footwear to be determined via risk assessment. **NB: Rigger boots are not to be worn.**

NB: Only proprietary helmet liners will be permitted beneath the helmet. The wearing of hoodies, baseball caps, woolly hats or similar will not be permitted.

Summer Clothing – Long trousers and hi-vis shirt *(or high vis waistcoat over T shirt). **No bare legs or shoulders.**
Guidance on PPE can be found in Kier Group Workwear and PPE catalogue within the MyKier SHE pages under Procurement .
*NB: Job specific risk assessment may specify a higher level of protection.

Safety Health Environment
It's in our hands

Safety
Health
Environment
It's in our hands

Managing Scaffolds



KIER

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1 Introduction

The purpose of this standard is to set out the requirements for all Kier Business Units carrying out construction activities that involve scaffolding. This document has been produced to improve the management and control scaffold structures erected on Kier projects. It is in accordance with current legislation, guidance and protocol, and aims to minimise the risk of accident or injury to operatives working on or near the scaffold and the general public.

In addition to the requirement of this standard, all scaffolds are considered as temporary works and therefore must be managed and co-ordinated in accordance with Temporary Works Standard (SHEMS-STD-GR-048).

2 Scope

The scope of the SHEMS covers all persons, workplaces and operations in our Construction & Infrastructure Services Division (CIS), our Development, Property and Business Services Division (DPBS).

Exceptions will be documented through a SHEMS Appendix B process (SHEMS-FOR-GR-999), jointly authorised by Group SHE Director and Business Stream Director responsible for co-ordinating SHE.

This standard identifies the minimum requirements and standards for all access and working scaffolding when being planned, designed, erected, altered, inspected, used and/or dismantled.

Hoists, Ladders, Stepladders, Podium Steps and Mobile Aluminium Towers are not included as part of this standard, except where directly associated with scaffold for access.

2.1 Tube and Fitting Scaffolds

This standard applies to steel and aluminium tube and fitting scaffolds, and includes the use of system type components such as “Readylok” or “Easyfix” transoms, extending transoms, ladder beams and unit beams. All such components must be used in strict accordance with the manufacturer’s instructions / design guidance, and the information supplied to site upon request.

2.2 System Scaffolds

This standard applies to all types / brands of proprietary systems scaffolding used in construction.

3 Definitions and Acronyms

3.1 Definitions

design	The conception and calculation to produce the arrangement and details of a scaffold or other structure.
design brief	A document that includes all data and requirements relevant to the design of the temporary works.
design check	The evaluation of the design to determine whether it conforms with the design brief and can be expected to provide a safe engineered solution.
safe system of work	A formal procedure resulting from an examination of any workplace activity in order to identify its hazards and assess its risks.
scaffold	A temporary structure that provides access and a safe place of work for the erection, maintenance, repair or demolition of buildings and other structures, including storage of plant and material in use.
scaffold plan	A method statement for erecting and dismantling a scaffold.

3.2 Acronyms

SHEMS	Safety, Health & Environment Management System
CIS	Construction, Infrastructure & Services Division
DPS	Development, Property & Business Services Division
SCD	Strategic & Corporate Development Division
NASC	National Access & Scaffolding Confederation
TG	Technical Guide
SG	Safety Guide
CISRS	Construction Industry Scaffolders Record Scheme
SSoW	Safe System of Work
BS EN	British Standard European Norm – European Harmonised Standard
BM	Bid Manager
CM	Contracts Manager
PM	Project Manager
PW	Permanent Works
SC	Scaffold Contractor
SI	Scaffold Inspector
TW	Temporary Works
TWC	Temporary Works Co-Ordinator
TWD	Temporary Works Designer
TWS	Temporary Works Supervisor
NVQ	National Vocational Qualification
H&S	Health & Safety
HSE	Health & Safety Executive

4 Regulations & Codes of Practice

All scaffolding works shall be carried out in accordance with the Regulations and Codes of Practice requirements defined in the documents listed below:

4.1 Regulations

- The Health and Safety at Work etc Act 1974.
- The Work at Height Regulations 2005 – as amended.
- The Construction (Design and Management) Regulations 2015.
- The Management of Health and Safety at Work Regulations 1999 – as amended.
- Manual Handling Operations Regulations 1992 – as amended.

4.2 Codes of Practice

- NASC SG4:15 Preventing falls in scaffolding.
- NASC SG7:14 Risk assessments and method statements.
- NASC SG19:17 A guide to formulating a Rescue Plan.
- NASC TG4:11 Anchorage Systems for Scaffolding.
- NASC TG20:13 Operational Guide – Good practice for tube and fitting scaffolding.
- JCOP 2015 Fire Prevention on Construction Sites.
- CISRS CAP 609 - General Information (latest edition).

5 Process

The process that is to be followed when using scaffolds in construction is summarised in the diagram below. It is broken down into 3 phases; Pre-Construction, Design and Construction.

		Action	By
Pre- Construction	1	Identify scaffold requirements and record on TW Control Register.	BM
	2	Prepare tender stage Scaffold Design Briefs.	BM
	3	Obtain preliminary scaffold designs, as necessary.	BM
	4	Include suitable allowances in the tender price and programme for assessment of foundations / supporting structures, design / design checking and provision of independent inspections.	BM
Design	5	Select and appoint competent scaffold contractor	CM / PM
	6	Identify the scaffold designer and check competence.	SC / TWC
	7	Classify risk level for scaffold and design check category. Update TW Control Register (SHEMS-FOR-GR-060).	TWC
	8	Produce construction stage Scaffold Design Brief, using TW Design Brief (SHEMS-FOR-GR-061).	PM / TWC
	9	Undertake bespoke scaffold design or select a recognised standard configuration (e.g. compliant scaffold or system scaffold).	TWD
	10	Produce design documents and hold on site (e.g. compliance sheets, drawings, or manufacturer's or supplier's design manual / erection guide).	TWD / TWC
	11	Assess supporting structures (e.g. foundations and façade of building)	TWD / TWC
	12	Undertake Design Check at appropriate level of independence.	TWDC
	13	Review of scaffold design documents (including residual risks).	PM / TWC
Construction	14	Produce Safe System of Work / Scaffold Plan for erection, use, maintenance and dismantling – including a Rescue Plan.	PM / SC
	15	Issue Design Drawings (e.g. for bespoke scaffolds) marked as "For Construction" or similar – Hold Point for starting erection.	TWD / SC
	15	Inspect equipment prior to erection.	SC / TWS
	16	Erect scaffold, install ties and get ties independently tested.	SC
	17	Handover scaffold (including inspection and certificate).	SC
	18	Inspect scaffold before accepting hand-over.	TWC / TWS / SI
	19	Issue Permit To Load (SHEMS-FOR-GR-063), as required by risk class.	TWC
	20	Use and maintain the scaffold.	Site Team
	21	Carry-out Statutory Inspections & record on form SHEMS-FOR-GR-065.	TWS / SI
	22	Issue Permit To Strike (SHEMS-FOR-GR-064), as required by risk class.	TWC
	23	Dismantle scaffold.	SC
	24	Review of scaffold contractor performance	CM / PM / BM

BM Bid Manager / Estimator
CM Contracts Manager
PM Project/Site Manager
SC Scaffold Contractor
SI Scaffold Inspector
TW Temporary Works
TWC Temporary Works Co-ordinator
TWD Temporary Works Designer (Scaffold Designer)
TWDC Temporary Works Design Checker
TWS Temporary Works Supervisor (Scaffold Inspector)

6 Pre-Construction

6.1 Identification of Scaffolding Requirements

The Bid Manager should identify all items of scaffold needed for the project as part of the tendering process. A Temporary Works Control Register (SHEMS-FOR-GR-060) should be commenced at tender stage and this should include all items of scaffold identified.

Kier have the responsibility for ensuring that a clear brief for the work is given to the scaffold contractor, prior to them bidding for the work. This applies as much at the tender stage as it does during construction.

The Bid Manager should ensure that the Scaffold Design briefs are prepared for all significant scaffolds, and preliminary scaffold designs obtained. The scaffold requirements should be communicated by means of a Temporary Works Design Brief (form SHEMS-FOR-GR-061) to the scaffold designer. The information to be included on these design briefs is detailed in Section 7 of this standard.

6.2 Allowances in Price and Programme

The Bid Manager should consider and include suitable allowances in the tender price and programme for the following:

- All aspects of the TW process, as defined in Temporary works Standard, including
  - Bespoke designs;
  - Design checks;
  - Assessment of foundations and supporting structures.
  - External approvals;
  - Provision of TWS;
  - Statutory Inspections.
- Provision of independent inspectors to undertake the Statutory Inspections of the scaffolds;

7 Design Brief

The scaffold requirements should be communicated by means of a Temporary Works Design Brief (using SHEMS-FOR-GR-061) to the scaffold designer, in accordance with the Temporary Works Standard SHEMS-STD-GR-048.

Preliminary designs should be produced at tender stage.

As a minimum, Kier should give the scaffold designer the information listed in sections 7.1 to 7.5:

7.1 Scope

- The scope and description of works for which the design is required.
- Site Location.
- Duty of scaffold including anticipated usage and loads to be carried including the nature of any plant to be used.
- Height and Length of the scaffold.
- Time allowance for erection and time it is to remain in place.
- The nature of the supporting ground and any supporting structures.
- The presence of any hidden hazards that might create unexpected risks to the scaffold contractor, the workforce or other people.
- The requirements for a Loading Bays, or specially strengthened portion of the scaffold to receive loads that are to be placed by mechanical handling equipment, or which consist of packaged materials and the magnitude of all such loads.
- Any specific requirements or limitations on tying the scaffold.
- Whether there is a need for temporary sheeting or netting, and whether there will be grit blasting or similar operations.
- Whether the decking should be clear of any lapping boards, or sheeted over with plywood or similar materials, and the necessity to be covered with anti-slip strips.

7.2 Preferred Solutions & Materials

- Sequence and timing of loading.
- Plant to be used.
- Loads applied to the scaffold during construction from plant and materials.
- Exposure to wind for assessment of wind loads.
- The problems of access to and about the site.
- The requirements for access and working platforms (access to scaffold platforms above 1st lift is to be provided by use of a system staircase where possible.

7.3 Special Design Considerations

- Photographs of relevant area.
- Clearances required by statutory authorities, service providers, roads, railway, power lines, etc.
- The maximum load that can be applied to the permanent works.
- Interfaces with infrastructure assets such as Rail and Highways, and Waterways.
- Work in tidal locations.

7.4 Reference Documents

- Specification - Contract-Specific amendments and relevant clauses.
- Drawings
  - Fully dimensioned General Arrangement drawings of the relevant permanent works;
  - Contract drawings showing plan of ground and foundation areas beneath and adjacent to area, ground level variations, access areas both below and adjacent to the work;
  - Position of services;
  - Historical record drawings.
- Other
  - Site investigation data and reports relating to the area under and adjacent to the temporary works, including information of the site conditions;
  - Water courses or sources which might affect the site by altering soil properties, scour, flooding or the creation of additional loads;
  - Health & Safety Plan, in particular any information supplied by designers;
  - Construction Programme.

7.5 Risk Classification

The risk class for this type of temporary works is to be determined by the Temporary Works Co-Ordinator (TWC), in accordance with the Temporary Works Standard SHEMS-STD-GR-048. The risk class chosen is to be recorded on the Temporary Works Control Register SHEMS-FOR-GR-060.

Typically, the risk classification of a range of different scaffold solutions and their supporting structures would be broken down as follows:

- Compliant Scaffolds to TG20, pre-designed recognised standard solution – Risk Class **LOW**.
- Design Scaffolds, bespoke design outside of the scope of a standard solution – Risk Class **MEDIUM** or **HIGH**.
- Proprietary System Scaffolds, pre-designed recognised standard solution – Risk Class **LOW**.
- Supporting foundations, bespoke design by Temporary Works Designer – Risk Class **LOW** or **MEDIUM**.
- Assessment of the structure that the scaffold is tied to for stability, bespoke design, checked by Permanent Works (PW) Designer or Temporary Works Designer (TWD) – Risk Class **MEDIUM**.
- Deviation from proprietary system scaffold requirements, bespoke design, design by manufacturer / supplier – Risk Class **MEDIUM**.

The above typical risk classes are given for guidance. The TWC should use their judgement to decide on the risk class that is appropriate to the individual circumstance on the particular project, depending on the context for the scaffold structure.

8 Selection & Appointment of Scaffold Contractor

Kier must match the requirements of the work with expertise of a suitable sub-contractor. Many of the problems arising from Work at Height can be avoided by selecting safe and competent contractors before work begins.

All Scaffolding Contractors used on Kier projects (whether directly engaged or engaged by a sub-contractor) should preferably be full NASC members. Non-NASC contractors must be audited by a NASC approved organisation prior to tender. The auditing process should involve an assessment based on due diligence, reputation and previous contractor references, and must be approved by the Director with responsibility for safety within the Business Unit. The frequency of these audits should be every 2 years.

8.1 Competence

Competence refers not only to their technical awareness and capability, but also to their ability to understand and manage health and safety. The competence of the scaffold contractor, as well as operatives, is fundamentally essential. The requirements for competence, training and appointments are defined in the Competency, Training & Appointments Standard (SHEMS-STD-GR-009).

8.1.1 Scaffolding Contractors

Scaffold contractors must be able to demonstrate that they have competent supervision (e.g. must be qualified to at least CISRS 5 day Scaffold Supervisor training & hold a CISRS Scaffold Supervisor card).

They must employ competent scaffolders for the type of scaffolding to be undertaken on site. A qualified CISRS Advanced Scaffolder or Scaffolder working within their capability is suitably qualified to lead the scaffold operations within a gang of scaffolders and to direct the practical operations on site. Management, supervision and operatives must have received training on the latest editions of TG20 and SG4.

The scaffold contractors must also have access to competent scaffold designers.

An Advanced Scaffolder must be in attendance during the erection, adaptation and removal of designed bespoke scaffolds.

8.1.2 Scaffolding Operatives

- **Scaffolding Labourers**



Labourers must be adequately trained to allow them to carry out their duties safely. They must have received scaffolding manual handling training in accordance with NASC Guidance Note SG6 Manual Handling.

A CISRS Scaffolders Labourers card is available for operatives carrying out these duties. Labourers are only allowed to work at ground level or with safe access to a fully boarded and double guard railed section of a scaffold platform passing scaffolding equipment.

- **Trainee Scaffolder**



Trainees must have received scaffolding manual handling training in accordance with NASC Guidance Note SG6 Manual Handling. They must hold a current CISRS Trainee Scaffolders card and have received SG4 training and work in compliance with the guidance.

They can only work under the direct supervision of either a CISRS Scaffolder or CISRS Advanced Scaffolder at all times. An operative is considered a Trainee Scaffolder until they have completed all requisite training and assessment - i.e. CISRS Part 1, CISRS Part 2, S/NVQ 2, H&S testing and hold a CISRS Scaffolder Card, irrelevant of their time in the industry.

- **Scaffolder**



The Scaffolder must hold a current CISRS Scaffolders card and have received SG4 training and work in compliance with the guidance. The lead hand of a scaffold gang using System Scaffolding must have successfully completed the relevant CISRS Systems product training.

Scaffolders can work on the following structures:

- Independent tied scaffolding;
- Putlog scaffolding;
- Birdcage scaffolding;
- Tower scaffolding (steel);
- Truss-out scaffold;
- Scaffolds with beams;
- Protective fans;
- Pavement gantry;
- Loading bay;
- Roof saddle scaffold;
- Splay scaffold;
- Roof edge protection; and
- Tie testing.

They are entitled to work on Advanced or complex design structures but only under the direct supervision of an Advanced Scaffolder.

- **Advanced Scaffolder**



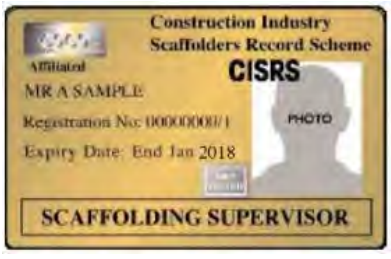
The Advanced Scaffolder must hold a current CISRS Advanced Scaffolders card and have received SG4 training and work in compliance with the guidance.

The lead hand of a scaffold gang using Systems Scaffolding must have successfully completed the relevant systems product training.

Advanced scaffolders can work on any tube and fitting steel scaffolding structure including the following:

- Tubular drop scaffold from steelwork;
- Cantilever drop scaffold;
- 2 Chord raking shore;
- 3 Chord raking shore;
- Dead shore;
- Flying shore;
- Temporary roof scaffold;
- Stairways; and
- Ramps.

- **Scaffolding Supervisor**



The Scaffolding Supervisor must hold a current CISRS Scaffolding Supervisors card and have received SG4 training and work in compliance with the guidance.

9 Responsibilities

9.1 Scaffold Contractor's Supervisors

All scaffold supervisors must hold an Advanced Scaffolders CISRS card and have as a minimum five years practical experience.

All scaffold supervisors will ensure that all scaffolding works are supervised and carried out safely and are in accordance with:

- the TG20 Compliance Sheet; or
- the bespoke scaffold design; or
- the System Scaffold's manufacturer's erection manual; and
- any Statutory Duty requirements.

All scaffold supervisors must be able to understand all of the requirements as defined on the TG20 Compliance Sheets, bespoke scaffold design or System Scaffolds manufacturer's erection manual, as well as their Statutory duties.

All scaffold supervisors must be familiar with the safe methods of work required to carry out the works safely, i.e. latest versions of NASC SG4, TG20 and TG4.

The scaffold supervisor will be responsible for ensuring co-operation with the Kier site project team.

The scaffold supervisor must only accept instruction from the Kier person responsible for scaffolding works, or an appropriate authorised manager.

The scaffold supervisor must advise the Kier project team of any unforeseen conditions, impractical details as and when they arise.

Any significant changes to design and/or methods of safe working must be brought to the attention of the Kier project team prior to continuing work.

9.2 Scaffold Supervisor Ratios

The minimum number of scaffold supervisors in relation to the number of scaffolders on site is defined below:

- For sites with less than 4 scaffolders; a visiting scaffold supervisor is acceptable, with a minimum visiting frequency of twice a week. All sites must have an appointed responsible foreman who must hold a CISRS Advanced Card.
- For sites with between 4 and 15 scaffolders, a dedicated on site scaffold supervisor is required.
- For sites with between 15 and 21 scaffolders, two dedicated scaffold supervisors are required.
- For sites with more than 21 scaffolders. The number of dedicated scaffold supervisors will increase proportionately.

9.3 Scaffold Supervisor's Role

The Scaffold Supervisor's role includes:

- They will ensure all information relating to all scaffold structures is available to all parties on the content and measures required for compliance.
- They will ensure that all movement and storage of materials whether from delivery vehicles, around site or during use, is carried out safely. Particular consideration is required toward maintaining safe access routes, and avoidance of obstructions to other contractors.
- They will ensure only registered and competent workers experienced in the works are deployed to carryout scaffold works.
- They will ensure an approved method statement, risk assessments, rescue plan, and relevant work permits are in place before work commences, and that they are appropriate to the specific element of work. All operatives involved with the works must have the method and risk assessments explained to them and sign the relevant documents to confirm understanding.
- They will maintain a daily record of all operatives working on site and ensure the correct skill ratio of operatives within each scaffold gang. The supervisor must bring to the attention of the Kier project site team any foreseeable issues with regard to resource level.

10 Scaffold Design

The Work at Height Regulations require that strength and stability calculations for scaffolding shall be carried out unless a note of the calculations (covering the structural arrangements contemplated is available), or it is assembled in conformity with a generally recognised standard configuration.

NASC TG20 Compliant Scaffolds and System Scaffolds fall into this category, where no bespoke design is required for the scaffold's structure. For all other scaffolds, a bespoke design is required supported by full strength / stability calculations and construction drawings.

10.1 Compliant Scaffolds

TG20 compliant scaffolds are standard configurations of scaffolding that have been designed by structural calculation in accordance with BS EN 12811.

NASC TG20 provides detailed guidance on compliant scaffolds, their range and definition, and requirements.

10.1.1 Types of TG20 Compliant Scaffolds

The types of scaffold that may be a compliant scaffold to TG20 include:

- Tied Independent Scaffolds.
- Tied Putlog Scaffolds.
- Freestanding Independent Scaffolds (unclad, up to 6m high, using rakers and butting to an existing façade – in accordance with TG20 Ops Guide Section 6.23).
- Interior Birdcage Scaffolds.
- Loading Bays.
- Towers.
- Ladder Access Towers.
- Chimney-stack Scaffolds.

In addition to the above scaffolds, TG20 allows for a number of add-ons (structural features) that have their own compliance sheets. These add-ons include:

- Bridging with beams.
- Pre-fabricated transom units.
- Light duty cantilevered protection fans.
- Pavement lifts.
- Cantilevered access platforms.
- Inside board brackets (hop-ups).

10.1.2 TG20 Compliance Sheets

A TG20 compliance sheet can be used to demonstrate that a scaffold is TG20 compliant and therefore does not need bespoke design.

Compliance sheets can be produced in 2 different ways:

- Firstly, they can be taken directly from the TG20 Operational Guide – in this case the scaffolds they cover are termed as "basic" compliant scaffolds; and
- Secondly, they can be produced by the TG20 E-Guide.

Compliance sheets produced by the E-Guide generally give more economical scaffolds with lower leg and tie loads.

A copy of the specific compliance sheets for each compliant scaffold that have been erected, or are being used, on site must be held on site as part of the Temporary Works records.

10.2 Bespoke Design Scaffolds

TG20 also covers the specific requirements for designed scaffolds (TG20 Design Guide).

When TG20 compliant scaffolds, established solutions or system scaffolds are not appropriate, access scaffolds shall be designed by a competent person in accordance with BS EN 12811-1, NASC TG20 and BS EN 1991-1-4:2005.

10.2.1 Types of Bespoke Scaffolds

The typical types of scaffold that will need a bespoke design include:

1. Scaffolds for which a matching TG20 Compliance Sheet can't be produced;
2. All shoring scaffolds (Dead, Raking and Flying);
3. Cantilevered scaffolds (if a matching TG20 Compliance Sheet can't be produced);
4. Truss-out scaffolds;
5. Façade retention scaffolds;
6. Access scaffolds with more than the 2 working lifts;
7. Buttressed free-standing scaffolds (if not matching criteria in TG20 Ops Guide, Section 6.23);
8. Temporary roofs and temporary buildings;
9. Support scaffolds;
10. Loading bays (if a matching TG20 Compliance Sheet can't be produced);
11. Mobile Towers;
12. Temporary ramps and elevated roadways;
13. Tube & Fittings Staircases and fire escapes (if more than 1.5m long or not compliant with TG20 Operational Guide Section 8.3);
14. Spectator Terraces and Seating Stands;
15. Bridge scaffolds (if a matching TG20 Compliance Sheet can't be produced);
16. Towers requiring guys or ground anchors;
17. Offshore scaffolds;
18. Pedestrian footbridges or walkways;
19. Slung and Suspended scaffolds;
20. Protection fans (if a matching TG20 Compliance Sheet can't be produced);
21. Pavement gantries;
22. Marine scaffolds;
23. Boiler scaffolds;
24. Power line crossings;
25. Lifting gantries and towers;
26. Steeple scaffolds;
27. Sign board supports;
28. Sealing end structures and temporary screens;
29. Temporary Storage on site;
30. Masts, Lighting Towers and Transmission Towers;
31. Advertising hoarding/banner supports;
32. Scaffolds of tubes of other materials, dimensions and strengths (e.g. aluminium tubes); and
33. Rubbish chute supports.

Note 1: The above list is not exhaustive and any System Scaffold and or system component that does not comply with manufacturer's guidelines (including System Scaffold Staircases), as published in handbooks, will require a specific design produced by a competent person.

Note 2: TG20 only provides compliant scaffolds for a limited range of scaffolds. Any scaffolds that fall outside of the scope as defined on the compliance sheets must have a bespoke design produced.

Note 3: TG20 provides a range of compliant scaffolds, which can be boarded at any number of lifts, but only two platforms can be used as Working Platforms at any one time.

10.2.2 Design Drawings

Where design drawings are produced, they shall include the following:

- Elevations and a typical section of the scaffold;
- Maximum height;
- Platform boarding arrangement;
- Maximum leg loads;
- Duty, designation or safe working load;
- Number of lifts that can be loaded simultaneously;
- Lift heights, bay lengths, transom spacings;
- Bracing requirements;
- Tying arrangements, tie duty, maximum spacing both horizontally and vertically.
- Sole boards requirements;
- Component materials / grades – tubes, couplers, boards, prefabricated beams, transom units, ladders; and
- Erection tolerances.

A copy of scaffold design documents for all bespoke designed scaffolds that have been erected, or are being used, on site must be held on site as part of the Temporary Works records. These design documents shall include drawings, supporting calculations and information from the designer regarding residual risks.

10.3 System Scaffolds

All system scaffolding must conform to the relevant British and European Standards BS EN 12810/12811.

All system scaffolding is to be erected in accordance with the manufacturer's or supplier's design manual / erection guide, or be subject to a specific design by a competent Temporary Works Designer.

Any proposed modifications, or alternations, outside a system scaffolding manufacturer's guidelines must be designed by a competent Temporary Works Designer.

The relevant installation / erection guidance from the manufacturer or supplier of the system scaffold must be obtained, and must be held on site as part of the Temporary Works records, whilst the system scaffold is being erected, used and dismantled.

10.4 Access and Egress

Where possible, access to scaffold platforms above the 1st lift is to be provided by use of a System Staircase. To comply with the Work at Height Regulations, the following hierarchy is to be implemented in priority order:-

- System Staircases with the exception of tube and fit type treads (unless agreed with the SHE manager).
- Independent Ladder access towers, with single lift ladders
- Internal single lift ladders to access the working platform.
- External ladders (Max height 4.5metres).

10.5 Scaffold Designers

The site team and TWC must be clear exactly who the designer of the scaffold is and ensure that they are properly briefed as Section 7 above. Designers of scaffolding have responsibilities under the Construction (Design Management) Regulations 2015.

In addition to the traditional definition of a designer (someone who prepares or modifies a design for a construction project, or arranges for, or instructs someone else to do so), the CDM Regulations also states that "the person who selects products for use in construction is a designer".

All scaffolds will have at least one designer (most will have more than one) who would have been involved in producing the scaffold solution. For example:

- A typical TG20 Compliant Tied Independent Scaffold will have at least 5 designers. The first is the original designer who produced the strength and stability calculations for the recognised standard configuration (NASC & CADS). The second is the person who selected the particular compliant scaffold as being suitable in meeting the design brief, and hence the specific situation on site (normally this is the Scaffold Contractor). The third is the person who decided which type of ties to use on site (normally the Scaffold Contractor). The fourth is the person who assessed / designed the foundations for the scaffold. The fifth is the person who assessed the fabric and / or structure that the scaffold is tied to (sometimes this is the PW engineer).
- A Proprietary System Scaffold with ties similarly will have at least 5 designers. The first is the original designer who produced the strength and stability calculations for the standard solution (manufacturer or supplier). The second one, is the person who selected the particular system scaffold as being suitable in meeting the design brief, and hence the specific situation on site. The third is the person who decided which type of ties to use on site (normally the Scaffold Contractor). The fourth is the person who assessed / designed the foundations for the scaffold. The fifth is the person who assessed the fabric and / or structure that the scaffold is tied to (sometimes this is the PW engineer).
- A bespoke scaffold including ties will usually have several designers. The first designer is the scaffold designer who has been given the design brief for the particular scaffold. They may have the tie design / selection, foundation design and assessment of the building fabric / structure included in their brief. If they do not, then there are additional designers involved in the process as above.

10.6 Design Review

The site team shall carry out a review of the scaffold solution; whether it has a bespoke designed, is a TG20 compliant scaffold, or is a system scaffold. This review should ensure the following is undertaken as a minimum:

- The proposed scaffold is reviewed against the original design brief, to ensure they comply with the site requirements. Any new requirements identified must be referred back to the Scaffold Designer for re-design and re-issue of scaffold design deliverables.
- Any temporary loadings applied to the permanent works (PW) are referred back to the PW Designer, to gain his written approval.
- The design is reviewed against company safety standards and alerts to ensure compliance and identify any additional risks. These new risks must be assessed, and control measures devised and included in the construction method statements.
- Any residual risks identified by the Scaffold Designer must be assessed, and control measures devised and included in the safe system of work.
- For compliant scaffolds produced from the TG20 Operational Guide and E-Guide, ensure that the following meet the requirements for the specific scaffold:
  - Site location meets the site wind exposure criteria.
  - Netting or sheeting restrictions.
  - Façade permeability restrictions.
  - Maximum height to top lift.
  - Loading / duty allowed.
  - Tie duty and maximum spacings.
- For compliant scaffolds produced from the E-Guide reviewing certain information that has been used in selecting the proposed solution is a problem. In particular, the criteria used in selecting the wind exposure for the site – e.g. topography, altitude, and seasonal factor. The TWC should request this information from the scaffold contractor to help in reviewing the scaffold solution selected, and this should be held with the other Temporary Works records. An example format for obtaining this information is included in Appendix B.

10.7 Design Check

A Design Check shall be undertaken on all scaffolds depending on their design check category, as defined in Table 3 of the Temporary Works Standard SHEMS-STD-GR-048. The design check category is dependent on the design complexity and is based on BS 5975. The typical design check categories for scaffolds are as follows:

- Compliant scaffolds to TG20 - Category 0 (standard solutions).
- Design scaffolds – Category 1 (simple designs), or Category 2 (more complex or involved designs).
- Proprietary system scaffolds fully in accordance with manufacturer's / supplier's guidance - Category 0 – standard solutions.
- Proprietary system scaffolds NOT fully in accordance with manufacturer's / supplier's guidance - Category 1 (simple designs), or Category 2 (more complex or involved designs).

Documentary evidence of design checks is required for every scaffold and this should be kept in the Temporary Works records. For Category 0 & 1 design checks, e-mail confirmation from the checker is deemed suitable evidence. However for Category 2 & 3 design checks, Design Check Certificates (form SHEMS-FOR-GR-062 or equivalent) are to be used.

11 Safe System of Work

Each scaffold must have Safe Systems of Work (SSoW) developed for the activities involved in its erection, use, inspection, maintenance and dismantling. As part of developing the SSoW, job specific risk assessments must be undertaken and recorded in writing. The SSoW will be documented in the form of method statement(s), which are often referred to as Scaffold Plans. Both the Scaffold Plan and associated risk assessments must be submitted to, and accepted by, Kier before work commences to erect, alter or dismantle a scaffold.

Scaffold Plans should be written by the management of the Scaffold Contractor. NASC SG7 "Risk assessments and method statements" provides industry guidance on how a scaffold contractor should produce a Scaffold Plan.

A Scaffold Plan may cover a range of scaffolds for a particular site, particularly if they are all Low risk recognised configurations, such as TG20 compliant scaffolds.

11.1 Content

Whilst the content of the Scaffold Plan will vary according to the scale and complexity of the job and level of risk involved, the document as a minimum should address, but not be limited to, the following issues:

- WHAT - the scope of the work to be carried out including the duty of the scaffold, sheeting requirements and the methods to be used for tying the structure.
- WHERE - the location of the work being carried out.
- WHEN - dates, time, sequence of events, or following other operations.
- WHO - number and type of personnel, including the names and any specific skills, training or qualifications required.
- HOW:
  - Plant, equipment and material required, including access, storage and handling.
  - The safe means of access and egress.
  - The means of ensuring a safe place of work.
  - The method and sequence of operations.
  - Specific limitations / constraints upon the job, e.g. adverse weather, out of sequence working.
  - Emergency procedures.
  - Details of PPE and other measures such as barriers, signs, etc.
  - Details of any measures to protect third parties or members of the public.
- The type of collective fall prevention system / equipment to be used (SG4).
- Scaffold inspections - handover and inspection arrangements.

- References - it may be necessary to cross-refer to design drawings, specifications, procedures, job specific risk assessments or permits to work.
- Date and originator - signature and date of the person completing the Scaffold Plan.

Any new personnel introduced to the work must be briefed on the Scaffold Plan and sign to confirm that they understand the content.

11.2 Controls

The following system controls also need to be specified, either as part of the Scaffold Plan or as part of company procedures:

- Communication - arrangements for ensuring that all parties involved understand the scaffold plan or their part of it. Risk assessment and method statements shall be communicated to operatives. Copies of all risk assessments and method statements should be held as a minimum for the duration of the contract.
- Supervision - arrangements for ensuring that the work proceeds according to the scaffold plan.
- Amendments - **arrangements for agreeing modifications to the scaffold plan and communicating them to those concerned**.
- Validation - arrangements for ensuring that the proposed scaffold plan is reviewed by both the contractor producing it and by the principal contractor.
- Drawings – arrangements for ensuring that, where design drawings are produced, erection should only proceed based on drawings clearly marked with “For Construction” status.

11.3 SG4 Preventing Falls in Scaffolding

The controls as detailed in the NASC SG4 “Preventing Falls in Scaffolding” must be incorporated in the Safe Systems of Work for erection and dismantling of all scaffolds.

In order to work within the requirements of SG4, methods of fall prevention must be considered ahead of methods of fall mitigation. The type of collective fall prevention system / equipment to be used must be stated on the Scaffold Plan (Method statement).

Furthermore, all Management, Supervision and Operatives involved in the erection and dismantling of scaffolds must have received relevant training on SG4.

11.4 Pavement Licenses & Public Protection

A license will be required from the Local Authority granting permission when scaffolding is erected on or above public highways (including pavements),

Pavement lifts shall comply with the following:

- The maximum bottom lift height will be 2.7m;
- The minimum bottom lift height will be 2.3m; and
- All standards protected with foam.

In order to protect the public, consideration should be given to:

- Use of Proprietary System Scaffolds as less components are used, so reducing the risks of dropping loose fittings.
- The inclusion of brick-guards, netting, sheeting, safety net fans and protection fans;
- The need for lighting to be fixed the scaffold; and
- Redirecting the public away from the scaffold.

As a minimum, the following must be included to protect the public:

- The bottom lift will be double boarded with sheeting sandwiched between the boards (NOTE: All sheeting must comply with LPS1215 fire resistance requirements).
- There must be no gaps between the face of the building and the scaffold, where materials could fall onto the pavement.
- There should be yellow plastic protection base pads under each base plate.

Where alternative footways are required, consideration should be given to the New Roads & Street Works Act 199. Signs and barriers are to be erected in compliance with “Safety at Street Works and Road Works, A Code of Practice” (the Red Book).

11.5 Rescue Plan

If a person falls and is suspended in their safety harness, restriction of movement or loss of consciousness must be anticipated, so they must be rescued extremely quickly. The aim of the rescue plan should be to keep the post fall suspension time to a minimum by getting the person back to a position of safety as soon as possible.

The legal requirement for rescue is specified in the 'Work at Height Regulations 2005' and requires every employer in selecting work equipment for use in work at height to take account of the need for easy and timely evacuation and rescue in an emergency.

When planning for rescue, consideration should be given to the type of situation from which a casualty may need to be recovered, and the type of fall protection equipment which the casualty would be using. The Rescue Plan must include details of the arrangements for the recovery of scaffolders that have suffered a serious medical episode or sustained significant injury, as well as the recovery of a scaffolder suspended in a harness following a fall.

The Scaffold Plan must include an effective Rescue Plan / Procedure that can be implemented on site independently of the emergency/fire rescue services. The rescue plan must be drafted in accordance with the guidance given in NASC SG19 "A Guide to formulating a Rescue Plan", which deals primarily with the rescuing of a scaffolder suspended in a harness.

NASC SG19 has 4 different Rescue Plan scenarios included. These can be very helpful in producing a site specific Rescue Plan.

12 Site Activities

12.1 Supporting Structures

The ground or other supporting structures (e.g. footings, foundations) must be capable of supporting the loads applied by the scaffold. Hence, they must be assessed by a competent person prior to proceeding with erecting the scaffold. Under normal circumstances, Kier will be responsible for these assessments.

Ground assessments will need to ensure that the permissible bearing capacity of the ground is not exceeded by the loads imposed by the legs of the scaffold. The use of steel base plates and sole boards should be considered the minimum in order to reduce the pressures to a reasonable level.

If the bearing capacity is inadequate then there are several options which can be considered to improve the situation, they may include:

- Use of spreaders to increase the bearing area – e.g. additional sole plates or other structural timber spreaders.
- Addition of engineered granular material to improve the bearing capacity.
- Reducing the bay lengths to lower the leg loads of the scaffold.

Where the scaffold is supported by structures other than the ground (e.g. parts a building) then these structures must be assessed to ensure that they are strong enough to support the loads imposed by the scaffold. These assessments are typically undertaken by the PW engineer or a TW designer.

For tied scaffolds, it is vital that there is an assessment made of the structure to which the scaffold is to be tied for stability. This assessment can be undertaken by the PW engineer for the building or a TW Designer.

12.2 Inspection before erection

A scaffold inspector / Temporary Works Supervisor must ensure that:

- Equipment is checked for compliance with design requirements.
- Damaged or defective equipment is removed from site or destroyed.
- Critical components, identified by the designer, are subject to specific inspection.
- Foundations are adequate, level and ready for installation.
- Any design drawings are marked as "For Construction" or similar.

12.3 Erection

12.3.1 Tube & Fitting Scaffolds

The Safe System of Work (Scaffold Plan) must be followed for the erection of the scaffold.

The erection area must be clearly identified, signed and those not involved with the erection excluded from the area. Particular consideration must be given to members of the public.

Scaffolders must be competent and be able to demonstrate the requirements under 8.1 on this standard. Scaffolders must work in full compliance with current NASC guidance. Erection shall be carried out using systems in accordance with NASC guidance SG4.

Care shall be taken to ensure that the foundations for scaffolds are adequate prior to erection, and inspected as part of the statutory inspections during handover and use.

All incomplete scaffolds (including scaffolds being adapted) must be clearly signed as unfit for use and left in a safe state at all times.

Ties and bracing are to be installed progressively as the scaffold is built, and not left until it has been completed. Similarly, the testing of ties should follow-on progressively as the scaffold is built.

All scaffold materials, when not in use, must be removed from the scaffold and stored / stacked appropriately.

Sheeting and debris-netting, where needed, should always be fitted to the outside of the scaffold members, unless the scaffold is designed specifically for the sheeting to be fitted to the inside of the members. NOTE: All sheeting and debris-netting must meet LPS 1215 fire resistance requirements.

A detailed check should be made on every scaffold structure to ensure it is constructed correctly and tied in accordance with the scaffold design before any sheeting or debris netting is fitted.

12.3.2 Proprietary System Scaffolds

The above requirements under 12.3.1 above apply to proprietary system scaffolds.

Proprietary System scaffolds (including system scaffolds, loading bays and staircases) must be installed strictly in accordance with manufacturer's requirements and guidance; particularly with regard to type, number and pattern of ties.

The relevant installation / erection guidance from the manufacturer or supplier of the System Scaffold must be obtained and be available on site, whilst the system scaffold is being erected, used and dismantled.

All scaffolders must be competent for the type of scaffolding work they are undertaking and should have received appropriate training relevant to the system they are working on.

Any person erecting a System Scaffold must hold an appropriate level CISRS card that includes endorsement for the particular system that they are working on.

Never, in any circumstances, mix the components of different systems or manufacturers, as they may have varying specifications and dimensions, and could result in unsafe conditions.

12.3.3 Ties

When the scaffold is to be tied to an existing building or structure for stability, it should be established by test or calculation that the building fabric or structure is adequate to sustain the loads transferred to it by the ties.

It should be noted that the conventional portable tension testing equipment used on proprietary anchors may validate the resistance of the anchor in the façade material; however it will not test the overall strength of the wall panel, column or other structural component to which the tie is anchored. If in doubt, an appraisal or calculations should be undertaken by a structural engineer (typically the Permanent Works engineer) or a Temporary Works designer.

NASC TG4 covers the use of drilled in anchors used to tie scaffolding to a building structure. It gives specific details for the selection, tie loads, types, installation and testing of anchorage ties. It deals with preliminary anchor tests to establish the suitability / capability of anchors and base materials, and also covers the proof testing of installed anchor ties.

Where anchor ties are to be used to provide stability to a scaffold they must be subject to a testing regime. The regime to be used is that contained within NASC TG4. In summary, the numbers of ties to be tested is 5% of the number in every discreet area, with a minimum of 3 per discreet area. The anchors are to be tested to a load of 1.25 times the working load for the anchor (as defined by the tie duty).

Site tie testing should be carried out by suitably competent personnel (other than the actual installer of the fixings) using a suitably calibrated testing equipment.

All scaffold ties must be identified with a scaffold tie tag (or similar warning against removal).

12.3.4 Inspection during erection

It may be necessary and prudent to undertake inspections of the scaffold during its erection. These inspections are to be made by a competent person from the Scaffold Contractor. Additional inspections may be also made by the TWC, TWS or other competent scaffold inspector as deemed necessary.

Typical circumstances where these inspections may be required include:

- For large scaffolds where a considerable length of time is need to fully erect; and
- For scaffolds where they have been many adaptations.

12.4 Handover

A handover certificate must be issued for all newly erected scaffolds and all adaptations.

The purpose of the Handover Certificate is to provide a record that the scaffold:

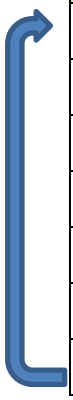
- Has been erected to the agreed specification;
- Has been left in a condition suitable to perform the duty for which it is intended; and
- Complies with Statutory Regulations and any Local Authority requirements.

At the hand-over stage, the responsibility for the completed scaffold is transferred from the subcontractor to Kier. This stage is important because it offers the opportunity for the exchange of information that can avoid the more common causes of scaffold collapse, such as overload and unsafe alteration of the scaffold.

When each scaffold is completed, a competent employee of the Scaffolding Contractor must inspect the scaffold for compliance with regulations and codes of practice, and then complete a scaffold Handover Certificate. The scaffold (with the exception of those that are classed as **LOW** risk by the TWC) should then be inspected by the Kier appointed Scaffold Inspector and the first entry made in the statutory scaffold inspection register (form SHEMS-FOR-GR-065).

All Scaffolding should use a 'DO NOT USE' notice for restricting access to the scaffold until the scaffolding has been inspected and handed over for use.

Flow-Chart of the Handover Process



Action	Who By (**LOW** risk)	Who By (**MEDIUM** & **HIGH** risk)
Inspection of scaffold for compliance	Scaffold Contractor	Scaffold Contractor
Completion of a scaffold Handover Certificate	Scaffold Contractor	Scaffold Contractor
Independent Inspection of scaffold	-	Kier Scaffold Inspector
Entry in Statutory Scaffold Inspection Register	Scaffold Contractor	Kier Scaffold Inspector
Issue of Permit To Load	TWC (if required)	TWC
Updated tag type system insert (if used)	Scaffold Contractor	Scaffold Contractor
Undertake adaptation of scaffold as direct by Kier	Scaffold Contractor	Scaffold Contractor

Note: Handover process gets repeated after every significant adaptation.

12.5 Statutory Scaffold Inspections

Statutory inspections of the scaffolding shall take place at least every 7 days, or after alterations or adaptations, or after any event likely to have affected the scaffolds stability. These inspections must be recorded on the Report of Inspection - Scaffolds (Form SHEMS-FOR-GR-065). Project Register (SHEMS-REG-GR-090) provides guidance and details of statutory inspection requirements.

The tag type system insert (if used) will also be updated to record the inspection. Any tag system is a supplementary check only and does not replace the statutory inspection and report, as required within the Work at Height Regulations 2005.

All scaffolds are temporary works and should be assessed as either a **HIGH** or **MEDIUM** or a **LOW** risk by the TWC, in accordance with the Temporary Works Standard (SHEMS-STD-GR-048).

Statutory inspections should NOT be carried out by the scaffold contractor who erected the scaffold, unless the scaffold is assessed to be a **LOW** risk (risk class as defined by the TWC).

For **LOW** risk scaffolds (i.e. typically TG20 Compliant Scaffolds and System Scaffolds that have no more than 5 lifts), the scaffold contractor who erected the scaffold may carry-out the statutory inspections on behalf of Kier. In these cases, the inspector must not be part of the scaffold team that erected the scaffold.

For **HIGH** or **MEDIUM** risk scaffolds, the inspector of the scaffold must be independent from the scaffolding contractor who erected it. These inspectors may be by in-house or independent inspectors, or by inspectors from another scaffold contractor.

Where the scaffold is assessed to be a **HIGH** risk (risk class as defined by the TWC), the scaffold designer can be requested to assist in the inspection prior to it being loaded.

12.5.1 Competency of Scaffold Inspectors

All statutory scaffold inspections must be undertaken by a competent person. The resource and competency of the inspector should be proportionate to the risk level.

Minimum training for scaffold inspectors (whether they are in-house, independent or from a scaffold contractor) must be:

- For **HIGH** or **MEDIUM** risk scaffolds - CISRS Advanced Scaffolder or CISRS Advanced Scaffold Inspection;

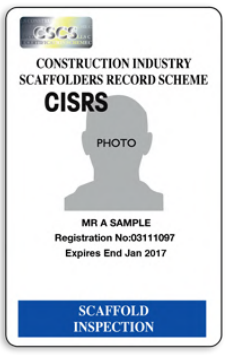




or

- For **LOW** risk scaffolds – CISRS Scaffolder or CISRS Basic Scaffold Inspection.





12.5.2 Proprietary System Scaffolds

The above inspection requirements also apply to this system scaffolds. In this case, the scaffold inspector should be competent for the role, have attended the 'Basic' Scaffold Inspection Course and be familiar with the particular system he is inspecting.

12.6 Permit To Load

In addition to the handover certificate from the scaffolding contractor, Permits to Load (form SHEMS-FOR-GR-063) are issued by the TWC for scaffolds, in accordance with the Temporary Works Standard (SHEMS-STD-GR-048). Only the TWC is authorised to issue Permits To Load.

Before a scaffold can be brought into use, a Permit To Load must be issued for all **HIGH** and **MEDIUM** risk class scaffolds. Similarly, a Permit To Load may be needed for **LOW** risk class scaffolds, however this is at the TWC's discretion.

12.7 Alterations

Incidents of unsafe scaffolds can occur because workers unskilled in scaffolding alter the structure. Workers make these alterations so that they can continue with their work unhindered, with ties and ledger bracing particularly susceptible to removal.

Options to reduce the frequency of unauthorised alterations are:

- Site inductions and toolbox talks to emphasise that untrained workers must not make alterations without the consent of Kier.
- Implementing a system that makes it easy for workers using the scaffold to get alterations made by a competent person. Workers should know who to approach to request alterations. Alterations should be made quickly in response to a request. As far as possible the predictable alterations should be agreed in advance of hand-over.
- If there is not a trained scaffolder permanently on site then arrangements should be made with the scaffold contractor for regular modifications as required. On projects where the scaffold is continually changing there may be a need for a scaffolder to remain on site throughout particular periods.

Site management must make sure all subcontractors are aware that alterations to the scaffold must not be made without the consent of a person trained in scaffolding, and with reference to the scaffold designer.

All significant alterations or adaptations must be referred back to the scaffold designer (or selector in the case of TG20 compliant scaffolds) for their review, approval and any further modifications. Where design drawings have been produced, these may need amending and re-issuing.

12.8 Use & Maintenance

The foundations for the scaffold must be properly inspected and maintained during use.

Particular attention must be paid to the maintenance and removal of ties, which shall be strictly in accordance with the designer's requirements.

12.8.1 Tube & Fitting Scaffolds

Tube and fitting scaffolds must be used and maintained strictly in accordance with designer's requirements and TG20 guidance.

Scaffolds must not be overloaded. Users must be briefed on the safe working load (duty) of the scaffold – i.e. number of working lifts and load capacity (kN/m^2).

The scaffold must be properly controlled and maintained – with particular attention paid to foundations and ties.

Scaffold boards are to be BS 2482 boards and maintained to NASC TG6.

12.8.2 Proprietary System Scaffolds

Proprietary system scaffolds (including system scaffolds, loading bays and staircases) must be used and maintained strictly in accordance with manufacturers' requirements and guidance.

12.9 Dismantling

A plan for the dismantling phase of the scaffold must be part of the Safe System of Work for the scaffold. There is just as much chance of a scaffold collapse whilst dismantling it as there is when erecting it. The dismantling part of the scaffold plan must be available on site and be followed.

Particular attention must be paid to the sequencing of the removal of ties, which shall be strictly in accordance with the designer's requirements and be clearly stated in the dismantling part of the scaffold plan. This is normally the reverse of the installation sequence.

The dismantling plan must take into account any adaptations or alterations to the scaffolding since erection. The dismantling area must be clearly identified and signed. Those not involved with the dismantling are to be excluded from the area. Particular consideration must be given to members of the public.

A permitting system may be used to control the dismantling of scaffolds. When they are required, the Permit To Strike/Unload (form SHEMS-FOR-GR-064) is used for this purpose. The permits are issued by the TWC, in accordance with the Temporary Works Standard (SHEMS-STD-GR-048). Only the TWC is authorised to issue this permit.

Before a scaffold can be dismantled, a Permit To Strike/Unload must be issued for all **HIGH** and **MEDIUM** risk class scaffolds. Similarly, a Permit To Strike/Unload may be needed for **LOW** risk class scaffolds, however this is at the TWC's discretion.

13 Review of Scaffold Contractors Performance

The performance of the scaffold contractor should be assessed upon completion of their contract. A sample review form is provided below. Any significant failings should be taken into consideration before employing the contractor on subsequent projects.

14 Banned Components

The following components are not allowed on Kier sites:

- "Drop-in" expansion anchors in brickwork;
- Type A scaffold boards (all boards must be to BS 2482).
- Expanding Joint Pins; and
- Reveal ties.

15 Documentation

The documentation that should typically be available to demonstrate that the scaffold has been managed in accordance with this standard includes:

- TW Control Register – recording each scaffold as an item of TW, together with its risk class and design check category – form SHEMS-FOR-GR-060;
- TW Design Brief – Scaffold Brief, communicating design requirements to the Scaffold Contractor – form SHEMS-FOR-GR-061;
- Design information – compliance sheet, bespoke design drawings, manufacturer's or supplier's instructions for erection / installation;
- Design Check – Design Check Certificate or other suitable documented evidence – form SHEMS-FOR-GR-062;
- Safe System of Work - Scaffold Plan (method statement), risk assessments and Rescue Plan;
- Assessment of foundations and supporting structure(s);
- Evidence of competency of scaffold supervisor and team;
- Pull-out testing results for ties – test reports and calibration certificates for test machine;
- Handover certificate – a record that the scaffold has been erected to the agreed specification;
- Statutory Inspection records - form SHEMS-FOR-GR-065;
- Permit To Load - form SHEMS-FOR-GR-063;
- Permit To Dismantle - form SHEMS-FOR-GR-064; and
- Review of Scaffold Contractors performance – see Checklist in Appendix A.

16 References & Further Guidance

16.1 External References

The external documents that can provide useful guidance regarding scaffolds include:

16.1.1 HSE

- HSE Scaffold Checklist.
- HSE HSG 150 Health & Safety in Construction.
- HSE HSG 151 Protecting the Public.
- HSE HSG 33 Health & Safety in Roof Work.
- HSE INDG 401 Working at Height – A brief guide.
- HSE INDG 284 Working on Roofs.
- HSE L163 Managing H&S in Construction.
- HSE CIS 47 Inspections & Reports.

16.1.2 British Standards

- BS EN 12810-1 & 2 Façade Scaffolds made from prefab components.
- BS EN 12811-1 Temporary work equipment - Scaffolds.
- BS EN 13374 Temporary Edge Protection Systems.
- BS 2482 Specification for Timber Scaffold Boards.
- BS 5975 Code of practice for temporary works procedures and the permissible stress design of falsework.

16.1.3 NASC Documents

- NASC SG4:15 Preventing falls in scaffolding.
- NASC SG7:14 Risk assessments and method statements.
- NASC SG10:14 Use of Brick Guards.
- NASC SG14:10 Safety Nets.
- NASC SG16:14 Management of fall protection equipment.
- NASC SG19:17 A guide to formulating a Rescue Plan.
- NASC SG25:14 Access and egress from scaffolds.
- NASC SG27:09 Temporary Edge Protection on open steelwork.
- NASC SG28:09 Scaffolds for constructing Timber Frame Buildings.
- NASC SG29:08 Internal edge protection on scaffold platforms.
- NASC SG32:11 Inside Board Brackets (Hop-ups).
- NASC SG33:14 Loading Bays.
- NASC SG34:11 Protection of the Public.
- NASC SG35:11 Handover of Scaffold Structures.
- NASC TG3:11 Temporary Rubbish Chutes.
- NASC TG4:11 Anchorage Systems for Scaffolding.
- NASC TG6:10 Maintenance of Scaffold Boards.
- NASC TG9:12 Temporary Roofs & Buildings.
- NASC TG12:10 Tying down of scaffold boards.
- NASC TG16:14 Anchoring to the Ground.
- NASC TG17:15 Identification of Couplers
- NASC TG20:13 Operational Guide – Good practice for tube and fitting scaffolding.

16.1.4 Other Sources

- TWf 16.041 - A Guide to Managing Scaffolding.
- CISRS CAP 609 – General Information Booklet.
- JCOP 2015 Fire Prevention on Construction Sites

16.2 Internal References

The internal documents that should be used regarding scaffolds include:

16.2.1 Standards

- SHEMS-STD-GR-009 Competency, Training & Appointments Standard.
- SHEMS-STD-GR-048 Temporary Works Standard.
- SHEMS-STD-GR-049 Work at Height Standard.
- SHEMS-REG-GR-090 Project Register.

16.2.2 Forms

- SHEMS-FOR-GR-060 Temporary Works Control Register.
- SHEMS-FOR-GR-061 Temporary Works Design Brief.
- SHEMS-FOR-GR-062 Temporary Works Design Check Certificate.
- SHEMS-FOR-GR-063 Temporary Works Permit To Load.
- SHEMS-FOR-GR-064 Temporary Works Permit To Strike/Unload.
- SHEMS-FOR-GR-065 Report of Inspection for Scaffolds.
- SHEMS-FOR-GR-144 TW Checklist – Access Scaffolds.

16.2.3 Minimum Standards

- SHEMS-MST-xxx-0006 Tethering of Tools.
- SHEMS-MST-xxx-0016 Preventing Unauthorised Access from Occupied Premises onto Scaffolding.
- SHEMS-MST-xxx-0021 Roof Slab and Floor Edge Protection.
- SHEMS-MST-xxx-0047 Temporary Works Design Briefs.
- SHEMS-MST-xxx-0048 Temporary Works Element Standards.
- SHEMS-MST-xxx-0049 Temporary Works Foundations.
- SHEMS-MST-DPS-H-0060 Scaffold Management.
- SHEMS-MST-LIV-0060 Scaffold Management.

Appendix A – Sample Scaffold Contractor Performance Review Form

1	Has the scaffolder worked in full compliance with SG4, provide details?	
2	Are Advanced Guardrail Systems used and if so have these been made available at all times?	
3	Have there been any concerns with the scaffold not being built in-line with the approved design to TG20?	
4	Have you had any concerns over the designed scaffold for whatever reason?	
5	Have the design drawings provided been available for inspection and review before works commenced on site?	
	Are design drawings marked 'FOR CONSTRUCTION'?	
6	What is the quality of scaffold boards, fittings and tubing used on your site?	
7	Was a full time CISRS Advanced Scaffolder provided for the duration of the works to act as the supervisor?	
	Was the Supervisor trained at least to SSSTS and provided evidence?	
8	Has the Advanced Scaffolder provided Handover Certificates in plenty of time?	
9	Did all scaffolders and labourers turn up for the SHE induction with a valid CISRS Card?	
10	Were you provided with evidence a harness inspection was taking place every 6 months?	
11	How frequent did you receive a copy of the scaffold contractor Health & Safety Advisor Inspection of his work area and is this report comprehensive detailing the relevant issues?	
12	How well does the scaffolders react to safety critical works following Kier SHE Inspections?	
13	Are you satisfied with the SHE performance of this contractor and why?	
14	Would you work with this scaffolding contractor again now knowing his overall SHE performance?	
15	Were ALL scaffolders directly employed, if not what was the ratio? Directly Employed / Agency / Self-employed.	
16	Were the same scaffolders used throughout or forever changing? Scaffolder turnover?	
17	Have scaffolders been trained in the installation of the type of anchor fixings being used for ties on this site? Evidence?	
18	Have those carrying out "proof pull tests" to TG4 been trained by the manufacturer of the test equipment? Evidence of training?	
19	Please enter any other comments you wish to make here.	

Appendix B – Example Compliant Scaffold Selection Information

Independent Tied Scaffold

Project Name: .....

Scaffold Location: .....

Scaffolder: .....

Contract No. .....

Scaffold Type: .....

Working Load

- Very Light Duty Scaffolding (0.75kN/m^2) ☐
- Light Duty Scaffolding (1.5kN/m^2) ☐
- General Purpose Scaffolding (2.0kN/m^2) ☐
- Heavy Duty Scaffolding (3.0kN/m^2) ☐

Tube Material

- Type 4 Galvanised Steel ☐
- 3.2mm High Tensile Steel ☐

Façade Permeability

- Impermeable façade ☐
- Permeable façade ☐

Surroundings

- Country ☐
- Town or Woodland ☐
- City ☐
- Sea ☐

Site Location

- Site address .....
- Wind factor ..... metres/second
- Topography
  - Altitude ..... metres above sea level
  - Topography Factor, T_{wind} .....
- Seasonal Factor
  - Winter ☐
  - Spring ☐
  - Summer ☐
  - Autumn ☐

Person using the E-Guide: .....

Safety
Health
Environment
It's in our hands

Work at Height Standard



KIER

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1 Introduction

The purpose of this Standard is to set out the requirements for the planning and management of work at height (WAH) undertaken by or on behalf of Kier.
This Standard requires that:

- The need for WAH to be **eliminated** where reasonably practicable by design or being managed out
- If not avoidable, the need for WAH be **reduced** so far as is reasonably practicable, to limit the potential for falls
- Where WAH cannot be reasonably avoided, existing safe places of work are used where appropriate, and individuals informed of safe working controls though training and instruction.
- Where the risk of a fall remains, measures are implemented to **minimise** the distance and consequences of a fall should one occur
- Collective measures that protect **all** those at risk are considered as best practice
- The risks from fragile surfaces, falling materials and weather conditions are properly controlled
- Suitable emergency and rescue arrangements are in place
- All WAH is planned, executed, supervised, monitored and reviewed by competent persons, in accordance with an agreed safe system of work (SSW) which is based upon a task specific risk assessment (RA)

This Standard **does not** preclude the use of **ladder/stepladders**, where a risk assessment and associated safe system of work can demonstrate that, in short term circumstances, they may be an appropriate choice.

2 Scope

The scope of the SHEMS covers all persons, workplaces and Operations in our Construction & Infrastructure Services Division (CIS), Development and Property and Business Services Division (DPS).

Exceptions will be documented through a SHEMS Appendix B process (SHEMS-FOR-GR-999), jointly authorised by Group SHE Director and Business Stream Director Responsible for coordinating SHE.

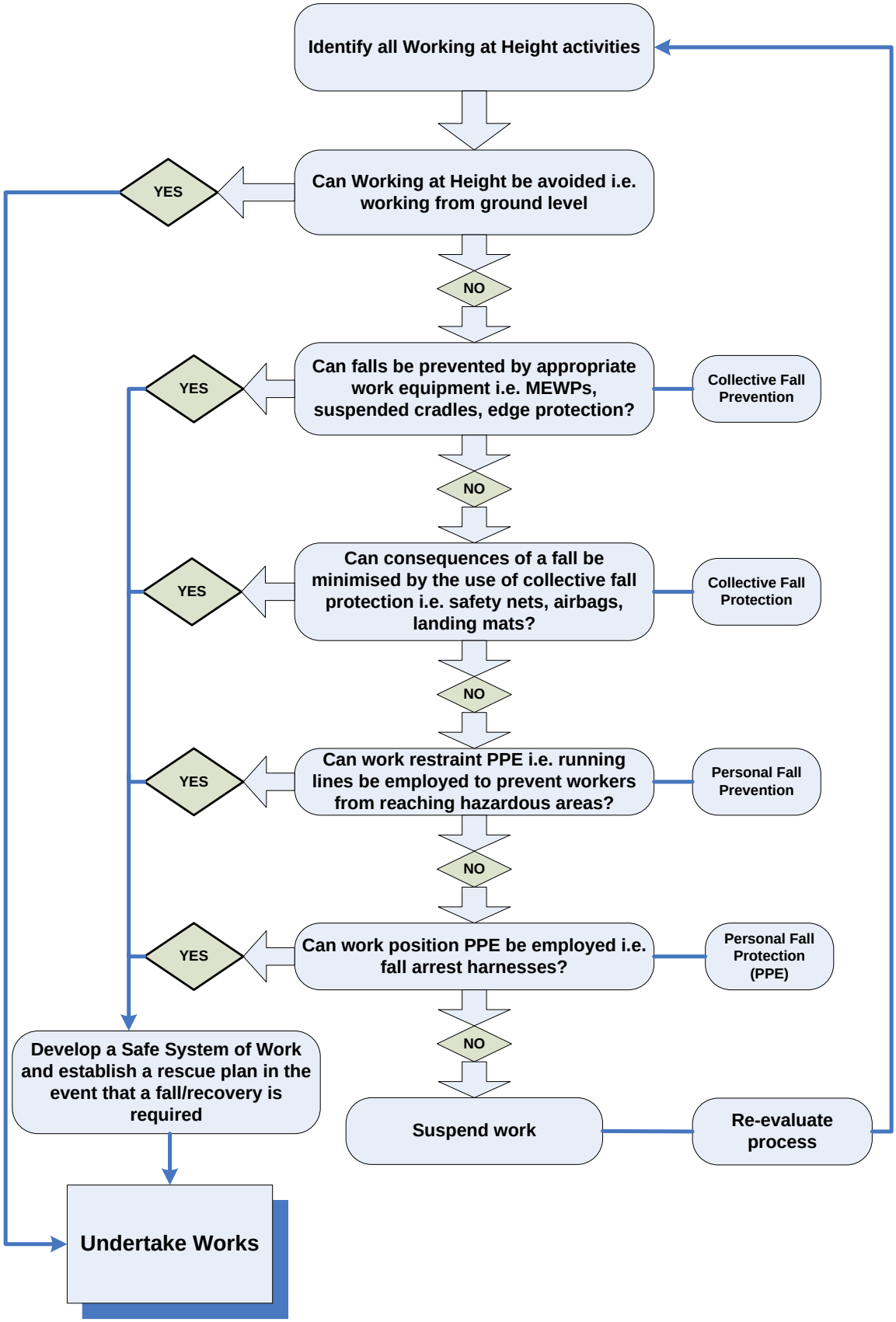
Kier SHEMS Manual (SHEMS-STD-GR-003) provides guidance and signposting for the compliance, implementation, monitoring, audit and review of our systems, demonstrating continual improvement and achievement of Vision 2020 objectives.

The application of this Standard will facilitate safe working at height anywhere. However, where Kier WAH operations are being undertaken that are subject to OSHA or other country of operation regulations which may impose different requirements, Kier management shall identify and comply with those requirements.

2.1 External References

- HSE's Working at height -A brief guide
  This document provide guidance on various contract to minimise working at height risk
  HSE's INDG403 Safe Use of Ladders and Stepladders
- This document is a toolbox talk on leaning ladder and stepladder safety
  HSE's INDG405 Safe Use of Ladders and Stepladders
- This is a pocket sized card which provides tips on ladder and stepladder safety
- HSE's Construction Information Sheet No.58 – The selection and management of mobile elevated work platforms
- NASC SG4:15 Preventing falls in scaffolding operations

3 Working at Height Process



3.1 Process Working at Height Equipment Selection Hierarchy

4 Kier Requirements

4.1 General

Falls from height remain the single biggest cause of workplace death and one of the main causes of major injury.

Work at Height (WAH) includes all work where a person or materials could fall any distance liable to cause personal injury, including falls into excavations or other openings from ground level or below; and working on the rear of vehicles.

4.2 Work at Height Hierarchy

The following WAH Hierarchy Process and WAH Work Equipment Selection Hierarchy, detail the priority of measures and options which shall be implemented when planning and managing WAH. Only progressing to the lesser alternatives where it can be demonstrated that it is not reasonably practicable to do so.

4.3 Work at Height Minimum Standards

In addition to the general requirements contained within this Standard, there are allocated Minimum Standards to support WAH principles.

4.4 Risk Assessment and Safe Systems of Work

All WAH shall be planned and managed via:

- A comprehensive task specific RA carried out by a competent person who is familiar with the work activity and its associated hazards and risks
- A documented SSW developed from the RA, detailing the specific control measures to be implemented in circumstances where WAH cannot reasonably be avoided.,(to eliminate, minimise or mitigate the risk of falls, take account of weather conditions that could endanger safety and health, ensure that WAH equipment is appropriately inspected, that risks from fragile materials and falling objects are properly controlled and includes emergency and rescue arrangements)
- The proposed SSW being evaluated and agreed by a member of Kier staff who is familiar with the work activity and its associated hazards and risks
- All persons undertaking WAH being trained and competent. They must, receive a recorded task briefing on the agreed SSW and be provided the opportunity to comment before the work is allowed to commence
- All persons who will be working from ladders or stepladders receiving a toolbox talk on the safe use of this equipment, HSE's INDG403 is a useful source of information and can be utilised when delivering toolbox talks. If any specialist equipment is being used such as the Tetra ladder safety equipment, those using this equipment shall have had training in its safe use
- All WAH shall be regularly monitored and reviewed by competent persons, proportionate to the level of risk involved

4.4.1 Weather

Weather conditions must be taken into consideration during the planning stage of a working at height operation. Adverse weather conditions may require the operation to be suspended or a different work method considered; refer to Wind Speed Table below;

WAH Activity	Amber Caution- Wind mph	Red STOP- Wind mph
Cradles	10	17
Scissor/Boom MEWP **Check some MEWPs = zero Wind MPH**	17	20
Hoists	17	25
Mast Climbers	17	25
Scaffolding	17	25
Roofing & Boarding	17	25
Mobile Cranes	25	30
Tower Cranes	30	38

4.4.2 Working in close proximity to live overhead services

Working in close proximity to live overhead services must be risk assessed by a competent person. The risk assessment should include the following:

- Communication with utility owners
- Proximity to planned work
- Voltage
- Weather conditions
- Proposed equipment to be used
- Nature of the work

See Overhead Services Standard (SHEMS-STD-GR-031) for further information.

4.4.3 Working on the rear of vehicles

Working on the rear of vehicles must be planned in advance where no other alternative is available. The hazards and risks associated with working on the rear of vehicles are dependent upon the height of the vehicle platform and the work activity. Risk assessments and safe systems of work are adopted at local level taking into consideration the above. Where work involves working from the rear of a vehicle suitable edge protection must be fitted to the vehicle.

4.4.4 Working adjacent to a trench or excavation

Fall prevention must be in place prior to working adjacent to a trench or excavation. The edge protection, including vehicle stop blocks where appropriate, shall provide a rigid barrier to stop persons, vehicles and plant from falling into the trench or excavation e.g. proprietary trench support systems such as drag boxes and/or their associated guardrail sections protruding a minimum of 950mm above the excavation/trench. Where space permits secondary protection should be considered in the form of an exclusion zone a minimum of 2 metres back from the edge protection, this can be created by the use of securely clipped Heras fence panels or crowd control barriers. Similar exclusion zones can be used where there are shallow or battered/benched excavations.

4.4.5 Working in a MEWP or Scissor lift

Only competent trained persons shall operate MEWPs or Scissor lifts. A pre use check must be undertaken before commencing work. The MEWP or Scissor lift must be inspected every seven days and recorded in the site LOLER Inspection form (SHEMS-FOR-GR-066).

All MEWPS shall be fitted with both 1) audible warning systems to warn of potential entrapment and 2) electronic Pre-Crush Sensing systems (PCS) or other physical anti entrapment devices (secondary guarding devices) specifically designed for the machine. (N.B. due to the availability of PCS, this is a phased approach, as full refit and compliance to PCS may not be achieved before autumn 2017). From 1st October 2017 PCS will be required on all MEWPS, even where other secondary guarding devices are fitted.

4.5 Use of Platform Steps, Ladders and Stepladders

Kier allows the use of platform steps, ladder/stepladders where a risk assessment and associated safe system of work can demonstrate that, in the circumstances, they are an appropriate choice.

Advances in technology are to be considered when selecting ladders and stepladders e.g. platform steps and podium steps incorporate guardrail protection. Platform steps are the preferred choice for short and medium term work, due to the additional sided protection included.

The HSE's key message is that ladders/stepladders should only be used for low-risk, short-duration work. Ladders/stepladders remain one of the most common agents involved in a fall from height and account for more than a quarter of all falls. Ladders permits may be required subject to risk, check with each Business Unit requirements.

Ladder safety systems, such as those provided by Tetra, enable a ladder to be secured using an eyebolt and ratchet strap to prevent the ladder slipping. When used in conjunction with associated safety equipment consisting of a fall-arrest harness and safety line which attaches to the ladder, should the worker slip and fall from the ladder, the ladder will be held in place and the fall arrested. All persons using such equipment shall have received training in its safe use.

4.5.1 Ladder Register

A ladder Register (SHEMS-FOR-GR-148) shall be completed and maintained. Ladders and step ladders shall be inspected by a competent person every week (SHEMS-FOR-GR-147). Before use checks shall be completed by the individual prior to use.

4.5.2 Safe Use of Ladder

Ladders and stepladders are designed for simple work of a short duration, before selecting ladders or stepladders ensure that the hierarchy of control is followed.
Ladders and stepladders should only be used where they meet the following criteria:

- For light work - carrying less than 10kg
- Where a handhold is available
- Where you can maintain 3 points of contact with the ladder e.g. both hands and one foot
- And,
- Inspect ladder before use
- Secure ladder and ensure it cannot slip
- Ground should be firm and level
- Ensure ladder angle of 75 degrees (1 unit out for every 4 units up)
- Maintain 3 points of contact
- Do not work from the top 3 rungs
- Ensure ladder extends 3 rungs or 1metre above the place of landing to which it provides access

- Do not use step ladders side on

Note: ladders or mobile scaffold towers must not be used in the vicinity of live overhead services unless they are made from a non-conductive material and a safe system of work developed and implemented.

Ladders must be locked away securely when not in use to prevent misuse

4.6 Harnesses, Work Positioning Devices and Fall Arrest Systems

Full body harness with a fixed fall restraint must be worn in boom type MEWPs. Lanyards must be adjusted to the shortest length practical. Harnesses shall be worn in scissor lifts if there is a residual risk of falls. Lanyard Karabiners must always be secured directly to the designated anchor point. The structure of the MEWP is not to be used as an anchor point for people working outside of the MEWP platform. Harness must be checked before use and be part of a regular inspection process (SHEMS-FOR-GR-047 and 048). Any harness or lanyard involved in a fall arrest shall be disposed of.

Individual guidance documents are available for most work at height equipment and protective devices, seek further advice from local SHE Advisors as required.

4.7 Rescue/Recovery

When working at height consideration must be given as to whether a “Rescue plan” is required to be produced and in place. If a plan is necessary, a simulation must be undertaken to ensure that it is effective and highlights any changes needed.

Examples of when a rescue plan would be required:

- Working in a MEWP (i.e. cherry picker)
- Erection/dismantling of scaffolding
- Work involving abseiling
- Tree works

5 Work Equipment Selection Hierarchy

Where WAH **cannot** be reasonably avoided the hierarchy of work equipment selection listed below **shall** be implemented, only progressing to the lesser alternatives where it can be demonstrated by risk assessment that it is not reasonably practicable to do otherwise.

- **Prevent** falls by using an **existing** safe place of work that does not require the use or addition of work equipment to prevent a fall (e.g. a flat roof or balcony with permanent edge protection)
- **Prevent** falls by using work equipment that protects **all** those at risk (e.g. access equipment fitted with guard rails such as independent scaffolds, tower scaffolds, MEWPS)
- **Prevent** falls by using work equipment that protects the **individual** (e.g. a podium or a work restraint system that makes it impossible for a person to get to a fall position)
- Mitigate falls by using work equipment to minimise the distance and consequences of a fall and protect all those at risk (e.g. nets or soft landing systems positioned close under the work surface)
- Mitigate falls by using work equipment to minimise the distance and consequences of a fall and protect the individual (e.g. a personal fall arrest system with the anchor point sited above the head, or a rope access system)
- Mitigate falls by using work equipment that minimises the consequences of a fall (e.g. nets rigged at a lower level, or inflatable injury protection)
- Mitigate falls through training, instruction or other means (e.g. ensure that ladders are inspected regularly and are used by competent people, demarcate areas to provide a warning, provide adequate lighting, apply sensible housekeeping measures, provide sensible footwear etc.)

Any applicable Kier **WAH Mandatory Minimum Standards shall** be complied with.

5.1 Index of Kier WAH Minimum Standards

- Mobile Elevating Work Platforms (MEWPS)
- Mobile Towers
- Preventing Unauthorised Access from Occupied Premises onto Scaffolding
- Protection of Risers and Openings
- Protection of Stairways, Landings and Corridors
- Temporary Roof/Slab/Floor Edge Protection
- Temporary Lift Shaft Gates
- Waste Chute
- Fall Arrest Safety Nets
- Harnesses and Lanyards
- Loading and Unloading of Lorries and Trailers
- Low Level Access Systems
- Permanent Running Line Systems
- Proprietary Soft Landing Systems
- Rope Access
- Podium and Push Around Vertical (PAV) Access Equipment

6 Appendix

6.1 Work at Height Matrix

	Ladders	Ladders over 4 m	Hop ups (up to 0.5 m	Stepladders	Podium Steps	Scaffold tower	Scissor Lifts	Cherry picker	1 man PAVMEWP	Lorry Mounted MEWP	Large MEWP Mast climber	T&F Scaffold	System Scaffolds	Man cages	Abseilers Rope Access	Suspended cradle	Bosuns chairs
Specific Risk Assessment	Y	Y	Minimum size 600 x 600	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CPCS req	N	N	N	N	N	PASMA	Y / IPAF	Y / IPAF	Y / IPAF	Y / IPAF	Y / IPAF	CISRS	CISRS/Manuf. training	N	IRATA	N	N
Harness & Lanyards req	N	Y	N	N	N	N	N	Y	N	Y	N	N	N	Y	Y	Y	Y
Duration limit - continuous use	15 min	15 min	1/2 day	30 min	1/2 day	-		1/2 day	-		-	-	-	2 hrs	2hrs	2hrs	2 hrs
Works limit	I handed work or access	I handed work or access	static work	2 handed light work	2 handed light work	limited by carry-ability to platform, or hoist up	limited by platform / deck SWL	limited by basket SWL.	Limited by SWL	ability to load platform and SWL	ability to load platform and SWL	as design	as design	light tools	inspection	only when all else discarded	light tools and maintenance
Management or supervisor checks	condition 7 day and each task	condition 7 day and each task	suitable	condition 7 day and each task	condition 7 day and each task	condition 7 day and each task	condition 7 day and each task	condition 7 day and each task	condition 7 day and each task	condition 7 day and each task	condition 7 day and each task	condition 7 day	condition 7 day	each use	design & every day	design & every day	each use
Temporary Works co-ordinator	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N
Documented rescue Plan	N	Y	N	N	N	N	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Recorded in use Inspections	Weekly	Weekly	Weekly	Weekly	Weekly	Pre-use, alteration and weekly	Weekly & 6 monthly (LOLER)	Weekly & 6 monthly (LOLER	Weekly & 6 monthly (LOLER	Weekly & 6 monthly (LOLER	Weekly & 6 monthly (LOLER	Pre-use, alteration and weekly	Pre-use, alteration and weekly	Weekly & 6 monthly (LOLER)	Weekly & 6 monthly (LOLER)	Weekly & 6 monthly (LOLER)	Weekly & 6 monthly (LOLER)

MINIMUM STANDARD
Concrete Washout

Construction & Infrastructure Services

The following Minimum Standard is applicable on all projects within the following Business Streams/Units:

- Building UK
- Highways
- Infrastructure
- Utilities

Concrete wagon wash-out contains suspended solids and has a high pH (is highly alkaline), therefore has the potential to pollute watercourses and groundwater. The substances in concrete wash-out water are far more mobile than when concrete is placed in the ground and therefore wash-out water can cause significant environmental impact. Concrete wash-out water must therefore be controlled to prevent pollution.

Planning

If concrete pours are expected, suitable measures for preventing or dealing with concrete wash-out water must be identified and agreed with subcontractors or suppliers prior to concreting activities starting.

The **hierarchy of control** in relation to concrete wash-out is:

1. Avoid concrete wash-out on site (e.g. use of ConcreteSock®)
2. Use concrete wagons with integrated wash-out collection tanks
3. Contain on site and pump back into concrete wagon for reuse at the batching plant
4. Treat on site and;
    a. Discharge to foul sewer under a temporary Trade Effluent Consent
    b. Discharge to surface water in accordance with the Environment Agency position statement for concrete wash-out (with a permit)
    c. Tanker off site and dispose of at a permitted water treatment facility as a waste.



Evaporation is not an efficient solution for dealing with concrete wash-out water and should be avoided.

The volume of concrete wash water should be kept to a minimum by efficient use of water during wash out, use of brushes etc. Hoses and sprays must not be left unattended. Where concrete pumps are used, washout will be necessary and must be controlled.



Some new concrete wagons now have integrated wash-out containment. Others will allow untreated wash water to be pumped back into the wagon for return to the batching plant.

On-site treatment of concrete washout water can be by use of suitably lined skips / containers and manual treatment, or by use of proprietary systems such as the Siltbuster RCW Unit. **Manual treatment** requires two containers, the first to settle out the solids, the second to adjust the pH of the washout water prior to discharge.

A suitable wash out facility can be constructed (as below) in place of using lined skips. This must be impermeable and designed to ensure no untreated wash water can enter surface water drains or watercourses, including groundwater, and risk assessed.



After the solids have settled out the washout water should be pumped to a second container for the pH to be adjusted. The pH of the wash-out water can be adjusted using citric acid (available to buy online or at chemist or brewers shops), and should be within a neutral range (usually pH 6-9) prior to discharge. If pH treatment is done in the same container that the solids are settling out in, it will be ineffective as the sediment will continue to affect the wash water ph.

The **Siltbuster RCW automated treatment Unit** includes hoppers for the placement of geotextile dewatering bags to filter gravels and solids. Concrete wagon chutes are washed out into the hoppers and filtered.



The pH of the wash water is then automatically adjusted using carbon dioxide to bring it into a neutral range (pH 6-9).



Treated water (whether by manual or automated methods) can be discharged to **foul sewer** under a temporary trade effluent (TTE) consent. The consent must be obtained from the local water company prior to any discharge. The consent will include conditions in relation to suspended solids, pH, flow rate etc. Any discharges must be monitored in accordance with the consent and records must be kept to demonstrate compliance.

Any discharges to **surface water drains and watercourses** will require an Environmental Permit from the Environment Agency / SEPA etc. These are costly, time consuming to get and include a number of conditions that would need to be satisfied, so are unlikely to be a suitable solution.

Procurement
All of the above options involve a cost, whether for treatment of the wash-water prior to discharge, or for off-site disposal. These costs should be identified and requirements communicated to subcontractors for inclusion in pricing. The chosen solution for dealing with concrete wash-out water must be recorded and any associated plant or equipment must be identified and included in subcontractor packages or procurement schedules (including concrete socks, settlement tanks, pH dosing kit, details of monitoring records etc.). Contractors involved in concrete wash out activities must work to approved method statements including implementation of relevant control measures. If the effluent is to be removed from site, details of the waste carrier and disposal point must be recorded. Refer to the Kier Waste Management Standard (SHEMS-STD-GR-065).

Competence / Training
Persons operating Siltbuster RCW Units must be given a set-up briefing by Siltbuster when the unit is delivered. Only persons who attend the briefing should operate the Unit. If manual treatment is being used, those undertaking the dosing and measurement of pH should be briefed on the use of the equipment.

Documentation
If manual treatment is being used, records of the dosing, pH measurement and suspended solids must be recorded. A record must be produced prior to each discharge (in accordance with any temporary trade effluent consent).

Further Guidance / Reference
Pollution Prevention Standard SHEMS-STD-GR-064
Waste Management Standard SHEMS-STD-GR-065
C692 CIRIA Environmental Good Practice on Site Guide
PPG6 Working on Construction & Demolition Sites

For hard copies of information linked to this document, please contact a member of Kier staff.

Project: .....

Contract No: ..... Date: .....

Name of person undertaking check or monitoring: .....

All projects undertaking concrete washout on site must complete checklist 1. The subsequent checklists must be completed where that option is used for managing concrete washout, e.g. a project that is capturing concrete wash water, treating it manually then discharging under a temporary trade effluent consent must complete checklists 1, 3a and 4a.

1 General checklist for capture of concrete wash water on site
2 Checklist for return of wash water to concrete batching plant
3a Checklist for manual on-site treatment
3b Checklist for automated on-site treatment (Siltbuster)
4a Checklist for discharge of treated concrete wash water
4b Checklist for removal of treated or untreated concrete wash water by tanker

If the answer to any checklist question is 'no', concrete wash-out must not proceed.

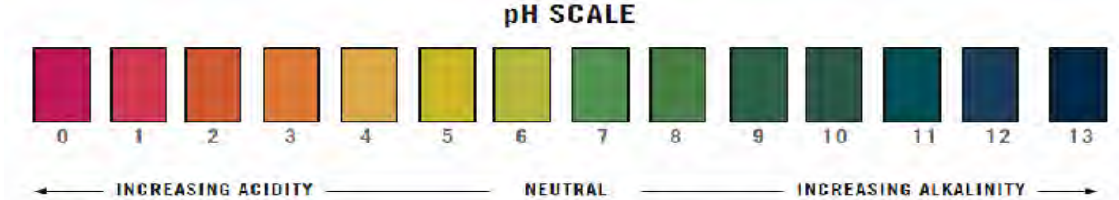
1. GENERAL CHECKLIST FOR CAPTURE OF CONCRETE WASH WATER ON SITE

	Check	Complete	
		Y	N
1/1	Has a designated area been set up for washout of concrete wagon chutes & pumps?		
1/2	Is the area at least 10m away from drains and watercourses **or** have protection measures been put in place to protect drains / watercourses?		
1/3	Are suitable containers in place to capture concrete washout, i.e. impermeable containers with enough capacity to capture all wash water?		
1/4	Are pumps in good working order and located on drip trays / plant nappies / hard standing?		
1/5	Are hoses / pipes in good working order, with no leaks?		

2. CHECKLIST FOR RETURN OF WASH WATER TO CONCRETE BATCHING PLANT

	Check	Complete	
		Y	N
2/1	Are concrete wagon / chute washout and pumping operations monitored to ensure measures are effective in capturing and removing concrete wash water from site?		

3A. CHECKLIST FOR MANUAL ON-SITE TREATMENT

	Check	Complete	
		Y	N
3A/1	Are suitable containers for manual treatment available, i.e. two separate containers, one for settlement of solids, the second for pH treatment? **pH treatment will not work if it is done in the same container that holds settled solids.**		
3A/2	Is suitable material available for adjusting the pH of the wash water e.g. citric acid granules?		
3A/3	Is suitable equipment available for checking the pH, e.g. digital pH meter, or litmus paper and pH colour chart?		
			
3A/4	Is a monitoring sheet available to record details of manual treatment i.e. date, time, name of person		

	undertaking treatment, pH before treatment, pH after treatment?		

3B. CHECKLIST FOR AUTOMATED ON-SITE TREATMENT (SILTBUSTER)

	Check	Complete	
		Y	N
3B/1	Have staff had the set-up briefing on the use of the Siltbuster at installation? A member of staff who has attended this briefing must operate the Siltbuster in accordance with the Siltbuster RCW O&M Manual and any other user guides supplied by Siltbuster.		
3B/2	Are the geotextile dewatering bags in place and not full of gravel / solids?		
3B/3	Is there sufficient capacity for wash water from the planned operation in the Siltbuster?		
3B/4	The instructions in sections 4.3-4.8 of the Siltbuster RCW O&M Manual must be followed.		

4A. CHECKLIST FOR DISCHARGE OF TREATED CONCRETE WASH WATER

	Check	Complete	
		Y	N
4A/1	Has a temporary trade effluent (TTE) consent been obtained from the local water company to allow discharge of treated washout to the foul sewer? **or** Has an environmental permit to discharge to surface water / a watercourse been obtained from the relevant environmental regulator (e.g. Environment Agency, SEPA etc.)? If no, concrete wash-out water **may not** be discharged to drains or watercourses.		
4A/2	Is a monitoring sheet available to record compliance with the requirements of the consent, i.e. flow rate, quantity discharged, suspended solids, pH etc.? This must be completed prior to each discharge and include date, time and the name of the person undertaking the discharge.		

4B. CHECKLIST FOR REMOVAL OF TREATED OR UNTREATED CONCRETE WASH WATER BY TANKER

	Check	Complete	
		Y	N
4B/1	Has a waste carrier certificate for the tanker company been obtained and checked for validity?		
4B/2	Has the environmental permit / waste management licence for the relevant waste facility been obtained (likely to be for a sewage treatment / water treatment works)?		
4B/3	Has the environmental permit / waste management licence been checked to ensure they can accept the specific waste type?		
4B/4	Where the water has been pH treated on site prior to disposal, it is likely to be non-hazardous. The relevant European Waste Code would be 16 10 02. Has a waste transfer note been produced in accordance with the Kier Waste Management Standard SHEMS-STD-GR-065 ?		
4B/5	Where the water has not been pH treated on site, it may be hazardous waste. The relevant European Waste Code is likely to be 16 10 01. Has a hazardous waste consignment note been produced in accordance with the Kier Waste Management Standard SHEMS-STD-GR-065 ? If yes, a signed copy showing that the waste was received at the waste facility must be obtained.		
4B/6	Have details of the waste movement been recorded in the site waste management plan (on SMARTWaste) or in the waste Register (SHEMS-FOR-GR-042)?		

The following Minimum Standard is applicable on all projects within the following Business Streams:

- Building UK
- Highways
- Infrastructure
- Utilities

Kier is now in partnership with OHES Environmental, a multi-disciplinary consultancy that specialises in fuel and oil spillage clean-up and are an UKSpill Accredited Contractor. Their staff are highly experienced and many have worked previously for the environmental regulators.

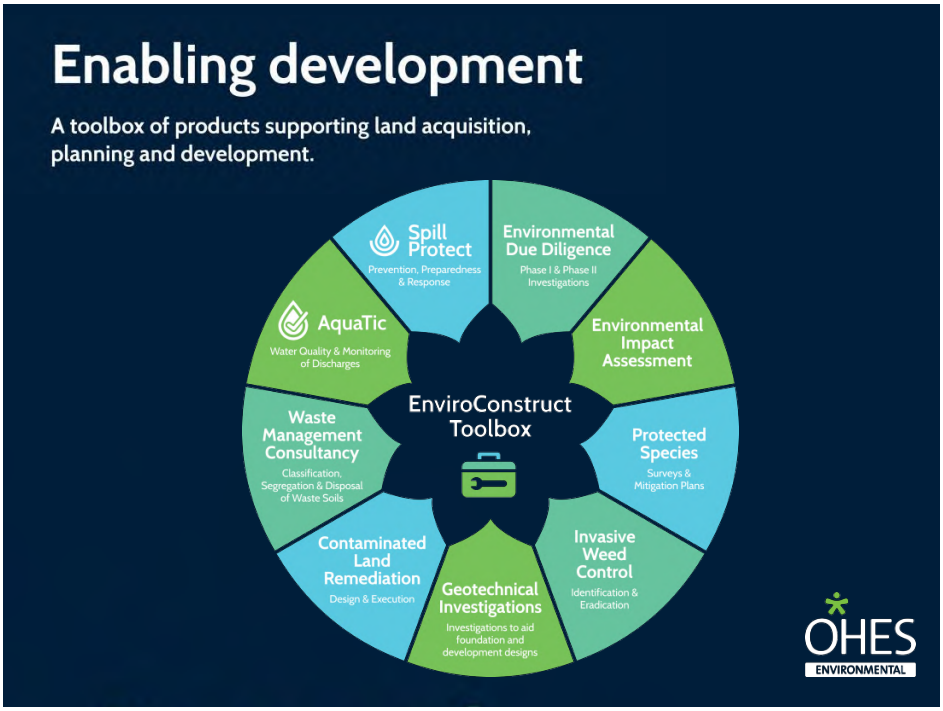
With offices in over five locations nationwide and a large network of locally based spill response consultants and contactors, OHES creates a robust network of coverage 24 hours a day, 7 days a week.

OHES provides a 3 step incident response:

The first thing to do when a spill occurs is to call their 24/7 technical team on: **0333 333 1123**







Under the Group agreement OHES, once mobilised, are able to spend up to £5000 on clean-up costs. Any costs in excess of this will require authorisation by a Kier employee. The Group agreement also includes a schedule of rates. Full details of the service level agreement will be placed on the MyKier Procurement page. Environmental Incidents should still be reported in accordance with Group Standards.