

# CONSTRUCTION PHASE HEALTH AND SAFETY PLAN

Subject: Construction Phase Health and Safety Plan

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- Section 1: Project Introduction and Information
- Section 2: Management and Organisation
- Section 3: Communication, Cooperation and Consultation
- Section 4: Contractors Selection Procedure  
No additional input required.
- Section 5: Activities with Risks to Health and Safety
- Section 6: Emergency Procedures
- Section 7: Accident Reporting  
No additional input required.
- Section 8: Welfare
- Section 9: Information and Training
- Section 10: Arrangements for Monitoring  
No additional input required.
- Section 11: Pre Construction Information
- Section 12: Appendices
  - 1. Site Fire Risk Assessment
  - 2. Site Waste Management Plan
  - 3. Insert (if required) any further information as requested by the client or other agencies, i.e. Site inspection scheme, registers, standard forms, etc.

HILL

CONSTRUCTION  
(DESIGN AND MANAGEMENT)  
REGULATIONS 2015 6<sup>th</sup> April  
(Replaces CDM 2007)

PRINCIPAL CONTRACTOR

HEALTH & SAFETY PLAN

Subject: Construction Phase Health and Safety Plan

**CONSTRUCTION PHASE HEALTH AND SAFETY PLAN**

Contract Number: T15 049 / W062  
 Contract Name: North West Bicester  
 Plan Prepared By: Jason Oakley  
 Date of Initial Issue: 04/05/16

**Master Document Template Review**  
*Health & Safety Managers Completion Only*

Serial	Review Date	Comments	Initials
1.			
2.			
3.			
4.			
5.			
6.			

**Site Plan Reviews**  
*Monthly Site Review Updates*

Serial	Review Date	Comments	Initials
1.	18/07/16	PG 12 Pedestrian access Route	JO
2.	22/07/16	PG 9 Correction on dwelling Numbers	JO
3.	25/07/16	PG 20 Main Duty Holders	JO
4.	28/07/16	PG 20 Contracts Manager	JO
5.	05/09/16	PG 21 organisation Chart	JO
6.	23/09/16	PG 36 – 37 Wheel Wash	JO
7.	11/11/16	PG 12 pedestrian access route PG 108 Site Induction Processes PG 19 Main Duty Holders PG 37 Wheel Wash PG 116 Sec 106 Monitoring Requirements Update personnel throughout Revised Fire / Emergency Plan	RC
8.	14/11/16	Section 5, Paragraph 13, Ecological Report moved to Appendix C Section 5, Paragraph 14 Arbo Report moved to Appendix D Section 11, Pre-construction H&S Plan moved to Appendix E Page numbers revised to suit PG 47, 60 & 83 Orientated to Landscape	NJ
9.			

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Serial	Review Date	Comments	Initials
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Serial	Review Date	Comments	Initials
42.			
43.			
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46.			
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50.			

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## SECTION 1

# PROJECT INTRODUCTION

## (North West Bicester – Phase 2)

The 2nd phase of the Bicester Exemplar Eco-Town Scheme comprising of the design and construction of 71 homes of between one and two storey buildings for affordable tenure and shared ownership, Constructed using timber frame with a pre cast beam concrete floor construction.

**Together with:**

- associated drainage and domestic services
- access roads
- footpaths
- parking bays
- external lighting
- hard & soft landscaping
- street lighting



Please note that any reference to 'construction' and 'construction work' is that of construction activities as defined under Regulation 2 of the CDM Regulations 2015. This includes the removal of a structure or any other product or waste resulting from demolition or dismantling. This phase of the work is the 2nd of 4 for the overall works associated with the NW Bicester Eco-town scheme. It is currently intended that the other contracts/phases/sections of the work will be treated as stand-alone projects and managed separately.

**Phase 1 is currently under construction and should be completed early Summer 2016**

## INTRODUCTION TO CONSTRUCTION PHASE HEALTH AND SAFETY PLAN

This document provides information to enable Hill to meet its obligations as *Principal Contractor* under the Construction (Design and Management) REGULATIONS 2015 6<sup>th</sup> April (Replaces CDM 2015), which under regulation 22 identifies the 'requirements on and powers of Principal Contractors'.

This document further develops the information provided by the CDM Co-ordinator – the Pre-construction Information Pack.

The principal aims are to control health and safety on the project by the following methods:

1. To record the health and safety arrangements and organisation necessary to ensure, as far as is reasonably practicable, the health and safety of all persons who may be affected by the works and the monitoring procedures to ensure compliance, taking into account the risks involved in the construction works.
2. To coordinate activities of all Contractors to ensure that they comply with the relevant Health & Safety Legislation.

## PROJECT INFORMATION

### SITE ADDRESS

#### North West Bicester phase 2

NW Bicester Phase 2  
Banbury Road  
Bicester  
Oxfordshire

OX27 8TG

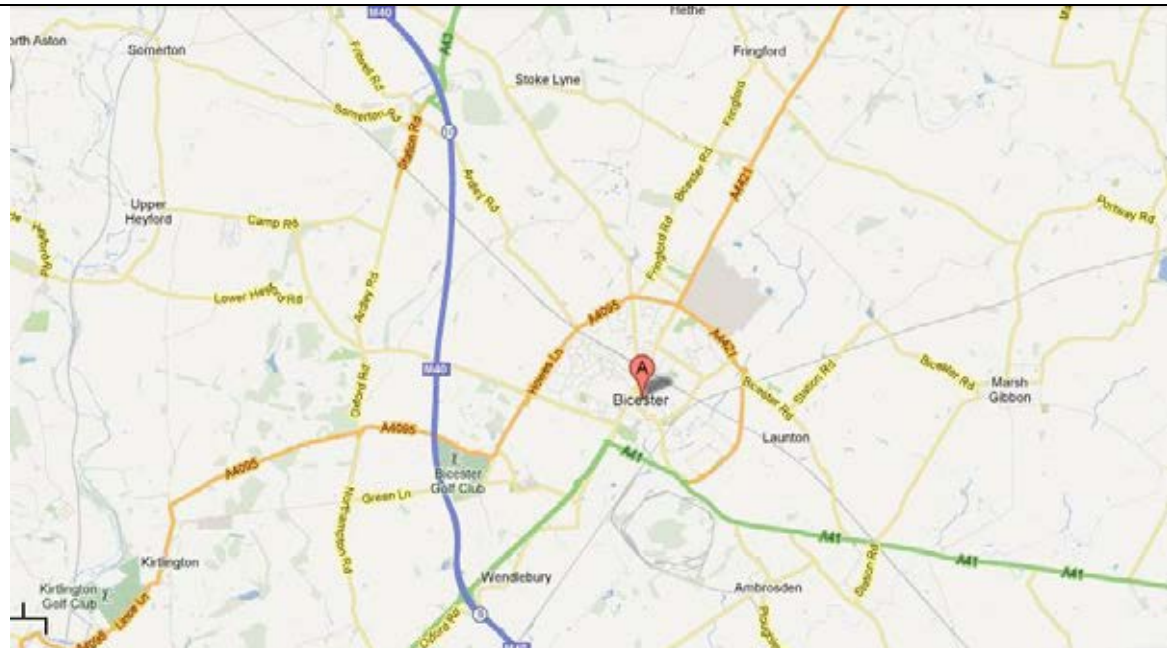
### SITE LOCATION PLAN

#### Site Close Up:



Aerial view of Exemplar site and surrounding area looking south

#### Local Area Detail:



**BRIEF HISTORY OF THE SITE:**

*Agriculture Land Adjacent to the B4100*

**DESCRIPTION OF THE PROPOSED WORKS:**

NW Bicester is the construction of 71 Timber framed dwellings comprising of 63 two story homes 4 Bungalows & 4 Flats, Building to a code 5 Design. Foundations are to be a mixture of Strip mass foundations & a SFA Pile Design due to the influence of trees & ground conditions, The ground floors will be suspended Nuspan Flooring System, with the upper floors having timber floor joist installation, Roof construction will be a timber truss frame, with a roofing membrane, ventilation as designed and concrete roof tiles, The external works will consist of roads, car parking, infrastructure, hard and soft landscaping.

**HAZARDOUS STRUCTURES AND MATERIALS REPORTS**

Report: Asbestos Demolition and Refurbishment (old Type 3) Survey

Key points: N/A

Report:

Key points:

**LAND, SOILS AND ENGINEERING REPORTS**

Report: Site investigation

Key points:

Report:

Key points:

SCHEDULE OF SERVICE DRAWINGS			
Service	Name of Utility Company	Existing layout available	Proposed layout available
Water	Thames Water	✓	✗
Gas	National Grid Gas - SSE	✓	✗
Electricity	National Grid Electricity - SSE	✓	✗
BT		✓	✗
Cable Network	Fibre Options	✓	✗
Electricity Grid	GTC	✓	✗
Pipeline (miscellaneous)	Vital Energi	✓	✗
Others			

EXISTING SERVICES - SIGNIFICANT POINTS			
Service:		Drawing No:	
Key points:			
Service:	<i>ELECTRIC</i>	Drawing No:	
Key points:			
Service:	<i>BT</i>	Drawing No:	
Key points:			
Service:	<i>WATER</i>	Drawing No:	
Key points:			
Service:	<i>CABLE</i>	Drawing No:	
Key points:			
Service:	<i>Other</i>	Drawing No:	
Key points:			

SITE LAYOUT - SIGNIFICANT POINTS	
Access/Egress:	B4100
<p>Key points: General site access into the main area is from the B4100. The pair of heavy duty existing gates with security barrier will be used for vehicular access only. If a pedestrian arrives at these gates they will be re-directed to the pedestrian entrance, or the site team will be called to arrange collection of them. Pedestrian access is only available from Charlotte Avenue from the B4100. When it is deemed necessary we will employ a wheel wash system. We will also be utilising road sweepers as and when required.</p>	
Compound:	On Site
<p>The compound will be set up &amp; accessed on the allotment area of phase 2.</p>	
Materials Storage:	As above
<p>All materials will be delivered via the B4100 entrance and distributed to designated storage areas which will be identified as the works progress. The main storage container will be located in the site compound/Car park. On site each subcontractor will be designated a storage area.</p>	
Build Sequence:	
<p>Key points:</p> <p>The project consists of Timber Framed Houses together with external works.</p> <p>Piling and strip foundations will be supporting a Nuspan flooring system, following onto timber joist first floor and a trussed pitch roof.</p> <p>Sequencing is based on the Houses to the south of development completing Section 1 first then completing in sequence through to 8, allowing for residents &amp; Local school to occupy these houses &amp; school while construction carries on towards the site entrance.</p>	
Other:	

## SECTION 2

# MANAGEMENT AND ORGANISATION



## MANAGEMENT OF HEALTH & SAFETY ON SITE

Whilst the Organisation Chart shown in this section of the Health & Safety Plan details the 'chain' of command, it is important to clarify the individual roles in relation to health and safety on site.

1. The **Contracts Manager** will have overall responsibility for:
  - a) Ensuring that the procedures laid down in the Health & Safety Plan will be fully implemented. They will also be responsible for the updating of the Plan, as and when required, accommodating items such as Method Statements, Risk Assessments and Sub-contractors Safety Policies as these become available.
  - b) To ensure that sub-contractors have been given sufficient information to enable them to fully plan and implement their works with regard to the safety of their operatives and others who may be affected by their actions – this should include results of any surveys such as ground contamination, asbestos samples, traffic restrictions, public access, etc.
  - c) It will also be the responsibility of the Contracts Manager to ensure that the relevant information such as Method Statements, Risk Assessments, and Health & Safety Policies are obtained from Contractors and passed to the Site Manager for inclusion in the Health & Safety Plan.
2. The **Project/Site Manager** will be responsible for the day to day implementation of the Health & Safety Plan as follows:
  - a) Statutory Requirements - recording of inspections; scaffolding, excavations, lifting appliances, etc., in the Site Safety Register.
  - b) Induction of all new starters using the Standard Site Induction Form.
  - c) Tool Box Talks.
  - d) Ensuring that operatives have the necessary skills to enable them to adequately perform the given task or job, e.g. abrasive wheels, cartridge tools, dumpers, forklifts, MEWP's, etc. (This will be achieved by having sight of a relevant training card, CPCS or similar approved, for the appropriate item of plant being used and entering details of it in the Site Safety Register.)
  - e) Ensuring the sub-contractors are fully aware of all risks to health and safety which may affect them or their operatives and that any operation carried out by them which may affect others will be fully communicated to the affected persons?
  - f) To ensure, in conjunction with the Contracts Manager, that safety meetings are held on site at regular intervals, at which all aspects of safety are discussed with an upwards as well as downwards exchange of information to/from all contractors on site.
3. The **Safety Advisors** will audit the Health & Safety Plan during their visits to site.
4. It is the duty of all **supervisory staff** to ensure that at all times works are carried out safely and that the relevant regulations are being fully complied with.

Disciplinary warnings will be issued for minor breaches of safe working practices.

Serious breaches will result in removal from site of the offending person/persons or company.

5. The Safety Manager will provide guidance and advise staff to help the implementation of the Health & Safety Plan and safety in general on site.
6. In the early stages of construction a meeting/meetings will be held with the CDM Co-ordinator to discuss what information will be required for inclusion in the Health & Safety File and how and when this information will be supplied.

#### MANAGEMENT OF HEALTH & SAFETY IN THE CONSTRUCTION PHASE

1. The management of health and safety during the Construction phase will be carried out by the implementation of:
  - a) Company Safety Policy
  - b) Risk Assessments
  - c) Method Statements for high-risk activities
  - d) Site Safety Inspection of the work in progress to ensure compliance with items (a) –(c) above
  - e) It is the responsibility of the Construction Management team to monitor and develop the Health and Safety Plan to ensure the following:
    - f) A common approach is developed for managing Health & Safety at Work.
    - g) Assessments are prepared by contractors as required by the Management of Health and Safety at Work regulations.
    - h) The provision and use of designated welfare arrangements.
    - i) The implementation of the Health and Safety Plan.
    - j) Modifying and updating the Health and Safety Plan as and when necessary.
    - k) The issue of, where appropriate, rules for a safe working environment.

## CONSTRUCTION (DESIGN & MANAGEMENT) REGULATIONS 2015

In so much as the Construction (Design and Management) Regulations 2015 places duties on the Principal Contractor to develop the Health & Safety Plan, we also need to conform to various other safety legislation, such as the Health & Safety at Work Act and the Management of Health & Safety at Work Regulations, which require the establishment of company policies, procedures, etc.

To this end the Health & Safety Plan needs to be read in conjunction with the following:

### 1. SAFETY POLICY AND MANUAL

A copy of this document can be accessed on every site and consists of three parts:

- i) Company Safety Policy
- ii) Organisation and arrangements for carrying out this policy
- iii) Procedures

### 2. SITE SAFETY REGISTER

In order to comply with our obligations regarding the recording of inspections and statutory requirements, we have devised a Site Safety Register, which incorporates all the necessary statutory requirements such as scaffolding, excavations, lifting appliances, etc., together with our own company requirements, such as checks on fire extinguishers, issue of PPE, record of certificates for plant and equipment, records for induction.

We would emphasise that whilst these documents are physically separate from the Health & Safety Plan, they are an integral part and should be construed and used as such.

### 3. HEALTH & SAFETY PRINCIPLES AND OBJECTIVES

It is the policy of Hill that, so far as is reasonably practicable, the health, safety and welfare of employees, sub-contract personnel, site visitors and the general public will not be endangered by the activities of the Company.

Management, supervisory staff and all other Company employees who authorise work will be responsible for ensuring that suitable and sufficient health, safety and welfare facilities are made available and working conditions that are, so far as is reasonably practicable, without risks to health, safety and welfare are provided.

All statutory duties and provisions will be complied with and it is a duty of all Company employees to constantly assess methods of work and working places to ensure such compliance.

All employees and sub-contractors are required to adopt systems of work and to maintain places of work that are, so far as is reasonably practicable, without risks to themselves or to any other person.

#### 4. STANDARD SETTING

We at Hill will only accept the very highest standards especially when it comes to health and safety.

We believe that our own company procedures exceed health and safety legislation and we insist that our contractors and sub-contractors rise to our standards.

We have an internal audit system to ensure the highest standards are maintained and details are contained in section 10.

The following standards are identified as minimum standards, which we expect all sub-contractors to work to and comply with:

- The Health and Safety at Work etc Act 1974
- The Management of Health and Safety at Work Regulations 1999
- The Lifting Operations – Lifting Equipment Regulations 1998
- The Provision and Use of Work Equipment Regulations 1998
- The Construction Design and Management Regulations 2015
- The Work at Height Regulations 2005
- Control of Vibration at Work Regulations 2005
- JCOP for Fire Prevention on Construction sites - Jan 06 edition and all subsequent
- Any current legislation not identified above
- Hill Health and Safety Policy
- Clients Safety Rules as identified in Pre-Tender Information Pack

As stated, the above are minimum standards and we further expect all work carried out on this project to be undertaken in accordance with all relevant Approved Codes of Practice, Codes of Practice and guidance notes. Sub-contractors must ensure that when preparing safe systems of work and proposed methods of work that these systems and methods take into account all such standards.

Main Duty Holders For The Contract**Client**

Name A2Dominion Group  
Address Godstow Court, 5 West Way, Botley, Oxford.  
Postcode OX2 0GE  
Phone 07725823629  
Fax N/A  
Contact Tim Giddy (Tim.giddy@a2dominion.co.uk)

**Principal Contractor**

Name Hill Partnerships Ltd  
Address 3 The Courtyard,  
Hill Farm,  
Caversfield,  
Bicester,  
Oxon  
Postcode OX27 8TG  
Phone 01869 360 123  
Fax 01869 248 964  
Contact Richard Cleary 07702 858536

**CDM**

Name Walker Cotter Safety  
Address 42 George Road, Edgbaston, Birmingham  
Postcode B15 1PL  
Phone 0121 454 8745  
Fax N/A  
Contact **Paul Myers**

**Clients Agent**

Name Silver  
Address 44 Tower Bridge Road  
London  
Postcode SE1 4TR  
Phone Tel: 020 7232 0465  
Fax N/A  
Contact Ashley Coull Email: [Ashley.Coull@silverdcc.com](mailto:Ashley.Coull@silverdcc.com)

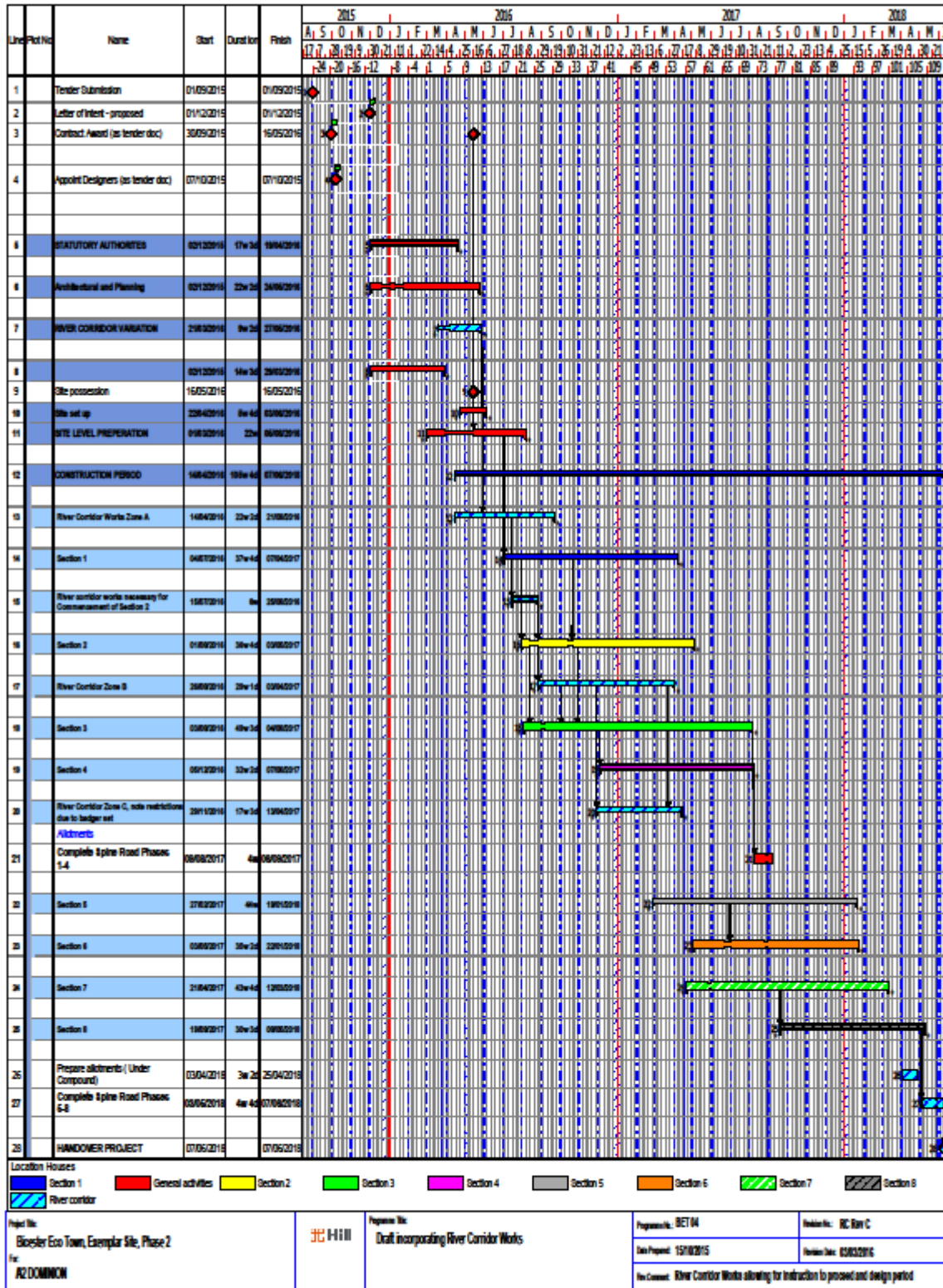
**Architect**

Name PRP Architects  
Address 10 Lindsey Street  
Smithfield  
London  
Postcode EC1A 9HP  
Phone Tel: 020 7653 3535  
Fax N/A  
Contact Robert Squibb

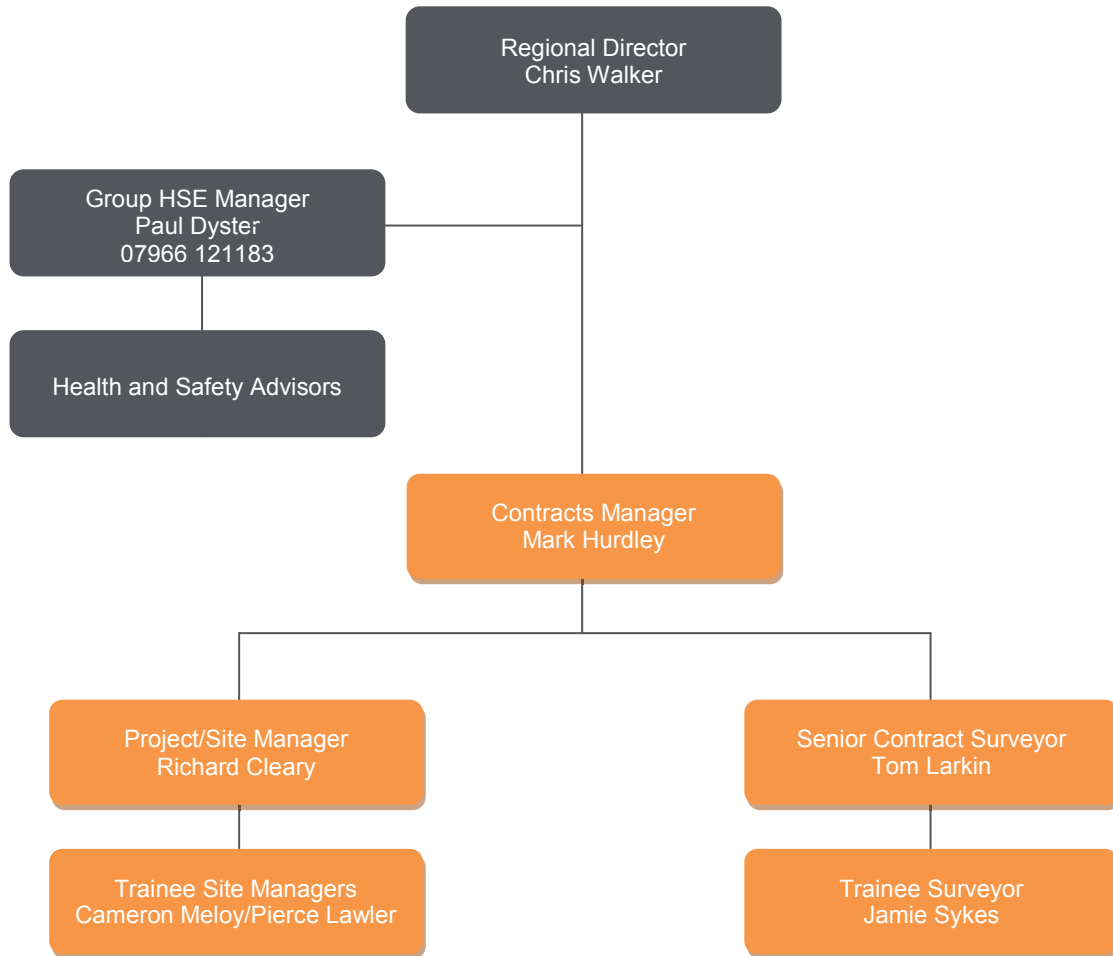
**Engineers**

Name Infrastruct CS Ltd  
Address The Stables, High Cogges Farm, High Cogges, Witney, Oxon,  
Postcode OX29 6UN  
Phone 01993 709709  
Fax N/A  
Contact Tim Trotman

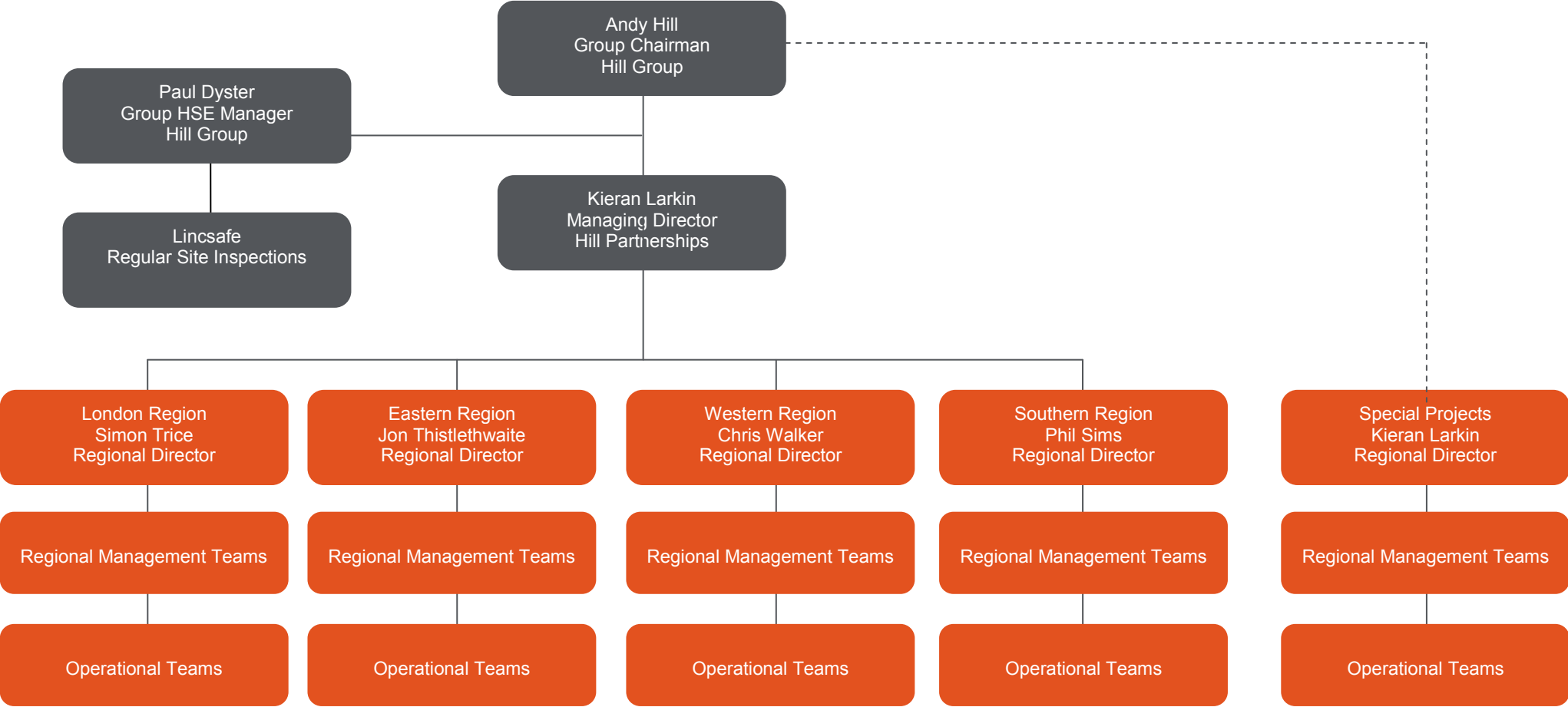
# CONTRACT PROGRAMME



**SITE ORGANISATIONAL CHART FOR HEALTH & SAFETY**



**GROUP ORGANISATIONAL CHART FOR HEALTH & SAFETY**





## SECTION 3

# COMMUNICATION, CO-OPERATION AND CONSULTATION

## COMMUNICATION AND CO-OPERATION

Sound communications are seen as an essential element of every project undertaken by Hill. These are conducted both formally and informally and involve as many of those engaged upon the project as is possible. Health and safety forms an important item on the agendas of the monthly meetings that take place which involve the management team, the Client's representatives and the contractors. Contract employees are encouraged to voice ideas and views.

Hill holds occasional evening events to which the principals of the sub-contractors are invited. These events are devoted to health and safety and allow new legislation to be discussed and any other health and safety issues to be debated. A primary objective of these meetings is the fostering of effective cooperation between sub-contractors and between sub-contractors and the management teams concerned with the company projects.

Site induction for sub-contract employees, is an essential feature of all contracts. During these sessions the employees are encouraged to voice concerns over matters relating to health and safety and to propose suggestions for improvements.

Design information, as it is received, is reviewed by the site management and, where required, the Safety Manager to identify hazards which may be presented. Such hazards, together with proposed solutions are referred to the CDM Co-ordinator where deemed necessary such as design and build. Where no hazards are identified the information is passed to the appropriate sub-contractor. In cases where hazards cannot be avoided these are identified to the sub-contractor who is required to produce a risk assessment or, in cases of high risk, a detailed method statement, maintained on site during the construction period in the Risk Assessment Register.

## CONSULTATION ON SITE/SAFETY MEETINGS

1. In order to achieve an upward and downward exchange of safety information, Site Safety Meetings will be held regularly, at which representatives of every contractor on site will be asked to attend. The method of consultation will be Project Level, Work-Gang Level or Individual Level. One of these methods must be used. If combinations are used then this is to be stated. The method of consultation is to be given to all employees and details contained in this plan.
2. The object of these meetings will be to establish coordination and cooperation between all persons working on site.
3. A notice will be displayed in the canteen inviting individuals to attend these meetings if they so wish.
4. All operatives will be inducted on arrival on site and will be supplemented by Tool Box Talks as outlined in Section 9 of this Health and Safety Plan.

### CONSULTATION GENERAL

An active Safety Committee exists within Hill, which has a membership representing all disciplines in the company. The Committee meets at regular intervals and minutes are distributed to the Managing Director and Directors responsible for Safety.

On a less formal level all employees of Hill and employees of sub-contractors are encouraged to discuss health and safety with the Safety Advisor/Manager during visits to site.

The mobile telephone number of the Safety Advisor/Manager is also displayed on the notice board and they can be contacted on a confidential basis.

Toolbox talks will be carried out by contractors and monitored by our site supervision. Topics for discussion will be agreed with the contractor and will include any relevant changes required to working practices. Where necessary the site team will identify any further talks required which may be required to be undertaken by the Safety Advisors.

Progress meetings shall have Health and Safety on the agenda as a first item, which will address relevant matters and future development of the Safety Plan.

### HEALTH AND SAFETY FILE

During the construction phase copies of all 'as-built' drawings are filed. Prior to hand-over these, together with equipment operating instructions, maintenance schedules, information concerning any potentially hazardous materials, special cleaning arrangements, etc., are collected and presented to the CDM Co-ordinator for inclusion in the Health & Safety File.

# REQUIREMENTS OF THE HEALTH AND SAFETY FILE

<b>THE HEALTH AND SAFETY FILE</b>		
<b>Format</b>	<b>A4 PDF</b>	
<b>FOLDER NUMBER</b>	<b>FOLDER TITLE</b>	
	<b>DOCUMENT NUMBER</b>	<b>DOCUMENT TITLE AND CONTENT</b>
<b>1.0</b>	<b>COVER / TITLE</b>	
	1.1	Title Page.
	1.2	Contents Page.
<b>2.0</b>	<b>STATUTORY / LEGAL PREAMBLES</b>	
	2.1	C.D.M. Co-Ordinator Introduction. Employer's legal duties with regard to the storage, updating and use of the Health and Safety File. Provided by the C.D.M. Co-Ordinator.
<b>3.0</b>	<b>INTRODUCTION</b>	
	3.1	Project Description. General description of the project and scope of the works and a brief description of the work carried out.
	3.2	Project Directory. - Client. - Designers (Architect, Civil Engineer, Structural Engineer, Mechanical and Electrical Engineer, Code Assessor, Landscape Architect, etc.) - C.D.M. Co-Ordinator. - Principal Contractor. - each Main Contractor. - each Sub-contractor. - each Supplier. - each Contract / Trade Installation. For each party provide : - Name, address and post code, telephone and facsimile numbers, email address and contact names.
<b>4.0</b>	<b>RESIDUAL HAZARDS</b>	
	4.1	Schedule of Residual Hazards. List of residual hazards and how they have been dealt with (for example surveys or other information concerning asbestos, contaminated land, water bearing strata, buried services).
	4.2	Schedule of Residual Hazards in future Maintenance. List of residual hazards affecting the Employer's future use, operation and maintenance of the buildings and structure, and how they should be taken into consideration.

<b>THE HEALTH AND SAFETY FILE (CONTINUATION 2)</b>		
<b>5.0</b>	<b>MATERIALS</b>	
	5.1	Hazardous Material Schedule. Any hazards associated with the materials used (for example hazardous substances, lead paint, special coatings which should not be burned off).
<b>6.0</b>	<b>STRUCTURAL PRINCIPLES</b>	
	6.1	General Description of Structural Principles. Key structural principles incorporated in the design of the structure (for example bracing, sources of substantial stored energy - including pre-tensioned or post-tensioned members) and safe working loads for floors and roofs, particularly where these may preclude placing scaffolding or heavy machinery there.
<b>7.0</b>	<b>PLANT AND EQUIPMENT</b>	
	7.1	Schedule of Plant and Equipment. Provide information regarding the removal or dismantling of installed plant and equipment (for example lifting arrangements), as appropriate.
	7.2	Maintenance of Plant and Equipment. Provide health and safety information about plant and equipment provided for cleaning or maintaining the structure.
<b>8.0</b>	<b>SERVICES</b>	
	8.1	General Description of Services. The nature, location and markings of significant services, including fire fighting services.
<b>9.0</b>	<b>AS-BUILT INFORMATION</b>	
	9.1	General Description. Information and As-Built drawings of the structure, its plant and equipment (e.g. the means of safe access to and from service voids, fire doors and compartmentation).
	9.2	Architectural As-Built Information and Drawings.
	9.3	Structural Engineering As-Built Information and Drawings.
	9.4	Mechanical Engineering As-Built Information and Drawings.
	9.5	Electrical Engineering As-Built Information and Drawings.
	9.6	Landscaping As-Built Information and Drawings.

## SECTION 4

# CONTRACTORS SELECTION PROCEDURE

CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015

## PROCEDURE FOR PRE-ASSESSING CONTRACTORS/SUB-CONTRACTORS

The CDM Regulations require that the Principal Contractor makes 'reasonable enquiries' to establish the commitment to health and safety and the ability and resources to manage health and safety of contractors. It is also necessary for the Principal Contractor to be able to demonstrate that the 'reasonable enquiries' have been made to ensure compliance with Appendix 4 core criteria for pre assessing sub contractors. As a minimum the following will be carried out to meet these statutory duties:

## 1 INTRODUCTION

- 1.1 The Hill ("The Company") recognises that there is a legal requirement to ensure that they only appoint subcontractors who have the necessary health and safety competence and resources to carry out their work in a safe manner.
- 1.2 We are committed to engaging our subcontractors in jointly promoting the continuous improvement of our health and safety performance, and we are determined that everyone employed on our projects will be suitably informed, supervised and competent to carry out their duties.
- 1.3 The Company has Preferred Lists of Subcontractors who are selected and appointed in line with company procedures and who have demonstrated technical and health and safety competence.
- 1.4 The detailed subcontract procedures and guidance on their implementation are available on Intranet – Safety.

## 2 SCOPE

- 2.1 The subcontract procedures are applicable to contractors and designers who would be engaged in the undernoted processes.
  - Concept and feasibility studies.
  - Planning.
  - Outline Design.
  - Detailed Design.
  - Construction and Installation.
  - Commissioning.
  - Maintenance.



- 3 Pre-qualification Assessment
  - 3.1 Management must ensure that any prospective subcontractor, not already approved by the Company, has the necessary health and safety arrangements in place to support us to the required level.
  - 3.2 The Company Performa "Subcontractors Health and Safety Assessment for Acceptance for Approved Subcontractor" must be completed for each subcontractor (Appendix HS/05/02). If the subcontractor is deemed to have suitable health and safety competencies they should be graded in terms of their arrangements and the scope of their activities.
  - 3.3 There are three grading levels, with Grade 1 being a subcontractor who is competent to manage the health and safety aspects of their activities; Grade 2 being a subcontractor who has health and safety arrangements in place, but who requires input from Hill; and Grade 3 who are subcontractors who are not approved to work within the Hill.
  - 3.4 The pre-qualification and selection process will normally be conducted and managed by a person appointed by the Divisional Director at Regional Offices, it is therefore vital that the relevant information is passed onto Project Managers.

The Performa representing the summary of a detailed operation process. A fully documented file in support of the assessment must be maintained in divisional records.
  - 3.5 The pre-qualification process relates to the first application to be included on the Preferred List, thereafter re-submissions will be at the Company's discretion.

#### INFORMATION FOR CONTRACTORS

So far as it is relevant to the activities of particular contractors and so far as information is available, sections of the Health and Safety Plan, together with design information and the health and safety standards that apply, are presented as a part of the tendering documentation. Subsequent to appointment and as it becomes available relevant information is passed to the contractor to facilitate the compilation of pertinent risk assessments/method statements.

## SELECTION PROCEDURES

### 1. CONTRACTORS AND DESIGNERS

Hill select contractors, designers and sub-contractors from those who, from previous experience, are known to adopt an approach to health and safety that is commensurate with the stringent criteria imposed by the company. Those where there is no previous experience are subjected to an enquiry procedure prior to being considered for selection. The criteria adopted in these cases are summarised as follows:

#### a) DESIGNERS SUB-CONTRACTORS

A primary requirement is membership of a bona fide professional body. This must be supported by successful experience in the type of contract and environment for which the designer is being considered. Sufficient suitable qualified people and sufficient resources must be available to enable the standards imposed to be achieved and the designer must have adequate knowledge of health and safety and associated legislation.

#### b) CONTRACTORS/SUB-CONTRACTORS

When considered against the degree of inherent risk, which the contract contains, a contractor/sub-contractor, to be eligible, must be able to demonstrate:

- A commitment to the health and safety philosophy
- A capacity to manage health and safety adequately by on site supervision
- The ability and resources necessary to develop and implement the health and safety plan and to deal with high risk elements
- The ability and resources necessary to ensure compliance with the health and safety regime of the project

### 2. MATERIALS AND SUBSTANCES

Within the contracts undertaken by Hill reasonable efforts are made to use only materials and substances that are low risk so far as the user, others who may be affected and the end user are concerned. In all cases the duties imposed by the COSHH Regulations are fulfilled. During the construction phase all necessary COSHH assessments are provided by the relevant sub-contractor and copies maintained on site. Information concerning hazardous materials and substances, which cannot be avoided by substitution, is incorporated into the Health and Safety File.

### 3. MACHINERY AND PLANT

The site management must check all machinery and plant supplied for use on the project, before it can be used. Particular inspection items include:

- Suitability of the item when considered against the use for which it is intended
- The availability and validity of documentation provided with the item The general serviceability of the item and where it is necessary, the availability of a suitably trained and qualified operator
- Stored fuels are to have designated areas and suitable bunds for drip trays and spills which are to be maintained and cleared when necessary, which may also require diesel spill kits under the Group Environmental Policy

Subject: Construction Phase Health and Safety Plan

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During use plant and machinery is regularly monitored to ensure continued serviceability and the operator is observed to ensure competence and to avoid malpractice.

All machinery and plant must comply with the Provision and use of Workplace Equipment Regulations 1998 and/or any subsequent amendments.

SECTION 5

ACTIVITIES WITH RISKS TO

HEALTH SAFETY

AND THE

ENVIRONMENT

## SITE WIDE ACTIVITIES

Activities with site wide implications, e.g. traffic control, materials storage and movement, access routes, site security and personal safety, etc., and activities which may affect the general public, are planned prior to the project commencing. Management of these is a component of the management of the site and is monitored during safety visits by the Safety Advisor/Manager.

Operational activities are assessed in writing by the project management team to determine hazards and risks. Contractors are required to carry out detailed risk assessments and to produce methods by which identified risks may be either avoided or minimised. Certain high risk operations, e.g. demolition, deep excavation, working in confined spaces, etc., are exempt from this procedure since they will automatically require detailed method statements to be produced.

Before the operations are allowed to commence, the methods proposed are submitted to the site management for agreement and, in the case of all high-risk activities, must be formally approved by the Safety Manager.

These can include:

- Storage and distribution of materials
- Movement of vehicles on site, particularly as this may affect pedestrian and vehicular safety
- Control and disposal of waste
- Provision and use of common means of access and places of work for all on site staff and visitors
- Provision and use of mechanical plant, which is used by a number of contractors
- Provision and use of temporary support services
- Temporary support structures, e.g. falsework
- Commissioning, including use of permits, etc.
- Protection from falling materials
- Exclusion of unauthorised people
- Protection of the public/information for local residents
- Personal security\*
- Environmental matters as listed at para 12 below

\* When a contract is located in an area where a genuine concern exists about employees 'off site' personal safety, the Safety Advisor/Manager is to carry out risk assessments to ensure that control measures are in place to identify and effectively mitigate these risks.

Control measures are to be clearly set out, including protection of the public.

## PROPOSED MANAGEMENT OF HEALTH AND SAFETY DURING THE CONSTRUCTION PHASE

### INTRODUCTION

With the scope of the work involved, i.e. the construction of phase 1,2,3,4 This will present a greater than normal degree of Health and Safety Risks to operatives and to others that may be affected by our actions namely staff, parents, pupils and members of the public using/attending the school.

We believe that the following proposals will help us to mitigate the risks as the work progresses:

#### 1. TRAFFIC MOVEMENT

- a) Wherever practical the layout of the site will include separate routes for vehicular traffic and pedestrians with priority given to safe access and egress to pedestrians. This principle will include for the elimination of reversing vehicles wherever possible. The traffic plan is to be made available to all suppliers and contractors working on site.
- b) Site boundary will be thoroughly examined to ensure that it conforms to HSG 151 and if not will be repaired or replaced accordingly
- c) Heras fencing may be required as a temporary measure and at these times will be 2 meters high with anti-climb mesh.
- d) Liaison will be carried out with a representative from the school regarding delivery timings and any abnormal loads.
- e) Delivery times have been agreed as:
  - a. Monday-Friday 8.00am-17.00pm
  - b. Saturday 9.00am-13.00pm
  - c. No Working Permitted on Sundays & Bank Holidays
- f) Adequate signage will be displayed directing traffic to/from site and traffic movements into/out of site will be controlled by a trained banksman/ signaller.
- g) All deliveries will be either ridged or articulated Lorries via B1400 Main Rd.
- h) Audible warning devices will be fitted to vehicles that need to reverse, and they will be supervised by a banksman.
- i) A traffic layout plan is contained at the end of this section.
- j) Forklift trucks maybe required to travel on public highways. When doing so, they will not exceed 10mph and will use a fixed flashing beacon to warn members of the public of their presence

## 2. ACCESS TO/FROM SITE

- a) Site traffic will be directed onto site from B4100
- b) Vehicles arriving and/or exiting site will use the established routes designated with adequate signage. A one-way system will be established to reduce the congestion of site traffic.
- c) Site vehicles will not be allowed to park outside the site compound, unless in emergency situations.
- d) Routes for ambulances and fire engines will be kept clear at all times.
- e) The access gates to the site will be securely locked outside normal working hours.
- f) As the contract involves a number of phased sequences, temporary screens, barriers and signage will be erected as, when and where necessary to segregate persons who may be affected by the building works, i.e. staff, pupils, parents and operatives. This will be subject to liaison with the school staff.
- g) Operative access to site.

## 3. UNDERGROUND SERVICES

All necessary steps will be taken to accurately locate and identify existing underground services prior to any excavation taking place. These steps will include:

- a) Referral to all relevant statutory authority drawings.
- b) Communication with the relevant authorities in order to accurately locate services on site.
- c) Cable Avoidance Tool (CAT) and Genny surveys of all areas prior to excavation work.
- d) Issue of a Permit to dig by the site manager.
- e) Where necessary a non-intrusive radar survey will be completed.

## 4. DUST, NOISE, DISTURBANCE

- a) Most building operations are inherently noisy and/or dusty, but we will endeavour to keep these to a minimum by the use of sprays where applicable and by ensuring that all plant used on site has the appropriate silencers, baffles, etc.
- b) Dust should not present any great problems, but we will liaise with the local representative regarding any particularly noisy or dusty operations. When working close to the existing buildings temporary dust screens will be erected as required to ensure that dust contamination is kept to an absolute minimum. This will be monitored by the site manager and modified if required.

- c) Noise surveys will be carried out as and when conditions dictate and a copy of such surveys will be kept on site.
- d) Surplus materials will be placed in skips, for removal from site to a registered tip. All excavated material that is not required will be loaded onto suitable lorries and deposited of under licence. All demolition materials will be removed similarly.
- f) We will not allow any fires on site for the burning of materials.
- g) A wheel cleaning procedure will be used in order to mitigate the amount of mud that could potentially be deposited on the highways by vehicles exiting the construction site. An area close to the site exit will be utilised for wheel washing prior to vehicles leaving site. A power washer will be used to wash off any mud from the vehicle's wheels, with excess mud / slurry being collected and disposed of. It is anticipated that this will only be required during the initial weeks of the development when the existing ground is removed and the footings for the new buildings are constructed. However, the wheel wash station will remain on site until the development is complete. The proposed wheel cleaning procedure will consist of:

1. Before leaving the site, vehicles will be inspected for any heavy deposits left on wheels. If present, these will be removed manually.

2. Following inspection, all wheels are to be washed down using a high pressure jet wash until clear of all deposits.

3. Vehicles will be permitted to leave site following approval of the site manager / site representative that the above steps have been completed to a satisfactory standard. On site roads will be kept as free of mud as is practicable during ground working operations. Machine and wagon trafficking around the site will be kept to a minimum in order to reduce the effects of rain on 'broken' ground. If this is not sufficient, a road sweeper will also be used in the immediate area which will be ordered directly via the site manager.

## 5. MANUAL HANDLING

- a) Designers have a duty under CDM to design out high-risk activities wherever possible, which should include the 'weight' implications of materials specified.
- b) Notwithstanding item 5 (a) above, all 'heavy' materials will be mechanically off-loaded and whenever possible transported around site by mechanical means, i.e. fork lift trucks, pallet trucks, sack trucks, wheelbarrows, etc.
- c) Where risks are identified then contractors will carry out written manual handling assessments, which will be prepared in accordance with Manual Handling Regulations. The assessments must be attached to the method statements.
- d) The manual handling of kerbs and slabs is not permitted and mechanical means will be used wherever practical. If mechanical means are not practical then a detailed risk assessment will be carried out.



## 6. PERMITS TO WORK

Where necessary, the following permits will be issued by Hill:

- a) Permit to Work
- b) Permit to Enter (Confined Spaces)
- c) Hot Works
- d) Permit to Dig
- e) Permit to Lift

## 7. COSHH

- a) Any necessary COSHH Assessments will be made by the relevant contractors and attached to their method statements.
- b) The site manager has overall responsibility to ensure that COSHH assessments are completed and to ensure that all relevant parties on site are aware of any operation that may affect other persons.
  - a) 8. Method Statements, Risk Assessments
- a) All necessary Method Statements and Risk Assessments will be prepared and kept in separate method statement files, which are held on site.
- b) We work on the principle of 'He who creates the risk - creates the necessary Method Statement/Risk Assessment'.
- c) The requirement for a Method Statement will be highlighted to the sub-contractor by the Contracts Manager, at the pre-order meeting and the requirement thereof forms part of the contract documents.
- d) All such Method Statements/Risk Assessments must be available on site prior to that operation commencing. These will comply with the requirement of the Health and safety Policy to ensure that they are sufficient in detail and, if acceptable, will be signed on site by all operatives who will agree to comply with the Method statement/Risk assessment at all times. If at any stage of the work the Statement requires revision then work will not be permitted to continue until the revision is in writing and again all concerned have signed it.

## 9. PERSONAL PROTECTIVE EQUIPMENT

Any necessary Personal Protective Equipment (PPE) will be supplied by the relevant employer and must be worn as, when and where necessary. As a minimum, helmets, safety footwear and hi-viz clothing must be worn by all persons on site including visitors who must report to the site office on arrival.

## 10. PROJECT SPECIFIC ACTIVITIES

The following activities have been identified as containing significant risk and as such these activities will require detailed risk assessment and method statements:

- a) Demolition
- b) Asbestos Removal

- c) Excavations
- d) Contaminated Ground
- e) Falsework
- f) Steel Erection
- g) Scaffolding
- h) Roofwork
- i) Lifting Operations
- j) Confined Spaces
- k) Wall cladding
- l) Installing safety nets
- m) Hand Arm Vibration (HAV) \*
- n) Work at Height (WAH)
- o) WBV Whole Body Vibration
- p) Noise
- q) Environmental Matters

\* With regards to the above it is the responsibility of the contractor/sub-contractor to provide comprehensive methods and safe systems of work. They should, for example, provide details of all pneumatic tools vibration levels, exposure limits and the same tools noise levels. It is the principal contractor's duty to ensure these are provided.

## 11. PROTECTION OF THE PUBLIC

In addition to measures previously mentioned, the following actions are to be taken:

- a) Letter drops to close neighbours to keep informed of construction activities
- b) Meetings with concerned parties
- c) Talks to schools

## 12. ENVIRONMENTAL MATTERS

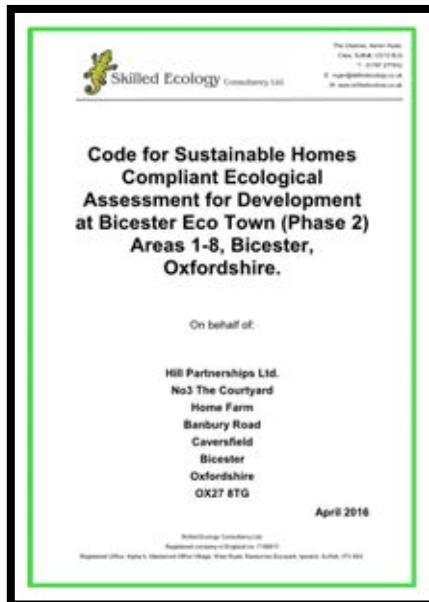
Construction projects generate many environmental matters that require control measures. To ensure that these matters are controlled the Environmental Tool box talks as listed below will be considered as 'Activities with Risk to Health and Safety' and will be part of the H&S Advisors/Managers inspections regime.

With effect from 1<sup>st</sup> April 2008 ALL sites will be required to have a Site Waste Management Plan (SWMP) that will detail

- a) Spill Controls
- b) Water Pollution Prevention (Fuel and Oils)
- c) Dust and Air Quality
- d) Noise and Vibration
- e) Water Pollution –SILT
- f) Water Pollution- Cement and Concrete
- g) Tree Protection
- h) Storage of Waste
- i) Storage and use of Petroleum, Diesel and Oils
- j) Bentonite
- k) Pumping and Over Pumping
- l) Washing down Plant and Machinery
- m) Be a Good Neighbour  
Working on Previously Developed Land

13. ECOLOGICAL ASSESSMENT

Refer to Appendix C - *Code for Sustainable Homes Compliant Ecological Assessment for Development at Bicester Eco Town (Phase 2) Areas 1-8, Bicester, Oxfordshire* by SKILLED ECOLOGY CONSULTANCY: April 2016.



14. ARBORICULTURAL

Refer to Appendix D – *Arboricultural Method Statement – Addendum, for consented development at NW Bicester Eco Town (Phase 2)* by OISIN KELLY ARBORICULTURAL CONSULTANT: Document Reference 206, March 2015.



15. CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Follows on subsequent pages -

North West Bicester – T015 49  
Construction Environmental Management Plan



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**History of the site:** -

The town of Bicester (population roughly 20,000) lies approximately 24km to the north east of Oxford and 28km to the south east of Banbury. The M40 motorway lies 2km to the south west, with ready access to the town from Junction 9.

The site perimeters are approximately 1.5km from the town centre and 0.5km from the villages of Bucknell and Caversfield. The site is surrounded by roads on three sides and is crossed in the middle from north west to south east by the railway, Bucknell Road and a bridle path.

The south east site boundary of approximately 2.5km is formed by the A4095 Ring Road in part Howes Lane and part Lords Lane. The site is adjacent to existing residential areas and Bure Park. The existing residential areas have a mix of social and community facilities with connections to the town centre by foot and cycle paths

**Soil conditions and contamination**

The Exemplar site is predominantly flat, arable farmland with a agricultural land value of Grade 3 (good to moderate quality) which is currently being used as grazing land for livestock. Fields are bounded either by post and wire fences or by dense hedges with some large trees. Most fields are surrounded by drainage ditches approximately 0.5m to 0.75m deep.

The site is dissected from east to west by a low flow watercourse/stream, with ground level dropping at a low grade to the river.

There is one stream on the Exemplar site (flowing in a NW to SE direction), which feed the N to S flowing River Bure.

Further Information relating to ground conditions can be found within the geotechnical interpretive report referred to in 1.6 of this document. This can be obtained from the employer's agent on request

**Ecology:-**

An ecological survey was undertaken and the recommendations of this report has been actioned by Hill Partnership and the site is now clear for construction operations. A brief summary detailed:-

- Bat Flight Path
- Badger Sets
- No field mice

The ecological value of the site was low with common, widespread habitats and minimal potential for protected, priority or rare species. Protection of boundary features have been recommended and precautionary measures for protected species are also including in the ecology report.

Please refer to attached Ecology report:

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## North West Bicester – T015 49 Construction Environmental Management Plan



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### **Environmental measures during construction:-**

In compiling our delivery plans for the project, we recognise the importance of ensuring the minimum disruption to the environment and wider community during our construction activities.

HILL have compiled this management plan which will be employed throughout the contract and used as an aide-memoir.

### **Enabling works:-**

The remaining topsoil shall be striped and stock piled and 1.8m high mesh security fencing will be erected around the perimeter of the site to create a physical barrier to exclude roaming wildlife and to prevent inhabitation of the site.

Tree protection shall be erected to locations requested by the local authority to prevent material storage damaging root zones and mechanical damage to canopies. The perimeter security fencing in the majority of locations will perform this function by being placed on the site side along the four boundaries. No trees within the site boundary have TPO'S. However a few are retained for the new development.

The following restrictions will apply within tree protection areas:-

- No mechanical excavation whatsoever
- No excavation by any other means without arboricultural site supervision/permission.
- No hand digging without a written method statement having first been approved by the project arboriculturist.
- No lowering of levels for any purpose (except removal of grass sward using hand tools)
- No storage of plant or materials
- No storage or handling of any chemical including cement washings
- No vehicular access
- No fire lighting In addition to the above, further precautions are necessary adjacent to trees:
- No substances injurious to tree health, including fuels, oil, bitumen, cement (including cement washings), builders sand, concrete mixing and other chemicals shall be stored or used within or directly adjacent to the protection areas of retained trees
- No fire shall be lit such that flames come within 5m of tree foliage.

We believe the above measures will prevent the need to disrupt and distress wildlife and mitigate delays to the build process.

### **Highway works & Mud prevention:-**

Hill always strive to advance the installation of the road and drainage network which in turn dictates sub-structure and superstructure works. Clean hard standings are vital for onsite distribution and play a key role for the movement of lifting apparatus and labour. The new estate roads will form the spinal cord for the development of the estate and the dwellings will rise around these as we progress through the scheme.

The roads and parking courts will be constructed up to base course which provides a hard and durable surface which can easily be cleaned and maintained throughout the build process.

**North West Bicester – T015 49  
Construction Environmental Management Plan**

The site road and B4100 will be swept regularly with mechanical equipment (vacuum sweeper or sweeping attachment for site plant). During the winter months and wet climates, often mud and chalk deposits become too sizable for the mechanical sweepers to control and Hill would employ 360deg excavator or telescopic handler with bucket attachments to scrape the roads prior to sweeping.

Along with the working method above, we shall ensure that wash down facilities (jet wash) is available at the site entrance should any vehicles become contaminated.

**Drainage and surface run off:-**

The main storm network shall be constructed in conjunction with the road network. Gully pots will have lids sealed with geotextile membrane to prevent any silt from entering the pot and drainage system.

Interceptors as detailed on the proposed adoptable drainage designs prepared by 'GEMMA' design shall be installed early to prevent silt/hydrocarbons from entering the SUD's system and swales which will be formed as the road network progresses through the site. Hill will routinely check and clear the interceptors and gullies throughout the construction period until such time as the system is complete and handover over to the adopting authority.

Areas of permeable paving shall be temporary covered in a tarmac running course to protect the permeable substrate from contamination/silt build up and provide us with a temporary running course for site traffic. This tarmac will be punctured or broken out prior to laying of the final road blocks and completion of the sustainable drainage system.

**Noise**

The control of noise during the course of the works will be an important aspect on this contract due to the close proximity of residents occupying section of the estate. To this end we will ensure that all plant and equipment is properly silenced, temporary screens are constructed where necessary to provide an insulated barrier particularly around occupied properties. Noise reduction by site activities will be kept to the lowest possible levels and all staff will be instructed in this matter during inductions and specific tool box talks. Plant and equipment for use in the works will be selected with due regard to minimum noise levels. Machines shall be turned off when not in use and engine cowls closed to prevent sound reverberation. Rubber tracked excavators will be used for working on the highway where possible. The use of battery operated tools will be encouraged to limit the noise pollution created by generators

Finally, all works will be carried out in normal working hours, which are: -

Monday – Friday      8.00am to 5.00pm  
Saturday -              8.00am to 1.00pm

School due to open September 2017

**Dust**

Dust arising from the works will be controlled as far as reasonably practicable and dust suppression/collection facilities will be provided to equipment. The siting of mechanical equipment will be considered to preventing the transfer of fumes to existing premises. All cutting plant and grinding plant will have proprietary dust suppressant mechanisms fitted. A regime of water mist

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North West Bicester – T015 49  
Construction Environmental Management Plan



### **Performance and Compliance Monitoring**

Our ISO14001 accredited Environmental management system sets out our overall environment commitments and these are fully aligned with the ISO 14001 requirements and recommendations. As part of these controls, Hill audits all systems on a regular basis with a minimum monthly site visits covering all aspects of Health, Safety and Environment.

Externally we are audited by LRQA, backed up by our own, more frequent, rigorous internal audits.

Regular site team reviews and target setting with subcontractors are held throughout the duration of the works to reinforce quality performance.

Regular formal reporting including KPI reports (targets pre-agreed with client)

### **Minimising disruption**

Hill is a member of the Considerate Constructors Scheme and we manage all work in line with the Code of Considerate Practice. We register all projects with the Scheme, who send an independent monitor to review the site during the construction process to assess compliance and best practice. All sites must achieve a minimum of 35 points.

# TRAFFIC MANAGEMENT PLAN (SITE PLAN)



Subject: Construction Phase Health and Safety Plan



# SECTION 6

## EMERGENCY PROCEDURES

## ACTION PLAN

SITE NAME: NW BICESTER ECO TOWN PHASE 2

		TEL NO.
FIRST AIDER	Richard Cleary	07702 858536
FIRE CO-ORDINATOR Fire Marshal * Deputy Fire Marshal *	Richard Cleary	07702 858536
SAFETY MANAGER	Paul Dyster	07966 121183
NEAREST HOSPITAL	Horton General Hospital 81a Oxford Road Banbury OX16 9AL Distance: 11.24 miles	01295 275500
NEAREST POLICE STATION	Bicester Police Station Queens Avenue Bicester OX26 2NT Distance: 2.68 miles	08458 505505
NEAREST FIRE STATION	Bicester Fire Station Queens Avenue Bicester Oxon OX26 2NR	

### EMERGENCY SERVICES

FIRE, POLICE, AMBULANCE - 999

SITE FIRE PLAN

CONTRACT: NW Bicester Eco Town Ph2

CONTRACT No. : T15 049 / W0062

SITE FIRE SAFETY CO-ORDINATOR: Richard Cleary

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SITE FIRE SAFETY CO-ORDINATOR (SFSC)

The SFSC shall ensure that the requirements of JCOP Para 6 sections 6.1 and 6.2 are complied with. The SFSC is to carry out the duties laid down in JCOP edition 6.

The following headings are to be used as a guide for completion of the plan:

- a) Site Safety Precautions
- b) Hot Work Permit System
- c) Weekly checks of fire equipment
- d) Weekly checks of escape routes/fire brigade access, emergency lighting, etc.
- e) Liaison with the local fire brigade - names, contact details, etc.
- f) Record all fire drills and any training

THE FIRE PLAN

The plan must detail:

- a) Organisation and responsibilities
- b) General site fire precautions, detection/alarm systems, temporary lighting
- c) Location of designated smoking areas
- d) Fire escape details and procedures for calling the fire brigade
- e) Plan of site and temporary accommodation
- f) Fire brigade access and identified hose points
- g) Actions on the outbreak of fire
- h) Security measures particularly in potential high risk areas of work
- i) Materials and storage control regime
- j) Updating of the plan on a regular basis
- k) Fire drill procedure and any training
- l) Promotion of a fire safe environment

\* On large projects the SFSC may well require to nominate Fire/Deputy Fire Marshals to assist in implementation of the fire plan.

The above headings are not an exhaustive list of the requirements however they are a minimum standard expected for a site fire plan.

The fire plan will be required from day one of the contract commencing and will then be reviewed on a regular basis.

Site are to ensure that a copy of any current JCOP is available on site and business units should also make reference to HS(G) 168 Fire Safety in Construction.

## CONTRACT EMERGENCY PLAN

All procedures will be in accordance with the JCOP for Fire Prevention On Construction Sites Association and cover fires, acts of terrorism and all emergencies that may require the site to be evacuated, in particular sections 6-20 - See Safety Policy and Manual.

Fire points will be designated by the Building/Site Manager and recorded in the Emergency Plan for the building and provided with suitable fire extinguishers.

Records will be maintained of the inspection and maintenance.

The Project/Site Manager is appointed as the Site Emergency Safety Co-ordinator for the project and is responsible for the following:

1. Procedures for:
  1. Preparing Fire Risk Assessment
  2. Emergency Fire Protection Arrangements
  3. Emergency evacuation from site
  4. Implementation of the Hot Work Permit System
  5. Other procedures as identified in the attached document
2. Implementation of weekly checks and monitoring.
3. Contact with the local fire brigade and issue and update of site plans.

Each sub-contractor is responsible for their own fire prevention equipment and no work must be allowed without suitable fire prevention procedures in place and approved by the Project/Site Manager.

All offices will be equipped with a minimum of one CO2 extinguisher.

As the site progresses and the Fire Plan and Risk Assessment are updated, fire points will be established at various locations to suit the prevailing conditions. These will be shown on the Emergency Plan, which will be displayed in the site canteen and contained at the end of this section.

Company Policy dictates that all fire extinguishers are visually checked weekly and entered into the Site Safety Register.

Emergency exit routes will be shown on the Emergency Plan mentioned above. All emergency exit routes will be maintained and monitored by the Project/Site Manager on a regular basis.

Emergency drills will be held at regular intervals and recorded in the Site Safety Register.

## EMERGENCY ARRANGEMENTS

Emergency arrangements for injuries and dangerous occurrences will comply with the Group Health and Safety Policy, the MHSWR, RIDDOR and the Group Emergency Planning Arrangements for Major Accidents or Incidents.

Specific details and local emergency service details are to be located in the site office. To ensure that the control of contractors is monitored should emergency evacuation be required, all contractors will be required to complete the site attendance (attached) log on a daily basis.

Subject: Construction Phase Health and Safety Plan

Site: NW Bicester Eco Town

Date:

**CONTRACTORS ATTENDANCE LOG**

Name	Company	Signature	In	Out

**Please note:** This form is to identify who is/is not on site in the event of an emergency - it is not to record hours worked, etc.  
Please remember to tick the 'out' box when you leave site.

Subject: Construction Phase Health and Safety Plan

## SITE FIRE RISK ASSESSMENT

*This Fire Risk Assessment identifies risk from fire to site personnel/members of the public within the area of this contract. The attached Fire Safety Plan explains in detail the measures required to be taken to comply with this Fire Risk Assessment and relevant regulations.*

Address of workplace: NW Bicester Eco Village, Banbury Rd, Bicester, Oxfordshire, OX27 8TG

Name of employer: Hill Partnership Ltd

Date of assessment: 11/11/2016

Name of person undertaking: Richard Cleary

### Hazards Identified

Flammable Substances	✓	Combustible Material	✓	Combustible Waste	✓
Heating Appliances	✓	Electrical Appliances	✓	Smoking	✓
Deliberate Ignition	✓	Lighting	✓	Hot Works	✓

### Persons considered at risk

Site Personnel	✓	General public	✓	Adjoining Buildings	✓
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### Control Measures Required

Storage of flammable material	✓	Storage of combustible material	✓	Control of Hot Works/Permits	✓
No Smoking Policy	✓	Fire Detection	✓	Fire Warning	✓
Fire Equipment/Checks/Tests	✓	Training	✓	Means of Escape	✓
Burning of Waste	X	Electrical Test TAUs	✓	Inductions/Drills/Marshals etc	✓
Lighting - Halogen	✓	Housekeeping/Storage/Access	✓	PAT/Appliances site & S/Contract	✓
Fire Retardant coverings	X	TAUs compliant	✓	Records of site personnel	✓
Site Fire Plan	✓	Review of Assessment/Plan	✓		

Name: Richard Cleary

Signature: *R. Cleary*

Position of person making the Assessment

Site Manager



## SECTION 7

# ACCIDENT REPORTING

## ACCIDENTS

### COMPANY PROCEDURES (SEE HEALTH AND SAFETY POLICY)

When an accident or dangerous occurrence takes place, it will fall into one of the following categories. The procedure to be adopted in each case is as follows:

### ACCIDENTS INVOLVING INJURY

1. Minor accident to employee:
  - a) Ensure details have been entered on the Accident Report Pad.
  - b) Where an employee is incapacitated from work for more than 3 consecutive days (excluding the day of the accident but including any days which would not have been working days, i.e. weekends) because of injury, complete internal accident report form and send, direct to the safety manager. The safety manager will ensure that the F2508 is completed and forwarded to the Enforcing Authority.
  - c) If injured employee is admitted to hospital and is an inpatient for more than 24 hours, the accident becomes a specified 'major injury' and must be notified to the safety manager immediately.
2. Minor accidents to any other person, complete the internal accident report form and send as outlined:
  - a) If the other person is an employee of another company, the responsible person at the workplace should notify his employer. The accident book and internal accident report form are still to be completed and sent to the safety manager.
  - b) The safety manager will ensure that a copy of the F2508 is received for Hill records.
3. In the event of a specified major injury or a fatal accident occurring to ANY PERSON arising out of or in connection with our work, immediately telephone the Safety Manager.

All accidents will be investigated and results of that investigation, where relevant, will be communicated to all that may be affected.

NOTE: Copies of F2508 or any enquiries from the Benefits Agency completed in respect of any accident will be sent to head office. These documents must be made available, if requested, to the Enforcing Authority or safety representative.

The requirements of RIDDOR 95 are contained in the Safety Policy & Manual, a copy of which is accessible on every site.

### SITE FIRST AIDERS

First Aid facilities are held in the site offices marked FIRST AID.

### ACTION TO BE TAKEN IN THE EVENT OF AN ACCIDENT

1. The injured person is to make their way, if able, to the nearest first aid facility, or raise the alarm by whatever means available.
2. If the First Aider is not present, the injured person is to contact a member of staff who will:
  - a. Send for First Aider
  - b. Reassure the injured person
3. No first aid to be administered without the presence of the First Aider.
4. If the injured person is unable to go to the site office, a colleague should advise the First Aider and take him to the scene of the accident.
5. The First Aider will ensure an ambulance is called if required.

### MAJOR ACCIDENT OR INCIDENT REQUIRING EMERGENCY PROCEDURES

1. On witnessing accident/incident if it is not possible to aid the injured, obtain help, do not endanger yourself.
2. Immediately find a member of Hill staff who will direct a First Aider to the scene.
3. The First Aider and the Site Safety Supervisor will assess the situation, arrange for the emergency services to be called and ensure access to the incident is clear, wait for emergency services and direct them to the scene.
4. First Aider to stop with the injured person.
5. Contact the prescribed persons to advise of the incident by telephone and fax.

The procedures to be implemented in any site emergency are to be found in the Health and Safety Policy and the Group Emergency Planning Arrangements for Major Accidents/Incidents.

## SECTION 8

### WELFARE

### HEALTH AND SAFETY WELFARE ARRANGEMENTS

Suitable and sufficient Health and Welfare Facilities in accordance with Schedule 2 of CDM Regs and will be established on site and shown on a Welfare Plan, which will be displayed in the site canteen. (These will include as a minimum – site office, canteen, drying/changing room and toilets.)

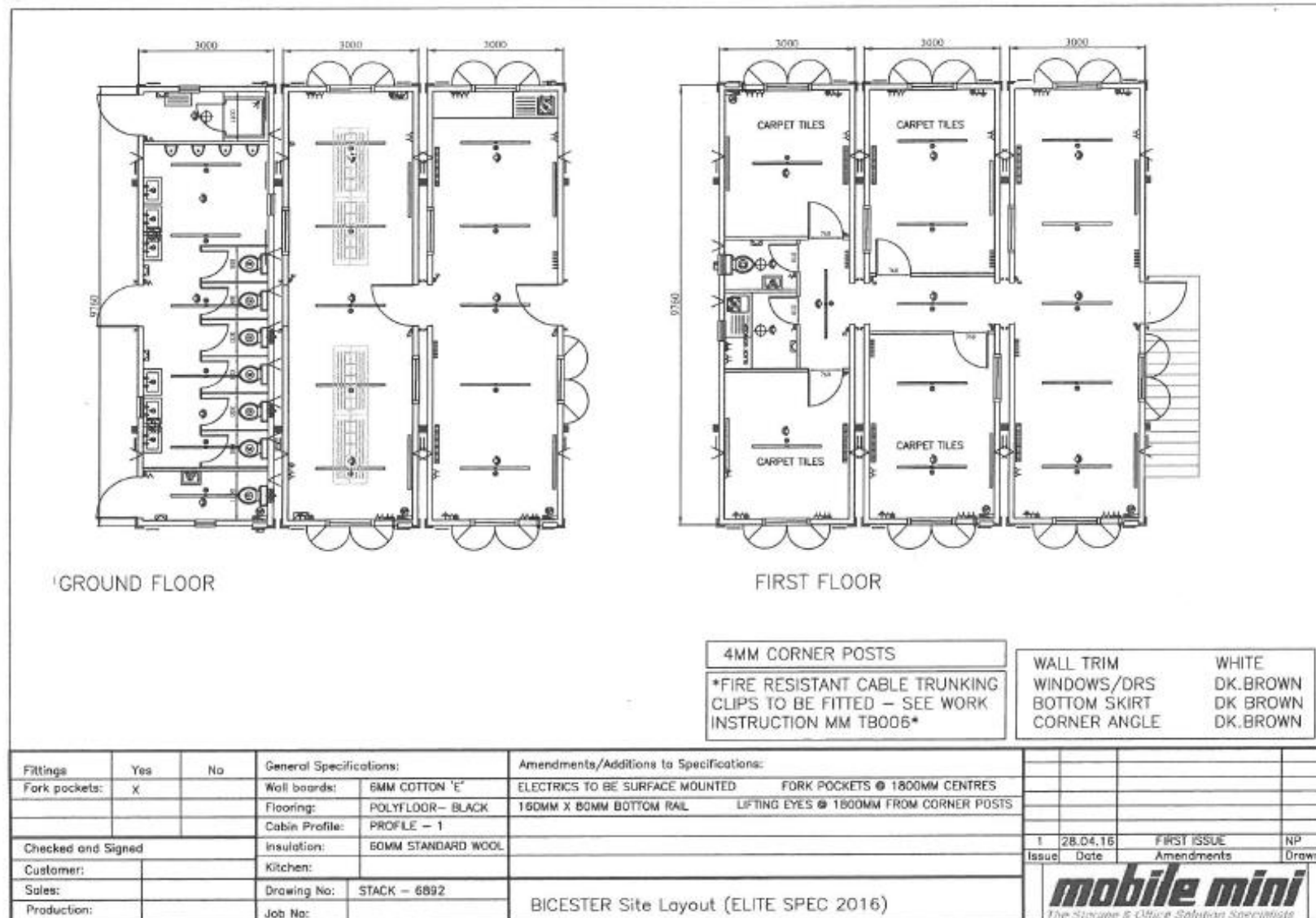
The location of first aid arrangements will be indicated by adequate signage together with notification to all site personnel on induction training.

Names of qualified persons appointed in accordance with the Health & Safety (First Aid) Regulations 1981 will be clearly displayed at prominent positions on the site.

### SPECIFIC SITE HEALTH AND WELFARE FACILITIES

- a) On day one of the contract a temporary 'oasis' unit will be positioned until the 'permanent' units are fully established. This will contain an office, a canteen, toilet and changing room as a minimum. Additional chemical toilet units with hot and cold running water will also be available as required. These facilities will be in use for a Maximum of (\$) weeks by which time fully serviced welfare will be available.
- b) The site cabins will be connected to the mains electric or powered by generator (following a survey by the local electricity supplier) by competent persons and all installations will be in accordance with BS 7375 or similar.
- c) All welfare facilities will be maintained in good order.
- d) First Aid Box and Accident Book (BI 510) will be maintained in the site office.
- e) The named trained First Aider for this site is: Richard Cleary

# SITE WELFARE PLAN



## SECTION 9

# INFORMATION AND TRAINING

## INDUCTION PROCEDURE FOR ALL SITE PERSONNEL

All new arrivals on site will attend the Hill Induction. This will take the form of a flip chart, and specific site rules and circumstances. This must be completed before any access to site is permitted.

The induction covers the following key areas –

- Site Specifics and Eco-Town Status
- Safety organisation
- First aid and emergency procedure
- Firefighting equipment
- Hazardous locations
- Disciplinary procedures
- PPE
- Plant and machinery
- COSHH
- Housekeeping
- Welfare Facilities
- Misuse of substances
- Particulars of work
- Inappropriate behaviour
- Changes of Health & Safety requirements
- Traffic management
- Toolbox talks
- Considerate constructors

-

An up to date register of the Site Induction's is to be maintained.

There will be NO exceptions, apart from one-off delivery drivers.

All visitors to site will be required to sign the visitor's book on arrival and receive a site induction (excluding delivery drivers). This will ensure that all visitors can be made aware of any restrictions or health and safety requirements and are accounted for in the event of an emergency.





Subject: Construction Phase Health and Safety Plan

SAFETY AWARENESS INDUCTION TRAINING



Ref: HPLF 02  
Rev: Mar 2009  
Contract No.:

Subject: Safety Awareness Induction Training - Index

Induction Number (Job No/001)	Name	Company	18+ Yes/No	Date	Specific training (First aid etc.)	Signature

\* See also individual induction sheets HPLF 03

Pg No: \_\_\_\_ of \_\_\_\_

### SITE SAFETY INDUCTION

1. Copy of Company Policy for Health & Safety at Work

Other sources of health and safety information can be found on the notice board or in the site canteens.

2. Specific Hazards

Hill staff will discuss the specific hazards with regard to the above personnel

All sub-contract supervision will ensure that their own labour is advised on any specific hazards that relate to their works, and that all their labour is trained with regard to these hazards.

3. General Hazards

### NOISE

Where required, noise assessments will be carried out by Hill in conjunction with the contractor who will create the noise. The area will be signed and screened (if required after the assessment). Ear protection is used (if required after the assessment).

Note: all relevant Personnel Protective Equipment (PPE) will be issued through your relevant foreman AND MUST BE WORN.

### DUST

Attempt to reduce levels of dust if the generation of dust cannot be eliminated.

Cutting, drilling or grinding, can these operations be carried out with water? When blowing out, use water. When sweeping up, damp down. If chasing or grinding is carried out, ensure that an extraction system is used. Ensure that eye protection is worn and the correct dust mask is worn. Your foreman will issue these; he will also issue with the relevant COSHH assessment.

### FALL FROM HEIGHTS

Before commencing work ensure that all scaffold is in place, that there is safe access by tied and footed ladder and that all traps are correctly covered. If the area of work is unsafe to commence, do not start, advise you foreman.

### FALLING OBJECTS

Wear Safety Helmets at all times when on site.

Ensure that toe boards, brick guards and netting are in place, there are no gaps. Do not drop or allow plant or material to fall below. If working above other trades ensure it is safe to progress, if not advise your foreman, do not start work. If you are working below other trades and the protection is inadequate advise your foreman, do not start work.

### THE USE OF PLANT

Use only plant that you have been trained to use. Ensure it is in good working order before you commence work, if not, advise your foreman. Use correct PPE. Angle grinder wheels will only be changed by qualified personnel, a list of these persons is held in the site office. Major items of plant (forklift, dumpers, cranes, and excavators) will only be driven by certified drivers. (Copies of these certificates are held on site.)

### EXCAVATIONS

Ensure that a competent person is present during the operation. The correct plant and equipment is used. Prior to commencing work the excavation is inspected. (See entry in Site Safety Register Section 6 (Form SF14)). The excavation is made safe for other site personnel and members of the public (especially at night). Material, soil or plant should not be positioned to endanger the excavation. Depending on ground conditions air monitoring will be carried out where necessary.

## 4. FIRE PROCEDURES

### *In the event of fire being discovered:*

Evacuate the area and assemble at the nearest assembly point (notice displayed). Ensure that no personnel are left in the affected area. Each foreman will check and confirm that his men have been accounted for or if not their last known work place. (This information will be reported to the fire brigade by a designated member of Hill staff.) No attempt is to be made to re-enter the affected area. A member of Hill staff will direct the fire brigade to the fire and inform them of the last known workplace of any missing site personnel.

HEALTH AND SAFETY CONTRACT INFORMATION FORM

Contract Address:

Site Safety Supervisors:

Names: **Richard Cleary – 07702 858536**

Fire Safety Co-ordinator:

Names: **Richard Cleary – 07702 858536**

Qualified First Aider:

Names: **Richard Cleary – 07702 858536**

Emergency: Fire, Ambulance and Police - Dial 999

Local Hospital: **Horton General Hospital - 01295 275500**

Health and Safety Executive:

Tel: **0845 3000 9923**

Emergency: Electricity  
Gas  
Water

**0800 404090**  
**0800 111999**  
**0845 9200800**

Safety Manager\*:

Tel: 07966 1211863 Paul Dyster

\* Appointed in accordance with Regulations 6 of the Management of Health and Safety at Work Regulations 1999 to provide Health and Safety assistance

First Aid Facilities/Box Location: **Site Office**

In the event of an emergency the assembly point is: **Contractors Car Park**

TO BE DISPLAYED ON SITE NOTICE BOARD

INFORMATION TO BE DISPLAYED ON THE SITE SAFETY NOTICE BOARD

1. Notification to the Health and Safety Executive (Regulation 21) (Form F10 (rev))
2. HS0802 - Accident-Incident Notice Board Procedure Sheet.doc
3. Poster 'Health and Safety Law'
4. HS0803 - Emergency Contact Numbers
5. Environmental Policy Statement
6. First Aid Sign
7. Insurance Policy
8. HS0804 - Fire Procedure Notice Board Procedure Sheet
9. Location Plan of Local A&E
10. Management Tree
11. HS0606 - Health and Safety Policy Statement
12. Site Rules



Hill Partnerships		Health and Safety Information				
First Aid Sign	Information	Health & Safety Law Poster What You Should Know SSRS 0 F10 2403 v		F10	F10	Environmental Policy
T&E Plan				Hospital Location Notice	Fire Action Notice	Accident Procedure Notice
Site Checklist	Safety Report	Emergency Numbers	Site Rules	Organisation Chart & Numbers	Insurance Certificate	H&S Policy Statement

## SECTION 10

# ARRANGEMENTS FOR MONITORING

## INTRODUCTION

Duties and responsibilities are placed on various parties during both the design and construction phase of building projects. The Hill Health and Safety Inspection Scheme is designed to provide an independent assessment of the health and safety performance of individual contracts.

Safety Inspectors are employed via Lincsafe

### ARRANGEMENTS FOR MONITORING COMPLIANCE WITH HEALTH AND SAFETY LEGISLATION

The monitoring of health and safety on the project will be based on HSE guidance note 'Successful Health and Safety Management' HS (G) 65 with active monitoring systems, i.e. identification of potential risks before things go wrong. The following levels of monitoring will be implemented on the project.

#### Level 1:

The evaluation of effectiveness of the Company Policy for Health, Safety and Welfare at Work and together with the availability and compliance with supplied risk assessments.

#### Audit Items:

- |                                    |                             |
|------------------------------------|-----------------------------|
| 1. Scaffolding                     | 12. Training                |
| 2. Excavations                     | 13. Electrical items        |
| 3. Lifting Appliances              | 14. Safe Systems of Work    |
| 4. Demolition                      | 15. Safety Management       |
| 5. Plant, Hoists, Mechanical       | 16. Materials Storage       |
| 6. Fire Precautions                | 17. Means of Access         |
| 7. Welding/Burning/Cartridge Tools | 18. Site Housekeeping       |
| 8. Roofing Work                    | 19. Environmental Pollution |
| 9. Steelwork                       | 20. Welfare Facilities      |
| 10. Falsework                      | 21. Security/Hoardings      |
| 11. Protective Equipment           | 22. Occupational Health     |

Auditing will be carried out unannounced on a frequency determined by works in progress.

#### Level 2:

Daily visual inspection of works areas, tools and equipment, such as electrical tools, harnesses and discussion with employees and contractors regarding works in progress, safe systems of work and where applicable the issuing of further safety control measures.

Action: Site Manager

#### Level 3

The Hill Safety Manager in accordance with the Inspection Scheme Control Document, a copy of which is available on request, will carry out independent monitoring.

Action: Company Health & Safety Manager

## ARRANGEMENTS FOR MONITORING COMPLIANCE WITH S106 MONITORING REQUIREMENTS.

Through bioregional we have agreed a set spreadsheet that will be compiled on a monthly basis and submitted every 6 months. This spreadsheet will include the monitoring of;

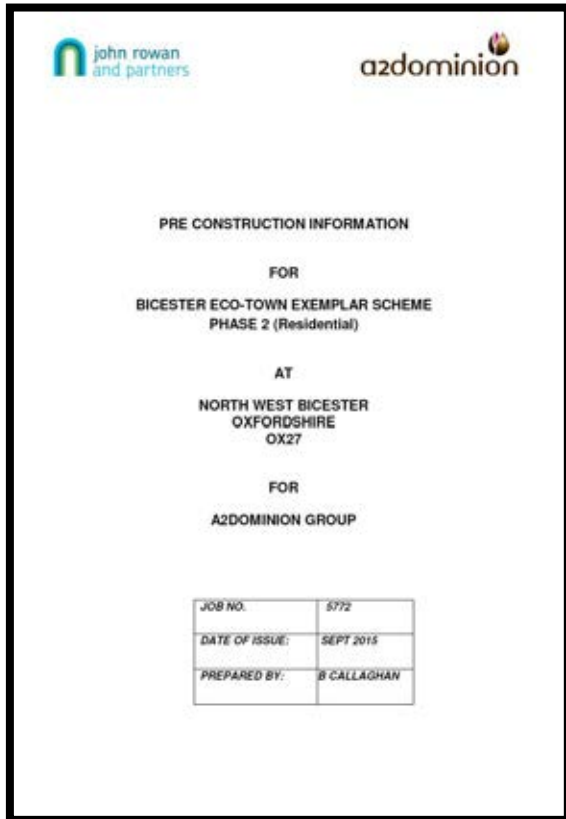
- ET9 Homes
  - Post construction Code assessment
  - Post construction air tightness testing meet specified standard
  - Post construction co-heating tests deliver satisfactory results
- ET10 Employment
  - Construction related jobs
  - Construction skills strategy implemented
  - Number of apprenticeships and training placements
  - Number of local businesses benefitting from construction processes
  - Other local jobs due to construction processes eg. Product suppliers, catering services etc.
- ET11 Transport
  - Construction site travel plan in place and delivered
  - Modal share of construction work force
  - Average commuting distance of construction workers
  - Average sourcing distance of construction materials
- ET16 Biodiversity
  - Construction Environmental Management Plan delivered
  - Out of bounds area enforced
  - Trans location measure successful
  - Key species and habitats successfully protected
- ET17 Water
  - Construction related water consumption
  - Water quality in run off streams
- ET19 Waste
  - Assessment of waste management practice
  - SWMP in place and delivered
  - Total construction waste (including recycling) as a % of total construction materials bought
  - Total construction waste (including recycling)
  - Total construction waste to landfill
  - Total hazardous waste
  - Breakdown of construction waste recycled
  - Construction materials reused
  - Earth / fill movements on or off site
- ET21 Transition
  - CEEQUAL Award achieved
  - BREEAM ratings achieved
  - Code for Sustainable Homes assessments achieved
  - Carbon emissions from construction activities
  - Considerate Contractors standard met
  - Environmental reporting (ref CEMP)
  - Embodied carbon impacts of construction
  - % Timber products sustainably sourced
  - Sustainable materials sourcing policy met



## SECTION 11

# PRE-CONSTRUCTION INFORMATION PACK

Refer to Appendix E – *Pre Construction Information for Bicester Eco-Town Exemplar Scheme Phase 2 (Residential)* prepared by JOHN ROWAN AND PARTNERS: Document Reference 5772, September 2015.



## SECTION 12

## APPENDICES



## **CONTENTS**

1 Introduction	12 Emergency Services Access
2 Emergency Contact Numbers	13 Liaising with the Emergency Services
3 First Aid Provision	14 Duties of Fire Warden
4 Raising the Alarm	15 Fire Detection/Fire Equipment
5 Alerting the Emergency Services	16 Fire Prevention
6 Evacuation Signal	17 Emergency Signage
7 Escape Routes	18 Emergency Lighting
8 Assembly Point(s)	19 Fire Drills
9 Checking Evacuation Complete	20 Training
10 Evacuations of People with Special Needs	21 Spread of Fire – Occupied Properties
11 Specific Arrangements for High Risk Areas	

**Appendix A** **Plans of Building/Site**

**Appendix B** **JCOPS 8<sup>th</sup> Edition**

### **1 Introduction**

This plan has been developed as a response to the fire risk assessment, a copy of which is contained in Appendix B

This plan should be kept at the location for which it is prepared and its contents explained to all who attend the construction site. This may include contractors, members of the public, site visitors and outside organisations as well as Hill employees.

This plan should be reviewed regularly and as the site progresses. Hill Group health and safety representatives should be consulted and involved in the development of this plan

Although the plan primarily relates to fire, it also covers other emergencies which may require evacuation, such as gas leaks, bomb threats etc.

If the Construction Site/Buildings are shared with other organisations, a joint fire and emergency plan should be agreed between all parties

### **2 Emergency Contact Numbers**

Fire Brigade: 999 Police: 999 Ambulance: 999 Hospital: Horton General Hospital: 01295 275500 Gas Board: 0800 111 999 Electricity Supplier: 0800 780 078 Environment Agency: 0800 807 060
--

Managers out of hours telephone numbers (Home, Office, Mobile:
--

Contracts Manager – Mark Hurdley 07714 739814
---

Site Manager – Richard Cleary 07702 858536
--

### **3 First Aid Provision**

The following arrangements exist for the administration of first aid:
---

Richard Cleary
----------------

1 <sup>st</sup> Aid Kit held in Site Office
---

#### **4 Raising the Alarm (Action on Discovering a Fire or other similar emergency)**

If a person discovers a fire they should:

- Raise the alarm – Fog Horn Held in Site Accommodation
- Alert Site Management
- Evacuate to Assembly Point
- Dial 999

#### **5 Alerting the Emergency Services**

Site Management to raise and contact Emergency Services

#### **6 Evacuation Signal**

The signal to evacuate the buildings will be:

- Fire Alarm – Fog Horn held in site office. Fire bells located at fire stations.
- Howlers noted on fire points

#### **7 Escape Route(s)**

The escapes routes are indicated on the traffic management plan. The primary escape routes are:

- Leave work area and proceed to Assembly Point Located within the main Car-Park

### **8 Assembly Point(s)**

Upon evacuation of the construction site, all parties should assemble at the muster point(s), which are indicated on the plan in Appendix A and are located as follows:

- Main Car-Park Area.

### **9 Checking the Evacuation is Complete**

In case of fire, the following procedure will be adopted to ensure the construction site is empty

- ..... Trade supervisors to undertake roll calls and registers for staff
- ..... Site management to take charge for trade supervisors.
- ..... Site management to notify adjacent properties

### **10 Evacuating People with Special Needs**

People who have been identified as being at particular risk (Visitors, children, disabled, visually impaired etc.) will be evacuated as follows:

- A specific site Risk Assessment would be carried out
- A host will escort the respective parties from the construction site to assembly point

### **11 Special Arrangements for High Risk Areas**

The following procedures should be followed for these areas which have been identified as being high risk:

- Timber frame erection and fire protection in accordance with JCOP 8th addition 'fire prevention on construction sites' (Appendix B) and UKTFA guidance.

### **12 Emergency Services Access**



The following procedures should be kept clear for emergency service access:

- Main site entrance on the B4100

### **13 Liaising with Emergency Services on Arrival**

On arrival, liaison with the emergency services will as follows:

- The Fire Warden/Site Manager will meet DFRS at the main gate and tell them if anyone is missing from the signing in sheets
- The emergency services will be invited to site to discuss the site and any specific requirements

### **14. Duties of Fire Warden/Person in Charge**

The person with responsibility for Safety is: R Cleary

They will ensure that the following actions are taken:

- Explain evacuation procedures to all contractors/visitors on arrival – Site Inductions
- Check and assist Fire Wardens in carrying out their duties

The Fire Wardens are: Richard Cleary

The Fire Wardens duties are:

- Regularly check that escape routes are kept clear
- Regularly check that fire escape doors are kept closed where indicated
- Regularly check housekeeping and potential sources of ignition
- Carry out safety checks as detailed under Fire Prevention
- Assist in carrying out periodic fire evacuation drills

### **15 Fire Detection / Fire Fighting Equipment**

The provision and arrangements for inspection, testing and maintenance

(smoke alarms, visual alert etc.) are as follows:

- Portable Extinguishers (Water, Powder & CO2) – Weekly check; Annually
- Alarm Call Points – Weekly check; Annually
- Emergency Lights – Weekly check; Annually
  
- Refer to Fire Log Book for inspection regime and records
  
- Electricity to BS 7671
- Battery Smoke Detectors – Weekly Checks
- Site Howlers – Weekly Checks

It is the policy of Hill that all staff should not attempt to fight fires but should evacuate immediately. Consequently, staff will not be trained to use firefighting equipment and any equipment provided is purely for use by the fire marshal/warden or emergency services

## **16 Fire Prevention**

The following Fire Safety Checks will be employed to prevent and control the spread of fires:

- Check windows and doors are closed when the building is unoccupied
- Check electrical equipment is switched off or isolated when not in use
- Ensure flammable waste is removed to a safe place
- Ensure that highly flammable materials are safely stored
- Fire Points will be situated throughout the site and numbered
- Ensure that workplace is secure against unauthorised entry when unoccupied
- Ensure that plant and equipment is properly maintained (Electrical equipment, heaters etc.)
- No Smoking allowed on site, only in designated areas.
- Ensure that any hot works are properly controlled by permit to work (Contractors – welding, grinding etc.)

Fire safety checks should be carried out regularly, as a minimum every three months, although certain aspects may require more frequent inspections. The findings should be recorded in the Fire Log Book

## **17 Emergency Signage**

The provision and arrangements for inspection, testing and maintenance are as follows:

- Signage around the site
- Signage set within the site offices
- Set within the fire stations – TBC
- On walls of escape routes
- Illuminated escape route signs above each final exit

### **18 Emergency Lighting**

Emergency Lighting is provided as follows:

- In all corridors and above final exit points
- Task lighting used within the construction site
- All above tested regularly

### **19 Fire Drills**

You should carry out at least one fire drill every 6 months and record the results in the fire log book. The drills must be carried out during working hours and include all staff.

The drills should be reviewed and if unsatisfactory for any reason, e.g. time to evacuate, a subsequent drill should be carried out.

NOTE: If you have a monitored fire alarm system you will need to inform the monitoring company that you are about to activate the alarms for fire training

### **20 Training**

Training will be provided to staff as detailed below:

- Fire Wardens – Training in carrying out their duties
- Staff and Contractors – Training in contents of emergency plan
- Staff and Contractors – Contents of Risk Assessment hazards & controls
- Staff and Contractors – Periodic fire evacuation drills

### **21 Spread of Fire – Unprotected Frames Adjacent to Occupied Properties**

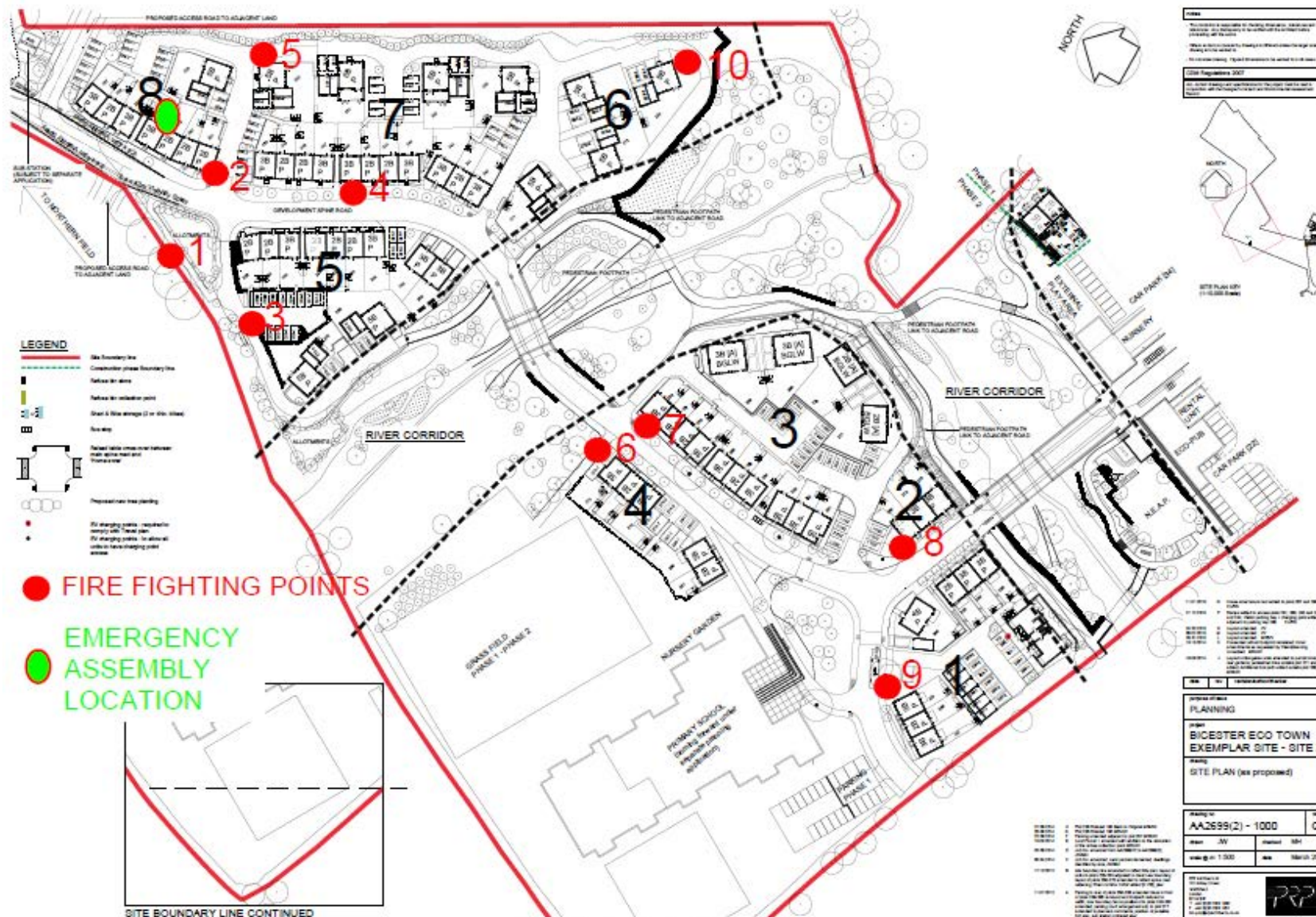
Consideration to the spread of fire in areas of unprotected frames (timber frame during erection adjacent to occupied properties):

- A distance of less than 10.5 Metres represents a risk between the areas

of unprotected timber frame and occupied properties

- Typically the sections and sequencing of all areas does not present a problem. The control measures should this situation arise through programming anomalies are
  1. Fire treat the timber frame from the elevation in question
  2. Fire Retardant Sheeting to the Scaffolding
  3. Accelerate the external skin of the building
  4. Accelerate the internal fabric of building by progressing the plasterboard/party walls to form a fire break

**APPENDIX A/1 – BUILDING AND SITE PLANS**



**APPENDIX B**

Published by:  
Construction Industry Publications Ltd  
Fire Protection Association

**Eighth  
edition**

# Fire Prevention on Construction Sites

*The Joint Code of Practice on the  
Protection from Fire of Construction Sites  
and Buildings Undergoing Renovation*

With the support of:  
Association of British Insurers  
Chief Fire Officers Association  
London Fire Brigade

**Eighth edition: July 2012**

*Incorporating*  
**Construction Site  
Fire Prevention Checklist**



Fire Protection  
Association



Contractors Legal Group

➤ **RISCAuthority AND FIRE PREVENTION ON CONSTRUCTION SITES**

Earlier editions of this Joint Code of Practice were published by the Loss Prevention Council and then the Fire Protection Association in collaboration with the Construction Confederation (formerly the Building Employers Confederation).

The FPA's involvement in the publication of this eighth edition has been one of the projects it has undertaken under the insurers' RISCAuthority scheme administered by the FPA. RISCAuthority (formerly InFIREs) membership comprises a group of UK insurers that actively support a number of expert working groups developing and promulgating best practice for the protection of property and business from loss due to fire and other risks. The project of updating the Joint Code at the FPA was undertaken by the Technical Division of the FPA and experts from the insurance industry who report to the RISCAuthority Risk Control Steering Group.

Lists of other publications on loss control are available from the FPA via its website or from the FPA at London Road, Moreton in Marsh, Gloucestershire GL56 0RH.

The FPA is the UK's national fire safety organisation and further details are available on its website: [www.thefpa.co.uk](http://www.thefpa.co.uk).

**Technical contact:**

Adair Lewis  
Fire Protection Association  
London Road, Moreton in Marsh, Gloucestershire GL56 0RH  
Email: [alewis@thefpa.co.uk](mailto:alewis@thefpa.co.uk)

➤ **CONTRACTORS LEGAL GROUP (CLG)**

The Contractors Legal Group (CLG) is a leading legal and contractual advisory company for contractor trade associations within the construction industry. It is supported by the UK Contractors Group (UKCG), the National Federation of Builders (NFB), the Civil Engineering Contractors Association (CECA), the Scottish Building Federation (SBF) and the National Access and Scaffolding Confederation (NASC). Its main purpose is to review certain contractual and legal affairs of interest to main contractors and to represent contractors' interests within the construction industry.

**For information about membership contact:**

John Bradley  
Contractors Legal Group  
c/o Reynolds Colman Bradley LLP  
The London Underwriting Centre  
3 Minster Court  
Mincing Lane  
London EC3R 7DD  
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**The guidance within this document is endorsed by:**

- Civil Engineering Contractors Association (CECA)
- Construction Insurance Risk Engineers Group (CIREG)
- Institution of Civil Engineers (ICE)
- Royal Institute of British Architects (RIBA)
- UK Contractors Group (UKCG)
- National Federation of Builders (NFB)
- National Specialist Contractors Council (NSCC)
- Royal Institute of Chartered Surveyors (RICS)
- Scottish Building Federation (SBF)

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**Note on drafting:** Where this Joint Code of Practice uses the word 'must', the procedure to which it applies is compulsory. Where the word 'should' is used, the procedure is recommended best practice.

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 Gloucestershire GL56 0RH  
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## NOTES TO THE EIGHTH EDITION

The following is a synopsis of the principal alterations to the seventh edition. The Working Party has also taken the opportunity to incorporate a number of minor textual changes throughout the document, including replacing 'shall' with 'should' in a number of places to ensure consistency throughout the text.

### Cover and introductory pages

References to the Construction Confederation have been replaced with text relating to the Contractors Legal Group and to Construction Industry Publications Ltd as appropriate.

### Contents

#### 1. Objective of the Code

Reference to the HSE publication HS(G)168: *Fire safety in construction work*, has been added.

#### 2. Compliance with the Code

No amendments.

#### 3. Introduction

No amendments.

#### 4. Definitions used in the Code

The definition of a large timber framed structure has been amended to bring it into line with the definition used by the UK Timber Frame Association, by the inclusion of timber frame structures with an aggregate floor area of 2500m<sup>2</sup> or more.

Reference to the CDM Health and Safety Plan has been changed to the Construction Phase Plan.

#### 5. Design phase

Paragraph 5.1.1 is amended to require the client and client-appointed parties to co-operate and co-ordinate their activities.

A new section 5.3 has been added drawing attention to the need to make periodic reviews of the fire safety provisions on sites where a fire engineered approach has been made to the design of the completed building.

#### 6. Construction phase

Paragraph 6.1 now refers to responsibility for health and safety on site.

Paragraph 6.1 refers to the need for the client to ensure that the construction phase does not start until the construction phase plan (which includes the fire safety plan) is prepared and that suitable arrangements are made for welfare facilities to be present from the start of the work.

Paragraph 6.1 also addresses the need for all relevant persons to receive appropriate fire safety training.

Paragraph 6.1.1 (c) now calls for weekly testing of the fire alarm. References to firefighting equipment have been deleted from this paragraph as they were repeated in paragraph 6.1.1 (d).

Paragraph 6.2 requires the site fire safety plan to be specific to the site and be reviewed and updated periodically as circumstances change.

Paragraph 6.2 (b) now specifically refers to fire extinguishers being part of the general site fire precautions.

Paragraphs 6.2 (c) and (d) previously formed section 8.3 of the Code.

Paragraph 6.2 (n) and (o) introduce the need for reference to the use of fire retardant coverings and the arrangements for vehicles and plant to be included in the fire safety plan.

Paragraph 6.2 (p) introduces a requirement for consideration of prevention of fire spread from the site.

#### 7. Liaison with the emergency services

The wording of paragraph 7.2 has been amended for clarity.

Paragraph 7.4 indicates that the fire and rescue service should be invited to carry out regular familiarisation visits to the site.

#### 8. Emergency procedures

Paragraph 8.2 now requires the location of the assembly point to be identified in the emergency procedures.

The old paragraph 8.3 has been moved to form part of 6.2 and the old 8.5 referring to emergency lighting has been moved to 9.1 (j).

Following renumbering of this section a new paragraph 8.6 has been added concerning fire evacuation drills.

**9. Fire protection**

Paragraph 9.1 now refers to the CDM co-ordinator for notifiable projects.

Paragraph 9.1 (j) has been moved to this point from paragraph 8.5 in the seventh edition.

Paragraph 9.2 is new text requiring at least two escape routes from a structure at all times.

The original 9.2 now forms 9.3. Paragraph 9.3 (a) indicates that where hydrants have to be extended this should be done at as early a time as possible.

The original paragraph 9.8 has been moved to form paragraphs 13.15 and 13.16.

**10. Temporary covering materials**

No amendments.

**11. Portable fire extinguishers**

No amendments.

**12. Site security against arson**

Paragraph 12.2 now refers to the need for the site to be locked and secured outside normal working hours.

Paragraph 12.4 indicates that access to upper levels via scaffolding should be prevented.

Paragraph 12.7 indicates that the number of security staff should be subject to a risk assessment.

Paragraph 12.11 indicates that consideration should be given to the installation of intruder alarm systems in temporary buildings and temporary accommodation.

**13. Temporary buildings and temporary accommodation**

The original paragraph 13.1 was informative rather than a recommendation and thus is now not numbered, resulting in the renumbering of this section.

Paragraphs 13.3 (c) and 13.5 (c) indicate that fire doors must be fitted with self closers.

Paragraph 13.8 (c) the separation distance in this paragraph has been increased from 6m to 10m.

Paragraph 13.12 has been reworded.

Paragraph 13.13 requires automatic fire detection to be installed where flammable liquids and gases are stored as well as in temporary buildings and temporary accommodation used for cooking or the drying of clothes.

Paragraph 13.15 is new text concerning the siting of caravans and mobile homes.

Paragraph 13.16 prohibits construction workers occupying living accommodation in an incomplete structure on a new build construction site.

**14. Site storage of flammable liquids and LPG**

Paragraph 14.4 now requires a separation of at least 10m between a building and stored flammable liquids and gases and 4m between these materials and a boundary fence.

Paragraph 14.11 now asks for the use of petrol generators in high risk structures to be avoided.

**15. Acetylene**

In the introductory paragraph no reference is now made to a hazard from acetylene in a cylinder becoming unstable as a result of impact.

The text of the paragraphs has been re-ordered without the introduction of any new requirements.

**16. Hot work**

There has been minor revision of the wording of paragraphs 16.9 and 16.10. The latter now refers to the need for gas cylinders to be fitted with regulators that are not more than five years old.

Paragraph 16.14 includes an amended fire watch regime in the case of hot work on timber frame structures.

**17. Electricity and gas**

The text has been set out in 10 paragraphs to present the information in a more logical order without modifying the requirements.

**18. Waste materials**

Paragraph 18.1 includes reference to the need to remove combustible waste (including oily rags) from the workplace at least once a day.

Reference is made in paragraph 18.8 to the Scottish Environment Protection Agency.

Paragraph 18.9 (n) requires the site of the fire to be inspected periodically for at least an hour after the fire has been extinguished before the permit is signed off.

**19. Plant and vehicles**

No amendments.

**20. Stored materials**

No amendments.

**21. Smoking**

No amendments.

**22. High-rise construction sites**

No amendments.

**23. Best practice advice for the construction of large timber frame buildings**

Section 23 is based on that previously presented as Annex A, but the earlier text has been expanded and rewritten to incorporate current best practice and ensure consistency with other sections of the Code. It must be emphasised that other parts of the code also apply to sites where large timber frame structures are being erected.

**Annex A: Sample hot work permit**

This has been redesigned but otherwise not amended.

**Annex B: Sample permit to burn waste materials**

This has been redesigned but otherwise not amended.

**Reference documents**

The list has been revised and updated.

## 1 OBJECTIVE OF THE CODE

Every year there are numerous major fires on construction sites and in buildings undergoing refurbishment. All have serious consequences: people are killed and injured; buildings, including those of historic interest, are destroyed. Plant and equipment is damaged, work is held up and completion dates are not met.

The objective of this Code is the prevention of fires on construction sites. The majority of fires can be prevented by designing out risks, taking simple precautions, and by adopting safe working practices. All parties involved must work together to ensure that adequate detection and prevention measures are incorporated during design and contract planning stages, and that the work on site is undertaken to the highest standard of fire safety, thereby affording the maximum level of protection to the building and its occupants.

The Code applies to activities carried out prior to and during the procurement, construction and design process – not the completed structure – and should be read in conjunction with all current legislation and HS(G) 168: *Fire safety in construction work*.

The scope of this Code applies to projects with an original contract value of £2.5m or above, and applies equally to smaller value contracts where these are part of a large project. A large project is one with a value of £20m and above. There may be exceptional circumstances, such as in the case of high fire risk sites, where these thresholds are reduced. In cases where the construction contract or the insurance contract does not require this Code to apply, this Code shall serve as 'best practice'. All parties must always check with their insurance providers on each project.

## 2 COMPLIANCE WITH THE CODE

Compliance with this Code – which applies to construction sites, including those where civil engineering works, demolition, alterations, fitting out, renovations, refurbishment or repair work is being carried out – will minimise the risk of accidental or malicious fires. The Code applies to all parties in the supply chain, including those who specify and design, as well as contractors during the construction phase.

<p>Note: If compliance with this Code forms part of the insurance contract, non-compliance with this Code could possibly result in insurance ceasing to be available or being withdrawn, resulting in a possible breach of a construction contract which requires the provision of such insurance.</p>
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## 3 INTRODUCTION

- 3.1 Proper planning for fire, safety and health must be an integral part of overall preparation and budgeting for the efficient running of construction projects. Clear procedures and standards must be laid down and adequate resources, in terms of time, materials and money, must be committed to the prevention of fires, accidents and ill-health by all concerned with the project (refs 1-2).
- 3.2 The fire risk assessments undertaken for the site in compliance with the Regulatory Reform (Fire Safety) Order 2005, or equivalent legislation in Scotland and Northern Ireland (refs 3-6), and other applicable legislation, must address the fire prevention and protection measures that should be observed.
- 3.3 A risk assessment of any work activities involving dangerous substances should be carried out in compliance with the Dangerous Substance (Explosive Atmospheres) Regulations 2002 (DSEAR) (ref. 7) and be recorded. Measures should be provided to eliminate or reduce as far as is reasonably practicable the identified risks from dangerous substances.
- 3.4 The risk assessments in respect of all construction sites must be reviewed periodically due to the rapidly changing nature of the hazards.

#### 4 DEFINITIONS USED IN THIS CODE

- 4.1 **Alarm receiving centre:** continuously manned remote centre in which information concerning the state of intruder or fire alarm systems is displayed, recorded and passed to the emergency services.
- 4.2 **Employer/client:** the person for whom the project is being carried out, or the person named as the employer in the contract and/or Articles of Agreement.
- 4.3 **Fire alarm system:** any means utilised for giving warning of fire on a site. The most basic system may be no more than a hand-held siren or manually operated gong. Certain sites by their size and nature may require "break glass" call-points which, when broken, electronically operate bells, klaxons or sirens.
- 4.4 **Fire detection system:** a system comprising components for automatically detecting a fire, initiating an alarm and initiating other action as appropriate.
- 4.5 **Fire resistance:** the ability of an element of building construction, component or structure to fulfil, for a stated period of time, the stability and fire integrity requirements of BS 476-20: *Fire tests on building materials and structures: Method for determination of the fire resistance of elements of construction (general principles)*, BS 476-21: *Fire tests on building materials and structures: Methods for determination of the fire resistance of loadbearing elements of construction*, BS 476-22: *Fire tests on building materials and structures: Methods for determination of the fire resistance of non-loadbearing elements of construction (refs 8-10)*.
- 4.6 **Fire risk assessment:** an organised and methodical study of the site, the activities carried out there and the likelihood that a fire could start and harm people in and around the site.
- 4.7 **High fire risk site:** is used in this Code to encompass the following, the first three of which are separately defined below:
- (a) a high-rise construction site;
  - (b) a large project;
  - (c) a large timber framed structure; or
  - (d) projects where risk assessments indicate significant potential loss of life or property.
- 4.8 **High-rise construction site:** a site where the workforce is at risk by being outside the distance by which the fire and rescue service can effect a rescue by mechanical means (currently 30m reach from the position where a fire appliance may be parked).
- 4.9 **Hot work:** operations requiring the use of open flames, grinding, welding, the local application of heat or generation of sparks.
- 4.10 **Large projects:** projects where the original contract value is £20m or above.
- 4.11 **Large timber framed structure:** timber framed structure of four or more storeys and/or an aggregate floor area of 2500m<sup>2</sup> or more.
- 4.12 **Refurbishment:** alterations, renovation or repair of an existing building or structure.
- 4.13 **Responsible person:** a specific person identified in the Regulatory Reform (Fire Safety) Order 2005 (for England and Wales) and in the equivalent legislation in Scotland and Northern Ireland.
- In the context of a construction site this will be the client, when any part of the site falls under his control, or the principal or main contractor when the site is under their control.
- 4.14 **Site fire safety plan:** a standalone document (often embodied in the Construction Phase Plan) detailing how fire safety will be managed on site.
- 4.15 **Site layout plan:** a plan illustrating emergency and firefighting provisions and other information to be provided to the emergency services.
- 4.16 **Temporary buildings:** includes prefabricated cabins, site huts, cargo containers, caravans, portable and sectional buildings brought onto site for use as offices, stores, workshops, welfare facilities etc, during the course of the works.
- 4.17 **Temporary accommodation:** a segregated part of the building under construction or undergoing refurbishment and occupied as offices, stores, workshops, welfare facilities etc, during the course of the works.

## 5 DESIGN PHASE

- 5.1 Design issues which can impact on fire risk during construction and use when complete.
- 5.1.1 Where the project is notifiable to the Health & Safety Executive under Construction (Design and Management) Regulations 2007 (CDM 2007) (ref. 11), the client shall require the client-appointed parties (designers, CDM co-ordinator and principal contractor), to properly discharge their duties under the terms of the Regulations.
- In particular, there is a requirement for these parties to co-operate and co-ordinate their activities at all phases of the contract. In the concept and design phases, appointed parties should co-operate with the designer to identify and eliminate hazards and reduce likely risk from hazards where elimination is not reasonably practicable. In particular, the design should be assessed to ensure that fire risk and potential for damage have been fully considered to keep to a minimum during construction and use.
- 5.1.2 Where the project is not notifiable to the Health and Safety Executive under CDM 2007, the client must clearly identify who has responsibility during the design to ensure that fire risk and potential for damage have been fully considered and kept to a minimum during construction and use. In most cases the co-ordination duty will fall on the lead designer.
- 5.2 Consideration should be given to all potential fire hazards which may be identifiable at the design stage. These may be managed by considering:
- (a) the use of non-combustible and non-flammable materials to reduce the fire load;
  - (b) materials and methods that avoid the need for hot work on site;
  - (c) design details that prevent the passage of smoke and flames up through a building during the construction phase;
  - (d) design of access routes to enable the contractors to construct buildings in such a manner as to retain safe evacuation routes during the construction phase; and
  - (e) design for firefighting systems and fire alarm systems to allow for their early use – possibly on a partial use basis.
- 5.3 Where a fire engineered approach to the design of the completed building has been employed, consideration should be given to the impact that this might have on the construction phase. Care must be taken that in the incomplete building the travel distances, escape routes, compartmentation and provision of firefighting measures are reviewed regularly and any special precautions are relayed to the construction team.
- 5.4 Due to the potential consequences of a fire in a large timber structure during the construction process, the proximity of an incomplete structure to the site boundary and to surrounding buildings should be addressed when the fire hazards are considered at the design phase. Specialist assistance may be needed from competent persons familiar with current guidance documents.



## 6 CONSTRUCTION PHASE

### 6.1 Responsibilities

During the construction phase, the responsibility for health and safety on site passes to the principal contractor in the case of notifiable projects, and to the main contractor in the case of non-notifiable projects.

For notifiable projects, the CDM co-ordinator has duties along with the client to ensure that suitable project-specific management arrangements for health and safety are in place. This will include ensuring that a suitable construction phase plan is produced. This construction phase plan should include a fire safety plan within it. The client shall ensure that the construction phase does not start until the plan is prepared and that suitable arrangements are made for welfare facilities to be present from the start of the work.

For notifiable and non-notifiable projects, a 'responsible person' should be identified at each stage of the project as required by the Regulatory Reform (Fire Safety) Order 2005 (or equivalent legislation in Scotland and Northern Ireland) (refs 3-6). Suitable records should be kept identifying the person responsible in the construction phase plan and the fire risk assessment.

The responsible person is defined (see 4.12) as the person who has control of any part of the premises. In most construction projects this will be the principal or main contractor. In projects such as refurbishing occupied premises, the client may have control or partial control, and duties and responsibilities need to be clearly agreed before construction work commences.

Where the client only has partial control, they must co-operate with other responsible persons to ensure fire safety measures for the site are co-ordinated and do not conflict.

All persons charged with fire safety roles and responsibilities must have received appropriate training and be competent in their roles.

#### 6.1.1 Responsible person

The responsible person must take such general fire precautions as will ensure, so far as is reasonably practicable, the safety of his employees and, in relation to persons who are not his employees, take such general fire precautions as may reasonably be required in the circumstances.

This will include that:

- (a) all procedures, precautionary measures and safety standards as laid down in the site fire safety plan are clearly understood and complied with by all those on the project site(s);
- (b) where necessary, a system using hot work permits is established, and compliance monitored;
- (c) weekly testing of the fire alarm (and any domestic style smoke detectors) is carried out and that other smoke and heat detectors on site are tested as determined by a risk assessment;
- (d) weekly inspections are conducted of escape routes, fire and rescue service access, firefighting facilities, temporary emergency lighting, the routing of temporary electrical cables and work areas. The requirements laid down in the site fire safety plan should also be monitored;
- (e) liaison is maintained with the local fire and rescue service and they are invited to undertake site inspections and familiarisation tours;
- (f) liaison is maintained with site security personnel where they are employed;
- (g) a proper maintenance regime for fire protection equipment is instigated, including the keeping of a written record of all checks, inspections and tests;
- (h) a written record of fire safety training of site operatives and of all fire patrols and fire drill procedures is maintained;
- (i) the detailed arrangements and actual procedures for calling the fire and rescue service are regularly monitored and checked;
- (j) during an alarm, those duties required for the safe evacuation of the site are executed, and all staff and visitors report to the assembly points;
- (k) a fire safe working culture is proactively promoted at all times; and
- (l) one or more competent persons should be appointed to assist the responsible person in carrying out their duties.

### 6.1.2 Fire marshals

- (a) On high fire risk sites, the principal or main contractor should appoint a fire marshal and deputy fire marshal(s) who should be permanently based on site to assist in the implementation of the site fire safety plan.

The fire marshal may be the responsible person required by the Regulatory Reform (Fire Safety) Order 2005 or equivalent legislation in Scotland and Northern Ireland (refs 3-6).

The numbers of fire marshals and deputy fire marshals should be determined by a risk assessment and will take into consideration the size and organisation of the project.

- (b) Where appropriate, the fire marshal(s) should be full-time, but otherwise preferably combining this duty with other relevant tasks, such as maintenance of fire systems. However, where circumstances dictate a part-time role, it is essential that the fire marshal(s) are afforded sufficient time to execute their fire safety duties. They should be adequately trained so as to be competent in fire safety matters and have sufficient status and authority for the effective execution of their duties and responsibilities.
- (c) Liaison with the emergency services is essential. See section 7.

### 6.2 Fire safety plan

The site fire safety plan must be based on the fire risk assessment, be specific to the site and be reviewed and updated periodically as circumstances change. As a minimum, it should detail:

- (a) the organisation of, and responsibilities for, fire safety and arrangements for recording all fire safety training given to site operatives;
- (b) general site precautions, fire detection and alarm systems, temporary emergency lighting, fire extinguishers and fire points;
- (c) the need for clear access to the site and buildings to be maintained at all times;
- (d) the need for escape routes inside the building, including corridors and stairwells, to be clearly signed and kept clear of obstructions as far as is reasonably practicable;
- (e) the locations of designated smoking areas where they are provided in compliance with no smoking legislation;
- (f) the requirements for a hot work permit regime where hot work cannot be avoided by other means;
- (g) temporary buildings and temporary accommodation, including location, fire protection, construction and maintenance;
- (h) fire escape and communications (including an effective evacuation plan and procedures for calling the fire and rescue service);
- (i) fire and rescue service access, facilities and co-ordination;
- (j) instructions given to those on site of the required actions in case of fire;
- (k) security measures to minimise the risk of arson;
- (l) the materials' storage and waste control regime, with particular reference to flammable and highly flammable materials;
- (m) the maintenance of temporary electrical installations;
- (n) the use of fire retardant coverings;
- (o) arrangements for plant and vehicles; and
- (p) measures to prevent fire spread from the site (where appropriate).





## 7 LIAISON WITH THE EMERGENCY SERVICES

- 7.1 During the design phase, the CDM co-ordinator should ensure that designers have contacted the fire and rescue service to identify requirements for access.
- 7.2 At the commencement of the construction phase, the principal contractor (or the main contractor or client in the case of non-notifiable projects) should make contact with the fire and rescue service and provide an initial site layout plan. Provisions for water supplies should also be agreed at this time. Thereafter, updated site layout plans should be available on site for fire and rescue service use, detailing the following:
  - (a) fire and rescue service access, firefighting shafts, fire lifts and temporary hoist facilities;
  - (b) dedicated emergency escape routes and staircases;
  - (c) sprinkler installations;
  - (d) floor loading limitations;
  - (e) positions of hydrants on or near the site, dry riser inlets and wet risers;
  - (f) fire points;
  - (g) temporary buildings and temporary accommodation; and
  - (h) hazardous items, eg flammable liquids, gas cylinders, gas mains, electrical risers, temporary holes in floor slabs etc.
- 7.3 Where work on the site may have an impact on traffic movements in the vicinity, liaison should be established with the local police.
- 7.4 The local fire and rescue service should be invited to visit the site to undertake regular familiarisation tours and review the access, water supplies and firefighting arrangements.

8 EMERGENCY PROCEDURES

- 8.1 On all sites, a means of giving warning of fire must be established:
- (a) certain sites, by their size and nature, may require a temporary hard-wired linked system operated from call-points. On other sites, handbells, whistles, klaxons or manually operated sounders may be practical so long as they are clearly audible above background noises in all areas and can be readily identified as being a fire alarm;
  - (b) where manually operated devices are to be used, there should be multiple provisions of these to ensure that they can be accessed at all times;
  - (c) the provision of manually operated devices inside an enclosed building should be the subject of a specific fire risk assessment as they have the potential to delay the escape of the operator;
  - (d) for projects using remotely monitored and wireless fire alarm systems, consideration should be given to ensuring that the signalling system remains uninterrupted throughout the duration of the work. **Electronic alarms are preferable to manual provisions.**



Figure 1: Typical fire action notice

In some instances automatic fire detection may also need to be installed, see paragraphs 13.8, 13.12 and 13.13.

- 8.2 Written emergency procedures must be displayed in prominent locations and given to all employees on site. The procedures should clearly identify the assembly point in case of a need to evacuate the site. (See Figure 1.)
- 8.3 Nominated personnel, eg security guards, must be briefed to provide clear access to the site in the event of an emergency.
- 8.4 In the case of a fire, contractors should determine that all of their personnel on site have been accounted for, and pass this information to site security staff at the earliest opportunity.
- 8.5 The principal or main contractor shall ensure that all members of the workforce on the project are aware of the emergency procedures and their duties, via inductions, refresher courses or other suitable processes. Particular care should be taken where people do not understand English.
- 8.6 The emergency procedures should be tested by carrying out regular fire drills at least every six months, evacuating the building to the assembly point. Observations from fire drills should be recorded in the **fire log book**, or similar document, and any appropriate changes made to management procedures or provision of sounders etc.

## 9 FIRE PROTECTION

- 9.1 The employer and the designers – in conjunction with the CDM co-ordinator for notifiable projects – should ensure, so far as reasonably practical, that the project is designed and planned in conjunction with the contractor and their programming of the works to achieve the early installation and operation of:
- (a) permanent fire escape stairs, including compartment walls;
  - (b) fire compartments within the building under construction, including the installation of fire doors and the completion of fire-stopping, with special attention given to lift shafts, stairwells, service ducts and voids which offer a passageway to heat and smoke;
  - (c) fire-stopping: it is especially important that this is planned and put in place as work on buildings of modular construction progresses;
  - (d) fire protective materials to structural steelwork;
  - (e) planned firefighting shafts duly commissioned and maintained;
  - (f) lightning conductors;
  - (g) automatic fire detection systems where planned;
  - (h) automatic sprinkler and other fixed firefighting installations where planned;
  - (i) automatic fire detection and extinguishing systems, where these are to be installed to protect large or costly items of equipment or plant; and
  - (j) temporary emergency lighting, which may need to be provided prior to the installation and commissioning of a fixed system.
- 9.2 Two means of escape must be available from the structure at all times, including from any basement area and roof. Where dead-end situations exist, even on a temporary basis, they should be subject to special attention. The site should be planned and managed such that escape travel distances are appropriate for the level of fire hazard. Throughout the construction phase, escape travel distances should be minimised wherever possible.
- 9.3 Adequate water supplies for firefighting should be available as early as possible:
- (a) where extension of the fire hydrant main is required as part of the project, then this should be installed as early as possible;
  - (b) rising and temporary mains must be provided where planned; as the building increases in height it may be necessary to use temporary caps to seal the riser;
  - (c) it may be necessary to move the fire brigade inlet point as work progresses;
  - (d) water supplies should be tested periodically.
- 9.4 In the case of high fire risk sites, following the agreement for water supplies with the fire and rescue service (see 7.2), on-site water flow should be tested and recorded before work commences and thereafter every three months, at which time all valves should be exercised.
- 9.5 All hydrants must be clear of obstruction and be suitably marked.
- 9.6 To protect distribution panels and items of electrical equipment, appropriate extinguishers (such as those containing carbon dioxide) must be provided close to the equipment concerned.
- 9.7 Clear signs must be installed and maintained in prominent positions indicating the locations of fire and rescue service access routes, escape routes, positions of dry riser inlets, fire extinguishers and manually operated devices used to raise a fire alarm (such as fixed call-points and hand-held klaxons). Signs should be reviewed regularly and replaced or repositioned as necessary (ref. 12).
- 9.8 At the end of each working day or shift, a fire check must be undertaken, particularly in areas where hot work has been undertaken. Where 24-hour security is provided, fire checks should be undertaken throughout the night, during holiday periods and at weekends.
- 9.9 Permanent occupancy of any part of a building site should not be permitted until all fire protection measures (especially all fire-stopping in relevant compartment walls and ceilings) and installations are complete and, where appropriate, have been commissioned. The insurers, local authority building control department and fire and rescue service must be informed where occupancy is to be permitted.

## 10 TEMPORARY COVERING MATERIALS

- 10.1 When finished surfaces, fittings or expensive items of plant and machinery incorporated into a building are to be temporarily protected during construction or refurbishment, then, in selecting a protective covering material, regard must always be paid to the relative fire load and the potential for fire growth and spread.
- 10.2 Where flexible protective covering materials are used, these must conform to the requirements of the LPCB's Loss Prevention Standard LPS 1207: *Fire requirements for protective covering materials* (ref. 13) or equivalent standard (for example, ref. 14). The materials shall be manufactured in accordance with a quality assurance and certification programme, and the manufacturer shall be certified by a third-party approval body accredited by the United Kingdom Accreditation Service. The relevant approval mark shall be printed on the material.
- 10.3 When flexible materials are used to clad scaffolding, these materials must conform to the requirements of LPS 1215: *Flammability requirements and tests for LPCB approval of scaffolding materials* (ref. 15) or equivalent standard (for example, ref. 16). The material shall be manufactured in accordance with a quality assurance and certification programme, and the manufacturer shall be certified by a third-party approval body accredited by the United Kingdom Accreditation Service. The relevant approval mark shall be printed on the material.
- 10.4 It is recognised that overprinting of materials with advertising or images does occur. In such instances it must be ensured that this does not detrimentally affect their fire performance. Confirmation of this should be sought through the certification body.
- 10.5 Flame retardant covering material can still burn; therefore at least one fire escape stairway should be kept free of all protective coverings.

## 11 PORTABLE FIRE EXTINGUISHERS

- 11.1 Personnel must be sufficiently competent to be able to use the portable firefighting equipment provided on site.
- 11.2 An adequate number of appropriate portable fire extinguishers, approved and certificated by an independent, third-party certification body, should be provided, in accordance with the requirements of BS 5306-8: *Fire extinguishing installations and equipment on premises: Selection and installation of portable fire extinguishers: Code of Practice* (ref. 17). However, in the case of high fire risk sites, the fire risk assessment may indicate that additional portable fire extinguishers should be provided, especially on escape routes.
- 11.3 Extinguishers must be located in conspicuous positions near exits on each floor. In the open they should be situated in red boxes raised 500mm above ground level with a sign 'FIRE POINT' at a height readily seen above intervening huts or storage.
- 11.4 All firefighting equipment which is not designed to come into use automatically must be easily accessible.
- 11.5 All portable firefighting equipment must be serviced annually in accordance with BS 5306-3: *Fire extinguishing installations and equipment on premises: Code of Practice for the inspection and maintenance of portable extinguishers* (ref. 18) by a qualified person, and the maintenance service date recorded, including marking on the appliances.
- 11.6 As work progresses; the adequacy of portable firefighting equipment must be reviewed as part of the fire risk assessment reviews.
- 11.7 'Ride-on' mechanically propelled site plant should carry an appropriate fire extinguisher where reasonably practicable.



## 12 SITE SECURITY AGAINST ARSON

Arson protection is a feature of the site fire safety plan and should be the subject of a suitable and sufficient risk assessment. In certain cases, such as on high fire risk sites, a separate risk assessment should be undertaken to specifically consider the implications of wilful fire raising.

- 12.1 Buildings must be suitably protected against theft and deliberate fire raising in accordance with findings of the the fire risk assessment.
- 12.2 The most effective method of deterring trespassers – as well as helping to prevent malicious fire – is to ensure as far as reasonably practicable that the site is secured against unauthorised entry. This may be achieved by erecting a suitable and sufficient hoarding around the perimeter of the site, and securing all access points such as windows and doors on refurbishment sites. The site entrance must be locked and secured outside normal working hours.
- 12.3 Where the completed project provides for permanent security fencing, this should be brought forward in the programme and utilised during the construction phase.
- 12.4 Pedestrian access points and vehicle gates should be secured with high security close or concealed shackle padlocks and chains of a commensurate quality. A secure perimeter also provides protection against injury claims from trespassing minors.
- 12.5 Where the building envelope forms the site perimeter, all accessible openings such as ground floor windows and doors and vulnerable higher level windows should be secured against unauthorised entry. This may be achieved through the early installation of doors and windows or temporarily boarding such apertures with 18mm plywood or proprietary steel shuttering. Doors and windows should be fitted with locks, and secured when the building is vacant. Access to upper levels via scaffolding should be prevented.
- 12.6 Flammable liquid stores, liquefied petroleum gas cylinder storage and combustible material stores must be fenced or otherwise suitably protected and signed on the outside of the perimeter barrier (see section 14).
- 12.7 Illumination of the site is an additional deterrent to unauthorised access, and is recommended.
- 12.8 The recruitment of security personnel should be considered on all sites, especially for employment on site outside normal working hours. Contracted security guards should be licensed under the Private Security Industry Act 2001. The number of security staff and arrangements for touring, inspecting, and record keeping should be subject to a risk assessment.
- 12.9 On high fire risk sites the use of remotely monitored CCTV cameras and/or a permanent security presence should be considered.
- 12.10 All personnel should be on the alert for fires started maliciously by on-site staff.
- 12.11 In the event of suspension of site works, the security and fire risk assessments should be reviewed and the precautions taken also agreed with the security provider. Further advice and guidance is set out in the *Code of practice for the protection of empty buildings: fire safety and security* (ref. 19).
- 12.12 Consideration should be given to the installation of intruder alarm systems in temporary buildings and temporary accommodation.

### 13 TEMPORARY BUILDINGS AND TEMPORARY ACCOMMODATION

Temporary buildings and temporary accommodation are defined in section 4.15 and 4.16.

- 13.1 The site fire safety plan must include a suitable and sufficient fire risk assessment for all temporary buildings and temporary accommodation. The assessment should be reviewed periodically.
- 13.2 Temporary building(s) should be separated from the building under construction or refurbishment and other permanent buildings to provide as wide a fire break as reasonably practicable. While it should be aimed to provide a fire break at least 10m wide, it is recognised that this is not always possible, but wherever practicable the fire break should be at least 6m wide. Fire breaks should be kept clear of combustible materials. Similarly, rows of temporary buildings should be separated to provide a reasonable fire break with the intervening space being kept clear of combustible materials.
- 13.3 Where it is not reasonably practicable to provide a fire break at least 6m wide, temporary building(s) must be constructed with materials that do not significantly contribute to the growth of a fire or the propagation of smoke and corrosive or toxic fumes. The temporary building should be designed and constructed so as to meet the following criteria:
- (a) Class 1 surface spread of flame performance in BS 476-7: *Fire tests on building materials and structures: Method of test to determine the classification of the surface spread of flame and products* (ref. 20) to all internal wall and ceiling surfaces and to external surfaces of walls. External surface of roof to meet Class AA in BS 476-3: *Fire tests on building materials and structures: Classification and method of test for external fire exposure to roofs* (ref. 21);
  - (b) walls and roof to achieve 30-minutes' fire resistance (integrity and insulation) to BS 476-20 (ref. 8) and BS 476-22 (ref. 10); roof to be tested from below;
  - (c) doors and windows to achieve 30-minutes' fire resistance (integrity) to BS 476-20 (ref. 8) and 22 (ref. 10) and be securely closed when the area is unoccupied. Fire doors must be fitted with self closers; and
  - (d) where temporary building(s) are vertically stacked, the roof/floor assembly, and members supporting it should achieve at least 30-minutes' fire resistance (integrity, insulation and load-bearing capacity) to BS476-20 (ref. 8) and 21 (ref. 9) and comply with appropriate Building Regulations requirements.
- Alternatively, temporary building(s) should comply with the test specifications or procedures of an independent, third-party testing organisation. Examples of minimum requirements are LPS 1195: *Specification for testing of temporary buildings for use on construction sites* (ref. 22), published by BRE Certification, or the test procedure for determining the fire properties of temporary buildings carried out by Exova Warringtonfire.
- 13.4 Where the floor of a temporary building is raised above ground level, the space beneath must be enclosed to prevent accumulation of rubbish, whilst still allowing under-floor ventilation. No combustible materials should be stored under any temporary building.
- 13.5 Temporary accommodation must be constructed with materials which do not significantly contribute to the growth of a fire or the propagation of smoke and/or corrosive fumes. It must also meet the following criteria:
- (a) it must be separated from the rest of the building by walls and ceilings which achieve 30-minutes' fire resistance (integrity and insulation) to BS 476-20 (ref. 8) and 22 (ref. 10), the ceiling to be exposed to fire from below;
  - (b) Class 1 surface spread of flame performance to BS 476-7 (ref. 20) to all wall and internal ceiling surfaces; and
  - (c) doors and windows in 30-minute fire-resisting walls must achieve 30-minutes' fire resistance (integrity) to BS 476-20 (ref. 8) and BS 476-22 (ref. 10) and be securely closed when the area is unoccupied. Fire doors must be fitted with self closers.
- 13.6 Wherever possible, fire exits from temporary buildings and temporary accommodation should lead directly to the open air and away from the structure on which work is being undertaken. Escape routes should be subject to periodic inspection and assessment. Where necessary, temporary protection to provide at

least 30 minutes' fire resistance should be provided to ensure the safe passage of personnel to a place of safety away from the site.

- 13.7 It may be necessary to erect or install temporary buildings and temporary accommodation within the building under construction or refurbishment. This must be prohibited in large timber framed structures. In other instances:
- (a) temporary buildings and temporary accommodation must meet the fire performance characteristics stated in sections 13.3 and 13.5 respectively; and
  - (b) temporary buildings and temporary accommodation should be erected in locations which provide ease of access for the fire and rescue service and easy evacuation for personnel. In this respect locating temporary buildings and temporary accommodation within basements or on upper floors, ie at a height in excess of 7.5m from site access level, should be avoided where possible. Where this is not practical, other suitable precautionary measures must be adopted following the fire risk assessment and after consultation with the appropriate authorities. These measures must be maintained during the course of construction and until a time when the temporary buildings and temporary accommodation can be relocated within the lower floors.
- 13.8 Temporary buildings or temporary accommodation located:
- (a) inside the building under construction/refurbishment;
  - (b) inside another permanent building; or
  - (c) within 10m of such building(s)
- must be fitted with fire detection systems complying with a recognised Category of installation as set out in BS 5839-1: *Fire detection and alarm systems for buildings: Code of practice for system design, installation, commissioning and maintenance* (ref. 23). In the case of high fire risk sites, the fire detection system must be linked to the fire alarm system in the building on which work is being undertaken and to an alarm receiving centre, unless there is a 24-hour site security presence on site.
- 13.9 Heaters for use in temporary buildings and temporary accommodation must be fixed, preferably above floor level, fitted with securely fixed metal guards and maintained in a sound condition.
- 13.10 Carelessly drying clothes causes fires. Coat stands and drying racks must be firmly positioned at a safe distance from heaters, which should be thermostatically controlled and have enclosed elements.
- 13.11 All heaters and cooking appliances must be properly installed and adequate ventilation provided. Where possible, microwave ovens should be used to cook or heat food – otherwise, electrical or gas cookers are preferable to gas rings for cooking.
- 13.12 The installation of suitable automatic fire detection systems and intruder alarms is strongly encouraged in all temporary buildings and temporary accommodation.
- 13.13 Automatic fire detection systems must be installed where flammable liquids and gases are stored and in temporary buildings and temporary accommodation used for cooking or the drying of clothes. Installations should comply with a recognised Category of system as set out in BS 5839-1 (ref.23).
- 13.14 Temporary building(s) should not contain more than the minimum of furniture and fittings of a combustible nature.
- 13.15 Open plan areas created by linking prefabricated units of temporary buildings and areas of temporary accommodation used for multiple purposes should be sub-divided by fire-resisting construction to provide at least 30 minutes' fire resistance where deemed necessary by the fire risk assessment of the area.
- 13.16 Caravans, mobile homes and similar purpose-built sleeping accommodation should be separated from the structure under construction or refurbishment, as set out in section 13.2, and be enclosed by a palisade, fence or hoarding such that there is no interconnecting route between the two areas.
- 13.17 On new build sites, construction workers must not occupy living accommodation within a structure on which work is being undertaken (see also 9.9).



## 14 SITE STORAGE OF FLAMMABLE LIQUIDS AND LPG

- 14.1 Flammable liquids and gases used and stored on site must be subject to a periodic assessment in compliance with the Dangerous Substances and Explosive Atmospheres Regulations 2002 (ref. 7).
- 14.2 Containers of flammable liquids and LPG cylinders should preferably be stored in open compounds which are securely fenced, shaded from the sun and remote from pits, drains and low lying areas. Stores of liquid fuels must be surrounded by an impermeable bund sufficient to contain the maximum contents of the largest drum stored, plus 10 per cent. The bund must not be allowed to accumulate water or waste material. Flammable liquids and LPG must not be stored together.
- 14.3 Where it is necessary to store flammable liquids and gases in circumstances other than as in paragraph 14.2, the quantity so stored must be the minimum necessary and no more than a day's supply. The containers must be kept in a store, cupboard or bin which is of fire-resistant construction.
- 14.4 Storage areas should be sited as far as reasonably practical from permanent and temporary buildings and at a minimum of 20m wherever possible in the case of high fire risk sites. Where practical, given the constraints of the site, containers and drums of flammable liquid or gas cylinders must not be stored within 10m of any building or boundary fence and in no circumstance closer than 4m unless the boundary is a wall at least 2m high and constructed to provide a minimum of 30-minutes' fire resistance. In the latter case, containers and drums should be at least 1m below the top of the wall.
- 14.5 Products which could add to the intensity of a fire, such as acetylene or oxygen, or to the toxic hazard in the event of fire, such as chlorine, must not be stored in the same compound as flammable liquids and LPG.
- 14.6 Appropriately worded warning signs, eg 'HIGHLY FLAMMABLE LIQUIDS', 'NO SMOKING' and 'NO NAKED LIGHTS' must be displayed prominently at the entrances to stores.
- 14.7 The floors of flammable liquid or LPG cylinder stores should be paved or compacted level, with a suitable hard-standing provided for the delivery and dispatch of cylinders. The area must be kept clear of all combustible materials, weeds and rubbish.
- 14.8 Any electrical fittings, eg lights and switches, within such stores must be suitable for the environment in which they are to be used (ie where a flammable or explosive atmosphere may be present) and be selected and installed by competent persons (ref. 24).
- 14.9 The provision of automatic flammable gas detection equipment should be considered for enclosed storage locations.
- 14.10 Adequate numbers of extinguishers appropriate to the hazard should be sited at entrances to storage areas.
- 14.11 There should, where possible, be designated areas for fuelling plant and vehicles. The use of petrol generators in high risk structures should be avoided.

## 15 ACETYLENE

Acetylene is a flammable gas that, at elevated temperatures and pressures, can become unstable and liable to spontaneous decomposition. As a result, acetylene in cylinders, once suspected to be unstable, constitutes a serious fire and explosion hazard.

In these circumstances, fire service safe working practices include the establishment of a hazard zone of up to 200m around the incident and leaving the cylinders involved undisturbed for up to 24 hours or more prior to removal. All activities in the designated hazard zone have to cease and the area is evacuated, with significant implications for the businesses operating in the area.

- 15.1 The use of acetylene on construction sites should be eliminated wherever reasonably practicable and alternative methods of cutting and welding be adopted (ref. 25).
- 15.2 Where the use of acetylene is unavoidable, the number of spare cylinders stored on site should be kept to the absolute minimum.
- 15.3 Acetylene cylinders should be removed from the workplace and returned to the storage area as soon as the period of work has been completed.
- 15.4 Acetylene cylinders should be removed from the site as soon as their use is complete.



## 16 HOT WORK

See also 23.17 regarding hot work on the sites of large timber frame structures.

- 16.1 Alternative methods to hot work (ref. 26) should be adopted where possible.
- 16.2 When there is no alternative to hot work then, if possible, the hot work should be undertaken in a dedicated area away from the area of work or storage of materials.
- 16.3 All hot work must be subject to a hot work permit (a sample permit is shown in Annex A);
  - (a) once fitting out work has commenced on site; and
  - (b) in all buildings which are being refurbished.
- 16.4 Hot work permits must only cover specific, identified activities and locations and be signed off at the end of each work period. 'Blanket' permits covering hot work activities over an extended period or several days must not be allowed.
- 16.5 Before starting hot work, the area must be cleared of all loose combustible material and, if work is to take place on one side of a wall or partition, the opposite side must be examined to ensure no combustible material will be ignited by conducted heat.
- 16.6 A suitable number of appropriate fire extinguishers must be at hand and a careful watch maintained for fire breaking out whilst work is in progress.
- 16.7 Exposed wooden flooring and other items of combustible material which cannot be removed, as in 16.5, must be covered with sand or other non-combustible material.
- 16.8 When welding, cutting or grinding, the work area must be suitably screened using non-combustible material.
- 16.9 Equipment and hoses used with oxy-acetylene and similar equipment should be in good condition, set up in accordance with the manufacturer's instructions and be subject to a visual inspection before each period of use. A flashback arrestor should be fitted.
- 16.10 Gas cylinders must be adequately supported in a vertical position, preferably by securing on purpose-built trolleys using straps or chains. Cylinders should be fitted with a regulator that is not more than five years old.
- 16.11 Welding and cutting procedures should only be carried out under the supervision of trained and competent personnel.
- 16.12 Tar boilers and similar equipment should be placed at ground level wherever possible. A boiler may be placed in another location convenient for the works only if a risk assessment shows that overall it is a greater hazard to have the boiler at ground level.
- 16.13 The following precautions should be applied when using tar boilers:
  - (a) a non-combustible heat-insulating base must be provided;
  - (b) the equipment must be supervised by an experienced operative who can monitor the bitumen level and temperature, and ensure the lid remains on the boiler;
  - (c) the boiler should be sited where spilled material can easily be controlled;
  - (d) all cylinders must be at least 3m from the burner, secured in a vertical position and connected by flexible armoured hose;
  - (e) at least two appropriate fire extinguishers must be to hand;
  - (f) hazardous materials must be removed from the location as soon as work is completed and before the hot work permit is signed off;
  - (g) a lit tar boiler should not be left unattended; and
  - (h) a tar boiler should not be moved when lit.
- 16.14 Any area specified in a hot work permit must be periodically examined during the hour immediately following completion of the work (or any other period as identified by a risk assessment) before the permit is signed off. On sites where timber frame structures are being erected, the area in which hot work has been undertaken must be continually monitored for at least one hour following completion of the works and be visited two hours after completion prior to closing the permit.

## 17 ELECTRICITY AND GAS

- 17.1 Electrical supply installations, both temporary and permanent, must be installed in accordance with the latest edition of BS 7671: *Requirements for electrical installations* (ref. 27) and the Electricity at Work Regulations 1989 (ref. 28).
- 17.2 Portable electric equipment used on site should carry durable labels which display that it has been inspected and tested and is in satisfactory condition. (Guidance on the frequency and scope of the inspection of portable electrical equipment is available from the HSE (ref. 29).)
- 17.3 All electrical work should be undertaken by a competent electrician as defined in BS 7671: *Requirements for electrical installations* (ref. 27).
- 17.4 Installations (especially of a temporary nature) must be inspected regularly and tested at intervals not greater than every three months; or when they have been altered. The results must be recorded in a register kept for the purpose.
- 17.5 Electric cabling (especially of a temporary nature) should be protected against damage from construction site activities in its vicinity.
- 17.6 Temporary lighting:
- (a) Where portable or temporary lights are required, these should be located well away from combustible materials.
  - (b) Where low voltage festoon lighting cannot be used, sealed fluorescent light tubes are recommended.
  - (c) The use of unprotected quartz halogen lights should be discouraged.<sup>3</sup>
- 17.7 Where possible, main switches – other than those controlling security and automatic fire detection systems – should be turned off when work ceases, and all equipment unplugged when not in use.
- 17.8 All permanent gas supplies must be installed by a registered gas installer. The contractor must check that those carrying out the work are so registered.
- 17.9 Gas supply to appliances should be by fixed piping or armoured flexible tubing. Gas cylinders should be located outside buildings, secured and protected from unauthorised interference. Gas appliances should be fitted with control taps. (If the only control is on a cylinder situated outside a building, there can be a dangerous build-up of gas during the time-lapse between turning on and ignition.)
- 17.10 LPG connected to an appliance by a flexible link should only be installed by a competent person.

• 18 WASTE MATERIALS

- 18.1 Good housekeeping is essential on all sites. Waste material, if allowed to accumulate, provides an excellent starting point for fire (ref. 30). Therefore, the introduction of combustible waste should be minimised, and all waste packing materials, wood, shavings and oily rags must be removed from the workplace at least once a day. Special attention should be paid to corners, bases of shafts and other out-of-the-way places.
- 18.2 All non-essential combustible wrapping and packaging should be removed to a safe place away from the working area and be disposed of at the earliest opportunity, and in any case not less than once per day.
- 18.3 Separate metal bins, with close-fitting metal lids, must be provided for combustible materials such as oily rags.
- 18.4 Where practicable, rubbish chutes should be constructed outside the building and be of fire-resisting construction. They should be situated so as not to obstruct escape routes.
- 18.5 Unwanted materials from open areas of a site must be collected at regular intervals.
- 18.6 All recycling collection points and other combustible waste materials awaiting disposal must be kept in an area as far as reasonably practical away from the building under construction, temporary buildings, smoking shelters, stores and equipment.
- 18.7 All dry vegetation must be cleared regularly.
- 18.8 The burning of any vegetation or rubbish on site should be avoided unless absolutely necessary and should only be considered in very limited situations, such as during site clearance.

There is environmental legislation governing the rare circumstances where site burning may be permitted and contractors must check with clients, local authorities and the Environment Agency (or the Scottish Environment Protection Agency (SEPA) in Scotland) before contemplating any site burning.

- 18.9 All site burning, where permitted, must be subject to a fire risk assessment and be controlled by a permit system (a sample permit is shown in Annex B). The following rules must be built into the permit system:
  - (a) prior approval and necessary permits must be obtained from all of the relevant authorities;
  - (b) fires may only be lit on open designated ground and far enough removed (typically 50m) so that there is no risk of setting alight adjoining material, storage areas, flammable liquid stores, plant, structures or neighbouring property;
  - (c) large open bonfires can easily get out of control; materials must only be burnt in a properly designed incinerator. The incinerator must be sited and maintained in accordance with the manufacturer's recommendations. Regular checks must be made to ensure that the spark arrestor and flue do not become clogged or corroded;
  - (d) incinerators should not be located beneath overhead cables;
  - (e) the fire must be extinguished at least one hour before the site closes;
  - (f) a permanent fire watch must be maintained by a nominated person during the time that the fire is burning;
  - (g) the nominated person should have a suitable number of appropriate fire extinguishers or other suitable equipment to hand and be trained in their use;
  - (h) the area must be inspected periodically for at least an hour after the fire has been extinguished before the permit is signed off;
  - (i) material to be burnt should be checked for dangerous items such as empty cylinders, aerosol cans and flammable substances, which should be removed and safely disposed of before it is brought to the fire; and
  - (j) flammable liquids should not be used to assist fires.

## 19 PLANT AND VEHICLES

- 19.1 Stationary plant powered by internal combustion engines, such as compressors and generators, should be positioned in the open air or in a well-ventilated non-combustible enclosure. They must be sited so that exhaust pipes and exhaust gases are kept clear of combustible materials and should, wherever reasonably practicable, be separated from working areas and other buildings.
- 19.2 If plant and vehicles are to be refuelled on site:
- (a) fuel tanks must not be filled whilst engines are running or hot;
  - (b) vehicles should only be fuelled in designated areas (see paragraph 14.10); and
  - (c) fuel should be stored in accordance with section 14.
- 19.3 Compressors should be housed singly away from other plant and in separate enclosure(s).
- 19.4 Plant and equipment must be protected against accidental impact.
- 19.5 Air intakes must be situated so that the air is cool, uncontaminated, and free from flammable gases or vapours.
- 19.6 Where appropriate, sand trays or similar proprietary non-combustible mineral based absorbing agents should be provided to absorb drips of fuel or lubricant, and changed at regular intervals.
- 19.7 Vehicles:
- (a) as a general rule, the long-term parking of vehicles should not be permitted within 10m of the building under construction and, if possible, a separate car park should be available for workers' vehicles. Under no circumstances should long-term parking be permitted within the building without a suitable and sufficient fire risk assessment being undertaken.
  - (b) when equipment and materials are being unloaded from or reloaded onto contractors' and sub-contractors' vehicles, such vehicles may be permitted to park on site within 10m of the building for no longer than the duration of unloading or reloading.

## 20 STORED MATERIALS

- 20.1 Where it is reasonably practicable to do so, combustible materials should be stored outside the building under construction or undergoing refurbishment, and should not be so close to it that fire is able to spread from the materials to the building. Storing materials in locked metal containers is recommended on all sites, but especially on high fire risk sites.
- 20.2 Where combustible materials are stored inside the building, the area used for storage should:
- (a) have controlled access;
  - (b) not be in an area where hot work is being carried out;
  - (c) either be within the area covered by the site fire detection system or be included on the route of regular fire checks; and
  - (d) have firefighting equipment located close by.
- 20.3 In addition, the protection of combustible materials with a layer of a material conforming to the requirements of LPS 1207 (ref. 13) or an equivalent standard is strongly recommended.

21 **SMOKING**

- 21.1 A 'no smoking' policy must be established throughout the site with the exception of designated area(s) where smoking will be allowed (refs 31-34).
- 21.2 Where a smoking shelter is provided it must be:
- (a) included specifically in the project fire risk assessment;
  - (b) constructed of non-combustible materials;
  - (c) situated as far as reasonably practical from any building or structure, but at least 20m on a high fire risk site, where possible;
  - (d) provided with suitable metal ashtrays and a separate metal waste bin with a fitted metal lid; and
  - (e) provided with a suitable fire extinguisher.
- 21.3 The immediate area around the shelter, and the shelter itself, should be kept clear of combustible materials including windblown debris and vegetation.
- 21.4 Raised, slatted floors or decking should not be used, and concealed or semi-open spaces should be sealed to ensure combustible debris cannot accumulate beneath the shelter.
- 21.5 The use of combustible curtains, canopies and drapes to protect smokers from the elements must be avoided.
- 21.6 In no circumstances should the shelter be sited near:
- (a) windows;
  - (b) ventilation intakes or extracts;
  - (c) entrances and exits from the premises;
  - (d) hazardous materials, including facilities for the storage of flammable liquids and gases;
  - (e) waste storage containers (such as skips or bins); or
  - (f) beneath a canopy or low slung eaves.
- 21.7 Where no shelter is provided, areas where smoking is permitted must be free of combustible materials and be equipped with firefighting equipment, metal ashtrays and a separate metal waste bin with a fitted metal lid.
- 21.8 A 'no smoking' policy must be established in outside areas where fire hazards exist. Such areas may include refuse and storage areas containing combustible materials, flammable liquids (including refuelling supplies), gas cylinders, foam plastics, fibreboard and timber. 'NO SMOKING' notices must be displayed prominently in these areas.

## 22 HIGH-RISE CONSTRUCTION SITES

22.1 There are a number of sites (see 4.7) where construction progresses at heights at which normal fire protection measures may not be applicable:

- (a) the time taken to escape from the upper levels to a place of safety away from the building in an emergency may be excessive;
- (b) incomplete compartmentation of the structure may lead to an inordinately rapid spread of smoke and flames and threaten escape routes; and
- (c) there may be inadequate water supplies to fight a fire.

In these circumstances a specific fire risk assessment should be undertaken to develop appropriate provisions, primarily to ensure that people working in the structure can escape safely and without undue delay.

22.2 This specific fire risk assessment should be undertaken after consulting with the fire and rescue service, and before work commences at a height at which mechanical rescue by the fire and rescue service is no longer viable.

22.3 Fire doors with self-closers must be fitted to protect the escape stairs in accordance with the findings of the fire risk assessment. These must be in place when the structure reaches the criteria for a high-rise construction site (as defined in paragraph 4.7).

22.4 At this time, at least one staircase should be designated as the firefighting stair, for the exclusive use of the fire service during the course of an emergency. Any firefighting lifts included in the design of the building should be commissioned and brought into service at the earliest opportunity.

22.5 Where reasonably practicable, the building should be horizontally fire compartmented at intervals **not exceeding 10 floors**, to prevent the upward (or downward) spread of smoke and flames. This should be done at the earliest practical opportunity after construction of each of the relevant floors, using temporary fire-stopping materials having no less than **30-minutes' fire resistance**, until the permanent fire-stopping arrangements can be put in place. All holes, shafts and openings should be closed off, including service risers, lift shafts and stairwells. Temporary fire-stopping can be removed to allow construction operations in the area to be carried out, but must be replaced whenever work stops. It should not be left out of place outside site working hours ie at night and at weekends.

22.6 Atriums, stairways, lift shafts and shafts used for crane towers need not be horizontally divided at intervals not exceeding every 10 floors provided that all openings to floors are fitted with doors with self-closers to provide at least 30-minutes' fire resistance. All other openings between floors and stairways, lift shafts and crane tower shafts should be fire-stopped as indicated above.

22.7 Risers, shafts, ducts and similar openings between floors should be closed off with doors having 30-minutes' fire resistance, to separate them from the floors, and must be fitted at all levels. These doors should be treated in the same way as the temporary fire-stopping mentioned above ie only opened on any given floor when work is actually in progress inside the shaft at that level.

22.8 Electrically operated fire alarm systems must be provided throughout the height of the building, comprising break-glass (or similar) call-points and sounders on all levels, plus a link to a permanently occupied security office (or similar) from where the fire and rescue service can be summoned, firefighting system activated and other appropriate actions instigated. Hard-wired systems or radio-operated wireless systems of proven reliability, performance and coverage are also acceptable. All components or all parts of the system must have battery back-up to ensure continuity of operation in the event of a loss of power supplies.

22.9 When work reaches a height at which the site is termed a high-rise construction site, a wet riser should be provided, fed by duplicate pumps as set out in BS 9990: *Code of practice for non-automatic firefighting systems in buildings* (ref. 35) so as to provide water in sufficient quantities and at sufficient pressure for effective firefighting.



### 23 LARGE TIMBER FRAME STRUCTURES

- 23.1 Where large timber frame structures are under construction the site security measures set out in section 12 of this code must be adopted.
- 23.2 When building in timber frame, serious consideration during the design stage should be given to constructing the ground floor from non-combustible construction (concrete, masonry or steel) as a means of reducing risk from low level accidental and deliberate fire raising.
- 23.3 The use of timber that has received an appropriate pressurised fire protection treatment should be seriously considered during the design phase of all timber buildings.
- 23.4 Where multiple large timber-framed structures are being built on one site, the period of maximum vulnerability during which fire may spread from one to another is the time when the structures are incomplete. This hazard must be considered in detail and minimised as part of the fire risk assessment. Suitable sequencing may be appropriate to provide a fire break by separating incomplete structures by those with completed, fire-rated facades.
- 23.5 The building should be compartmented and fire stopped at the earliest stage possible. This should include party walls, stairwells, service risers, lift shafts, roof voids and other fire-rated sub-compartments throughout the building. Wherever possible this compartmentation should take the form of the final, permanent fire-resisting doors, panels and fire-stopping.
- 23.6 In cases where it is not possible to fit the final materials early in the construction process, suitable temporary arrangements should be made in order to reduce the spread of fire and smoke up a building through unstopped ducts and shafts. Consideration should then be given to fitting temporary horizontal fire rated boarding as work progresses.
- 23.7 The final cladding to a building should be put in place at as early a stage as possible.
- 23.8 Serious consideration should be given to mitigating fire damage and the spread of fire to adjacent structures, by facing exposed timber construction and combustible insulation with fire-rated boarding at the earliest opportunity. The use of fire-rated boarding may be extended to protect windows and door openings not required as means of escape. This approach also provides significant security benefits.
- 23.9 Generators and similar stationary heat producing equipment should not be used in structures where the timber frame is exposed.
- 23.10 Refuelling of equipment must be undertaken outside any timber frame structure and in a designated refuelling/storage area located at least 20m from the building.
- 23.11 At the end of each day, gas cylinders and flammable liquids must be removed from the building under construction and stored in a safe and secure compound, container or cage at least 20m from the structure.
- 23.12 Temporary buildings closer than 20m to the timber frame structure must be of non-combustible construction. Wherever temporary buildings have to be located closer than 20m to the structure, the safe distance must be determined by a life and property fire risk assessment carried out by a competent person.
- 23.13 Heating, drying and dehumidifying equipment must be restricted to 110° blown air type and be removed from the structure outside working hours.
- 23.14 All power and utilities, apart from those required for life safety, fire detection and security systems, must be turned off outside working hours.
- 23.15 Automatic fire detection must be provided as set out in section 13; these systems must be linked to an alarm receiving centre unless there is a 24-hour security presence on site.
- 23.16 The use of foam plastic materials on site should be minimised. Fall arrest systems using polystyrene materials must not be used.
- 23.17 Hot work on timber frame construction sites should be minimised. Where hot work cannot be avoided, in addition to the standard controls for hot work (see section 16), the area in which the work has been undertaken must be continually monitored for at least one hour following completion of the hot works and be visited two hours after completion prior to closing the permit.

ANNEX A

Sample hot work permit

<b>HOT WORK PERMIT</b>	
A copy of the completed permit should be retained for auditing purposes	
<b>ISSUING COMPANY</b>	<b>PERMIT NO.</b>
<b>A. PROPOSAL</b> <i>(to be completed by the person responsible for carrying out the work)</i>	
<b>BUILDING</b>	
<b>EXACT LOCATION OF PROPOSED WORK</b>	
<b>NATURE OF WORK TO BE UNDERTAKEN</b>	
I understand the scope of work and precautions to be taken.	
<b>SIGNED</b>	<b>BLOCK CAPITALS</b>
<b>DATE</b>	<b>POSITION</b>
<b>CONTRACTOR COMPANY (WHERE APPLICABLE)</b>	
<b>B. AGREEMENT</b> <i>(to be completed by Company Safety Officer or other nominated person – the 'Issuer of the Permit')</i>	
This Hot Work Permit is issued subject to the following conditions:	
<b>ISSUE OF PERMIT: DATE</b>	<b>TIME</b>
<b>EXPIRY OF PERMIT*: DATE</b>	<b>TIME</b>
* It is not desirable to issue permits for protracted periods. Fresh permits should be issued where, for example, work extends from morning to afternoon.	
<b>A FINAL CHECK OF THE WORK AREA SHALL BE MADE, NOT BEFORE (TIME):</b>	
<b>ADDITIONAL CONDITIONS REQUIRED:</b>	
The above location has been examined and the precautions listed on the reverse side of this form** have been complied with. I have carried out a risk assessment and consider that there is no reasonably practical alternative to doing the job using hot work. I have been provided with evidence of appropriate Public Liability Insurance.	
<b>SIGNED</b>	<b>BLOCK CAPITALS</b>
<b>DATE</b>	<b>POSITION</b>
<b>C. FOLLOWING COMPLETION OF WORK</b> <i>(to be completed by member of staff or contractor responsible for the work. The permit should then be returned to the Issuer)</i>	
The work area and all adjacent areas to which sparks and heat might have spread (such as floors below and above and areas on other sides of walls) have been inspected and found to be free of smouldering materials and flames.	<input type="checkbox"/>
Stub ends of welding rods and other hot waste materials have been removed and disposed of safely.	<input type="checkbox"/>
Any isolated automatic fire detectors or detection zones have been reinstated.	<input type="checkbox"/>
All equipment, including gas cylinders, has been removed to a safe area.	<input type="checkbox"/>
<b>TIME INSPECTION COMPLETED:</b> <i>(this must be at least 60 minutes after work has been completed)</i>	
<b>SIGNED</b>	<b>BLOCK CAPITALS</b>
<b>DATE</b>	<b>POSITION</b>
<b>CONTRACTOR (WHERE APPLICABLE)</b>	
<b>D. SIGN OFF BY ISSUER OF PERMIT</b>	
The hot work has been completed. Any detector(s) or zones of the fire alarm system that were isolated have been fully reinstated.	
<b>SIGNED</b>	<b>BLOCK CAPITALS</b>
<b>DATE</b>	

\*\* The conditions listed in section 16 should appear on the reverse of this permit form.



ANNEX B

Sample permit to burn waste materials

<b>WASTE BURNING PERMIT</b>	
A copy of the completed permit should be retained for auditing purposes	
<b>ISSUING COMPANY</b>	<b>PERMIT NO.</b>
<b>A. PROPOSAL</b> <i>(to be completed by the Responsible Person or Fire Marshal)</i>	
<b>EXACT LOCATION OF PROPOSED BURNING</b>	
I understand the precautions to be taken.	
<b>SIGNED</b>	<b>BLOCK CAPITALS</b>
<b>DATE</b>	<b>POSITION</b>
<b>CONTRACTOR (WHERE APPLICABLE)</b>	
<b>B. AGREEMENT</b> <i>(to be completed by the Nominated Person for burning the waste)</i>	
This Waste Burning Permit is issued subject to the following conditions:	
<b>ISSUE OF PERMIT:</b>	<b>DATE</b> <span style="float: right;"><b>TIME</b></span>
<b>EXPIRY OF PERMIT*:</b>	<b>DATE</b> <span style="float: right;"><b>TIME</b></span>
* The time of expiry of the permit should be not less than 60 minutes before the work period terminates. Fresh permits should be issued in respect of separate fire in the same work period.	
<b>A FINAL CHECK OF THE WORK AREA SHALL BE MADE, NOT BEFORE (TIME):</b>	
The above location has been examined and the conditions listed on the reverse side of this form** have been complied with. I have carried out a risk assessment and consider that there is no reasonably practical alternative to burning the waste on site. I have been provided with evidence of appropriate Public Liability Insurance.	
<b>SIGNED</b>	<b>BLOCK CAPITALS</b>
<b>DATE</b>	<b>POSITION</b>
<b>CONTRACTOR (WHERE APPLICABLE)</b>	
<b>C. FOLLOWING COMPLETION OF WORK</b> <i>(to be completed by the Nominated Person before returning the permit to the Issuer)</i>	
The area in which the waste was burned and all adjacent areas have been inspected and found to be free of smouldering materials. <input type="checkbox"/>	
<b>TIME INSPECTION COMPLETED:</b> <i>(this must be at least 60 minutes after the fire has been extinguished)</i>	
<b>SIGNED</b>	<b>BLOCK CAPITALS</b>
<b>DATE</b>	<b>POSITION</b>
<b>CONTRACTOR (WHERE APPLICABLE)</b>	
<b>D. SIGN OFF BY ISSUER OF PERMIT</b>	
The burning of waste materials has been completed	
<b>SIGNED</b>	<b>BLOCK CAPITALS</b>
<b>DATE</b>	

\*\* The conditions listed in section 18.9 should appear on the reverse of this permit form.

#### REFERENCE DOCUMENTS

1. *Protecting the public – your next move*, HS(G)151, 2009, Health and Safety Executive.
2. Management of Health and Safety at Work Regulations 1999, SI 1999 No 3242 (as amended), The Stationery Office.
3. Regulatory Reform (Fire Safety) Order 2005 SI 2004 No 1541, The Stationery Office.
4. Fire (Scotland) Act 2005, asp5, The Stationery Office.
5. Fire Safety (Scotland) Regulations 2006, Scottish SI 2006 No 456, The Stationery Office.
6. The Fire Safety Regulations (Northern Ireland) 2010, Statutory Rules of Northern Ireland 2010 No 325, The Stationery Office
7. Dangerous Substances and Explosive Atmosphere Regulations 2002 (DSEAR) SI 2002 No 2776, The Stationery Office.
8. BS 476-20: 1987: *Fire tests on building materials and structures: Method for determination of the fire resistance of elements of construction (general principles)*, British Standards Institution.
9. BS 476-21: 1987: *Fire tests on building materials and structures: Methods for determination of the fire resistance of loadbearing elements of construction*, British Standards Institution.
10. BS 476-22: 1987: *Fire tests on building materials and structures: Methods for determination of the fire resistance of non-loadbearing elements of construction*, British Standards Institution.
11. Construction (Design and Management) Regulations 2007, SI 2007 No 320, The Stationery Office.
12. *Guide to Fire Safety Signs*, 4th edition, 2007, Fire Protection Association.
13. Loss Prevention Standard 1207, Issue 2.1: 2005: *Fire requirements for the LPCB approval and listing of protective covering materials*, BRE Certification.
14. Technical Schedule 63, *Reaction to fire performance requirements: materials used as temporary protective covering*, CERTIFIRE product certification scheme, Warrington Certification Ltd.
15. Loss Prevention Standard 1215, Issue 3.1: 2005: *Requirements for the LPCB approval and listing of scaffold cladding materials*, BRE Certification.
16. Technical Schedule 62, *Reaction to fire performance requirements: materials used to clad scaffolding*, CERTIFIRE Product certification scheme, Warrington Certification Ltd.
17. BS 5306-8: 2000: *Fire extinguishing installations and equipment on premises: Selection and installation of portable fire extinguishers: Code of practice*, British Standards Institution.
18. BS 5306-3: 2003: *Fire extinguishing installations and equipment on premises: Code of practice for the inspection and maintenance of portable fire extinguishers*, British Standards Institution.
19. *Code of practice for the protection of empty buildings: fire safety and security*, 2008, Fire Protection Association on behalf of RISCAuthority.
20. BS 476-7: 1997: *Fire tests on building materials and structures: Method of test to determine the classification of the surface spread of flame of products*, British Standards Institution.
21. BS 476-3: 2004: *Fire tests on building materials and structures: Classification and method of test for external fire exposure to roofs*, British Standards Institution.
22. Loss Prevention Standard 1195, Part 1 Issue 4: 2005: *Fire test and evaluation requirements for the LPCB approval and listing of temporary buildings for use on construction sites*, BRE Certification.
23. BS 5839-1: 2002 + A2 2008: *Fire detection and alarm systems for buildings: Code of practice for system design, installation, commissioning and maintenance*, British Standards Institution.
24. RC30, *Recommendations for the selection of electrical and non-electrical equipment for use in atmospheres containing flammable and explosive gases or vapours*, 2005, Fire Protection Association on behalf of RISCAuthority.

25. RC49, *Reducing business interruption: Part 1: Acetylene cylinders involved in fires*, 2007, Fire Protection Association on behalf of RISC Authority.
26. RC7, *Hot work*, 2012, Fire Protection Association on behalf of RISC Authority.
27. BS 7671:2008 + A1:2011: *Requirements for electrical installations incorporating amendment no.1 : IET Wiring Regulations*, British Standards Institution.
28. *Electricity at Work Regulations 1989*, SI 1989 No 635, The Stationery Office.
29. *Fire safety in construction work*, HS(G)168, 2010, Health and Safety Executive.
30. *Fire safety and waste materials*, 2003, Fire Protection Association.
31. *Smoke-Free (Premises and Enforcement) Regulations 2006*, SI 2006 No 3368, The Stationery Office.
32. *Smoke-Free Premises etc. (Wales) Regulations 2007*, SI 2007 No (W), National Assembly for Wales.
33. *Prohibition of Smoking in Certain Premises (Scotland) Regulations 2006*, SSI 2006 No 90, The Stationery Office.
34. *Smoking (Northern Ireland) Order 2006*, SI 2006 No 2957 (NI20), The Stationery Office.
35. BS 9990: 2006: *Code of practice for non-automatic firefighting systems in buildings*, British Standards Institution.
36. *16 Steps to fire safety on timber frame construction sites*, UKTFA, 2011.
37. *Design Guide to separating distances during construction* (3 parts), UKTFA, 2011.
38. *Construction Health & Safety Manual*, Construction Industry Publications Ltd, 2012
39. RC51, *Recommendations regarding smoking at work*, 2010, Fire Protection Association on behalf of RISC Authority.

**INSURANCE PROVISIONS RELATED TO THE JOINT CODE OF PRACTICE**

If an insurance policy provides cover for a site where the Joint Code is in operation, such a policy should normally contain an endorsement noting this, and outlining the respective rights and responsibilities of Insured and Insurer.

There is no mandatory version of such policy endorsement, and no requirement for any endorsement to be used. A model form is shown below. The form may need to be adapted to ensure consistency with the terms and conditions and terminology used in the balance of the policy wording.

**Joint Code of Practice on the protection from fire of construction sites and buildings undergoing renovation**

The following endorsement is added to the policy.

The insured undertakes to comply with the Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation dated June 2012 or any subsequent amendment thereto or revised edition thereof current at inception or subsequent renewal of the policy hereinafter referred to as The Joint Code.

The appointed representative of the company shall have the right at all reasonable times to enter and inspect any construction site insured under the policy for the purpose of checking whether the conditions thereon in all respects comply with the Joint Code.

In the event of the company becoming aware of a breach of the Joint Code the company will inform the employer or his representative and the main/management contractor's construction site management of the nature of the breach specifying the remedial measures required by the company (the remedial measures) and the period within which these must be completed.

Where the company considers such a breach is of sufficient importance the company will confirm the same by notice in writing to the employer and main/management contractor at their respective addresses nominated by the insured at the inception of cover or as subsequently amended.

Under the terms of this or any subsequent notice, the company may suspend or cancel all cover under the policy from the date named in the notice not being a date earlier than the date named for the completion of the remedial measures it being understood that upon suspension such cover shall be reinstated when the company is satisfied that the remedial measures have been completed. Such notice shall be given by registered post recorded delivery, facsimile transmission or by hand.

The reference to suspension or cancellation of all cover shall apply only to the contract specified in the notice.

This endorsement shall not in itself be considered a condition precedent to liability but its inclusion shall not prejudice, waive or remove the rights of the company under the terms of other policy exclusions and conditions.

This endorsement does not apply to any public liability employer's liability or 21.2.1 insurance provided by the policy.

In the event of cancellation, only the company agrees to return to the Insured a pro rata proportion of the relevant part of the policy premium.

**APPENDIX C – FIRE RISK ASSESSMENT**

<p><b>CONSTRUCTION SITE FIRE RISK ASSESSMENT</b></p> <p>TO BE READ IN CONJUNCTION WITH FULL REPORT AND UPDATE FOR THIS SITE</p> <p><b>DATE OF ISSUE OF ASSESSMENT:</b></p>	<p>NW Bicester Ph2 Eco Town</p> <p>11<sup>TH</sup> November 2016</p>
<p><b>1. PROJECT: SITE ADDRESS:</b></p> <p><b>SITE DETAILS</b></p>	<p><b>Banbury Road Bicester Oxfordshire OX27 8TG</b></p> <p><b>Demolition:</b> N/A <b>Building Construction:</b> Timber Frame <b>Timber Frame:</b> Taylor Lane <b>Steel Frame:</b> N/A <b>RC Core:</b> N/A <b>Size: Site Area :</b> 34,359,20M2 <b>Floor Area:</b> Various <b>No of Floors:</b> 2, 3+4 Bed Houses, flats and bungalows. 2 Storey Max <b>Proposed Occupancy:</b> Phased Handover <b>CDM Regs:</b> Yes <b>Notified:</b> Yes</p>
<p><b>2. IGNITION SOURCES</b></p>	<p><b>On-site generation:</b> Generator <b>Electrical:</b> Site Cabins/Temp Power <b>Naked Flames:</b> Plumbing Works <b>Hot Works:</b> Plumbing works etc. <b>Smoking:</b> Only in designated areas <b>Cooking:</b> Food Van – Site Welfare Compound <b>Others:</b> TBC <b>Arson:</b> To be Monitored</p>
<p><b>3. SOURCES OF FUEL</b></p>	<p><b>Normal combustibles:</b> General Materials <b>Cooking oil/fat:</b> Food Van <b>Flammable Liquids:</b> N/A <b>Gases:</b> N/A</p>

	<b>Hydraulic Oil:</b> Groundworks <b>Acetylene:</b> N/A <b>Others:</b> Fuel/Diesel
<b>4. PERSONS AT RISK</b>	<b>Number of operatives:</b> <100 Operatives on site <b>Non-English speakers:</b> Bricklayers and ground workers <b>Visitors:</b> Yes <b>Others:</b> No
<b>5. DANGEROUS SUBSTANCES</b>	<b>Explosives:</b> No <b>Gases:</b> Yes <b>Liquids:</b> Yes <b>Solids:</b> TBC <b>Radiation hazards:</b> No <b>Oxidising agents:</b> No <b>Biohazards:</b> No <b>Others:</b> TBC
<b>6. OTHER HAZARDS</b>	<b>Site Accommodation:</b> Main Welfare – Phase 2 <b>Fire Resistant</b> - Yes <b>Location</b> – As site Plan <b>Fire Detection</b> – Fog Horn, Bell <b>Canteen</b> – Main Welfare Phase 2 <b>Clothes Drying</b> - Yes <b>Secure</b> - Yes <b>Scaffolding Cladding</b> - No <b>Protective Sheeting/Materials</b> - No <b>Unprotected holes/shafts</b> – Foundations - Fenced
<b>7. MEASURES IN PLACE – TECHNICAL</b>	<b>Fire detection</b> - Yes <b>Call Points</b> – Fire Howlers on Fire Boards all Sections <b>Means of Warning</b> – Howlers/Fire Bells <b>Wet Risers</b> - No <b>Fire Mains</b> – Hydrants now on site and live <b>Hose Reels</b> - No <b>Automatic Fire Suppressions</b> - No <b>Portable Extinguishers</b> - Yes <b>Early installation of compartmentation/staircases</b> - Yes <b>Emergency Lighting</b> – No <b>Exit signs/routes</b> - Yes <b>Final exits and assembly area</b> - Yes

	<b>Others -</b> <b>Site Security</b> Guarding – main entrance Perimeter – Heras Fencing Lighting – Car-Park Lighting
<b>8.</b> <b>MEASURES IN PLACE</b>	<b>Site Inductions - Yes</b> <b>Toolbox Talks - Yes</b> <b>Fire Action Notices - Yes</b> <b>Fire Points - Yes</b> <b>Evacuation Lists – Yes Signing in Book</b> <b>Control of Visitors - Yes</b> <b>Control of Contractors -Yes</b> <b>Fire Wardens/Marshalls - Yes</b> <b>Maintenance Procedures - Yes</b> <b>Housekeeping - Yes</b> <b>Others – TBC</b>
<b>9.</b> <b>FIRE AND RESCUE SERVICES</b>	<b>Good Liaison</b> <b>Regular Visits</b> <b>Provision of Access Plans - Notice Given</b> <b>Response Time</b> <b>Access to Hydrants and Risers</b>
<b>10.</b> <b>EMERGENCY PLANS</b>	<b>Plans Prepared - Yes</b> <b>Staff/Supervisors Trained - Yes</b> <b>Plans Exercised - Yes</b> <b>Fire Drills Held – Every 6 months</b>
<b>11.</b> <b>INFORMATION DISTRIBUTED</b>	<b>Police</b> <b>Fire and Rescue Services</b> <b>Ambulance Service</b> Yes <b>Insurers</b> <b>Others</b>
<b>12.</b> <b>TRAINING NEEDS</b>	<b>Operatives</b> <b>Fire Wardens/Marshalls</b> <b>Management</b> <b>Security</b> N/A <b>Catering</b> <b>Maintenance</b> <b>Others</b>

<p><b>13.</b> <b>THIS ASSESSMENT TO BE REVIEWED</b></p>	<p><b>On (date) – As Works Progress</b>  <b>Six monthly - Yes</b>  <b>Major changes in above - Yes</b>  <b>Special events - Yes</b>  <b>Introduction of new substances - Yes</b>  <b>Other(Specify) - TBC</b></p>				
<p><b>14.</b> <b>REVISIONS TO THIS ASSESSMENT</b></p>	<table border="1"> <thead> <tr> <th data-bbox="676 524 1193 562"><u>Revision</u></th> <th data-bbox="1193 524 1396 562"><u>Date</u></th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	<u>Revision</u>	<u>Date</u>		
<u>Revision</u>	<u>Date</u>				
<p><b>15.</b> <b>OTHER INFORMATION</b></p>	<p><b>Fire Incidents</b>  <b>RIDDOR</b>  <b>Other Incidents</b> -All in Place  <b>Insurance claims notified</b>  <b>CDM Compliance</b></p>				
<p><b>16.</b> <b>RISK RATING</b></p> <p><b>17.</b> <b>SIGN OFF</b></p>	<p>Phase 2 – Medium Risk (Timber Frame)</p> <p>R Cleary  11/11/2016</p>				



**APPENDIX C : ECOLOGICAL ASSESSMENT**

**APPENDIX D: ARBORICULTURAL METHOD STATEMENT ADDENDUM**

**APPENDIX E: PRE-CONSTRUCTION HEALTH & SAFETY PLAN**