

Part 19 – Health and Safety Management

19.1 Commitment Statement

The *Employer* aspires to build the Project in a way that achieves zero accidents and incidents. The "Health Safety and Environment Standard: Contractors and Industry Partners" (the H&S Standard) sets out how this is to be achieved. The health and safety requirements set out in the Works Information translate the requirements of the H&S Standard into contractual responsibilities and obligations.

A copy of the H&S Standard can be downloaded from www.crossrail.co.uk. The H&S Standard will be updated throughout the life of a contract, and the most up to date document will always be available on the website.

19.2 Introduction

This part of the Works Information describes the health and safety requirements that shall apply to this contract. The *Contractor* shall provide the Works in accordance with these health and safety requirements.

19.2.1 The *Employer's* Health Safety and Environment Policy Statement

The *Employer* is responsible for delivering the Project in accordance with Transport for London's Health Safety and Environment Policy. The *Employer's* Health Safety and Environment Policy Statement sets the leadership framework for the delivery of the Project in line with this policy and the additional objectives set by the *Employer*.

A copy of Transport for London's Health Safety and Environment Policy and the *Employer's* Health Safety and Environment Policy Statement can be found within Appendix 19A and also in the *Employer's* "Health Safety and Environment Standard, Contractors and Industry Partners" document.

The *Contractor* shall comply with the spirit and intent of the *Employer's* Health Safety and Environment Policy Statement. In particular, the *Contractor* shall :

- demonstrate a high level of commitment to health and safety by active engagement with the *Employer's* "Target Zero: A State of Mind" philosophy, principles and programme;
- demonstrate exemplary standards of health and safety performance and management whether in design, construction or testing and commissioning;
- ensure method statements/work package plans and risk assessment processes are in place to identify hazards and to implement mitigation measures to reduce risk for all parties affected to an acceptable level and as low as reasonably practicable (ALARP);

- ensure a high level of commitment to health and safety from senior managers, managers, supervisors, employees and subcontractors and suppliers of any tier;
- ensure continuous improvement in safety performance, in accordance with the principles within the Health and Safety Executive publication entitled “Successful Health and Safety Management” (reference HSG65) and have in place a project specific health and safety improvement plan;
- set high standards of health and safety performance and behaviour;
- ensure that persons for whom they are responsible are aware and accurately informed of their own health and safety responsibilities and accountabilities;
- challenge poor health and safety performance and personally take action when they see a breach of rules or unsafe working practices, however small;
- ensure that a purposeful communication system is established between themselves and their workforce and senior managers to visit and inspect workplaces personally on a regular basis;
- ensure that contractors support and comply with any health and safety plans, audits, visits or inspections by bona fide representatives of the Programme;
- gather, analyse and share health and safety information and data to the benefit of all involved;
- take part in and personally contribute to health and safety events, meetings and campaigns, including the *Employer’s* people-based behavioural safety programmes in support of the *Employer’s* “Target Zero: A State of Mind” philosophy, principles and programme. It is expected that directors and managers shall contribute to inspections, incident reviews, health and safety forums and, undertake at an accepted frequency, Leadership Tours to a level consistent with the *Employer’s* process; and
- participate in the *Employer’s* gateway and health and safety self assurance schemes.

19.2.2 Health, Safety and Environment Agreement

To formalise the respective, health, safety and environmental contribution of all Project participants, the Crossrail Health Safety and Environment Agreement (the H&S Agreement) is set in Appendix 19B identifying a number of key health, safety and environmental leadership behaviours and values that underpin the *Employer’s* determination to deliver health, safety and environmental excellence across the Project.

At the *starting date* the *Contractor* shall sign the H&S Agreement and ensure that a monitoring regime is implemented that ensures that the behaviours and values included in the H&S Agreement become embedded in the *Contractor’s*

organisational culture. The *Contractor* shall provide the *Project Manager* with a signed copy of the H&S Agreement and will display copies of this H&S Agreement at the Site and in the Working Areas.

19.3 Organising for Health and Safety

19.3.1 The *Employer's* and *Project Manager's* Commitments

The *Employer* and *Project Manager* are committed to delivering exemplary levels of health and safety performance. Where examples of health and safety excellence are identified within the activity of any of the involved parties, these will be communicated widely so that benefit may be derived across the Project.

The *Employer* and *Project Manager* take very seriously the commitment to avoiding injuries and learning from any near miss events to improve health and safety performance, as reflected in the setting of explicit accident and ill health management aims via the *Employer's* "Target Zero: A State of Mind" philosophy, principles and programme.

The *Contractor* shall respond promptly if the *Project Manager* requests a meeting with a senior representative from the *Contractor* (typically a director identified as responsible for the work) to discuss any notifiable or reportable event, adverse trends or other evidence of a serious non-compliance with the legislation or health and safety requirements stated in this part of the Works Information.

Similarly, the *Project Manager* commits to meet with any director from the Project supply chain where they have health or safety matters that they wish to raise. This can be either via the Crossrail Directors' Health and Safety Forum or on a one to one basis.

19.3.2 "Target Zero: A State of Mind"

"The *Contractor* shall implement a programme that meets the *Employer's* "Target Zero: A State of Mind" philosophy and principles..

19.3.2.1 The Principles of Target Zero

The Target Zero programme declares through three simple principles that excellent performance in health, safety and environment is something that is not only achievable, but is something that is expected; being safe at work at all times is a fundamental right of all workers and managers alike.

The key to achieving this is in practically applying the following three basic principles and to ensure that they occupy a prominent position in the minds of everyone involved as decisions and choices are made and tasks are carried out. The challenge to be overcome is in replacing the traditional state of mind that says construction is dangerous and history tells us that people get hurt, with a new state of mind where everyone truly believes:

- We all have the right to go home unharmed at the end of every day.

- All harm is preventable.
- We must all work together to achieve this.

A strong health and safety culture is recognised as fundamental to achieving excellent performance and requires action by all involved. Visible health and safety leadership is fundamental in the creation of a strong health and safety culture and the successful delivery of the Target Zero programme on the Project.

The *Contractor* shall implement appropriate measures including the application of user-friendly management systems, near miss reporting, and shall make use of safety climate tools and other employee satisfaction measures such as behavioural safety, benchmarking, key performance indicators, communications, recognition and other mechanisms to create, embed and sustain an effective health and safety culture.

The *Employer* believes that it is the integration of both objective and subjective factors that affect people’s behaviour and determine overall health and safety performance. This integrated approach is illustrated in Fig 19.3 below. In practical terms it includes the design and implementation of effective management systems that enable staff at all levels to work without harm, the values and priorities of leaders who help to determine the culture of a programme or site, and the personal experiences and beliefs of individuals. The Target Zero programme and associated principles are based on this integrated model.

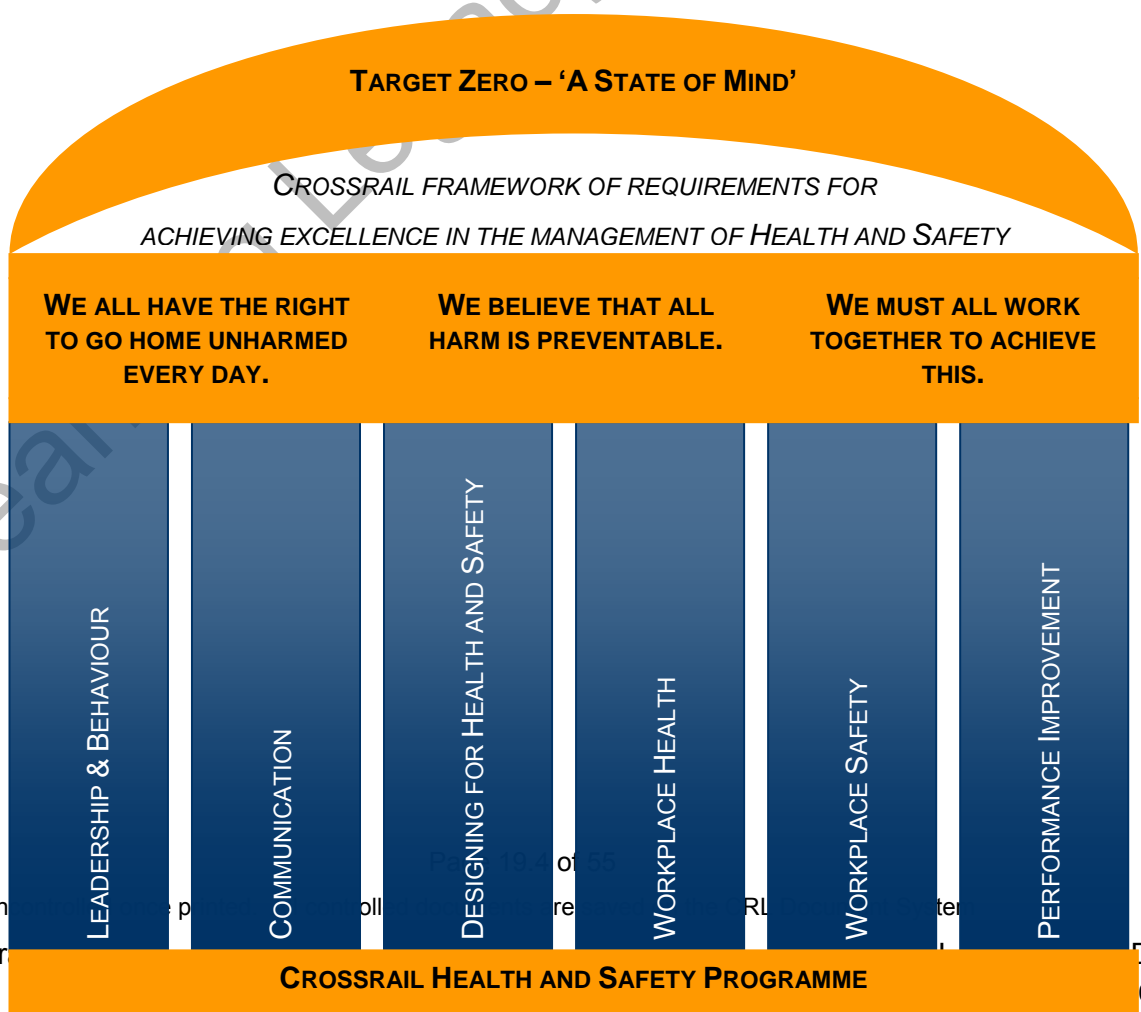


Figure 19.3 – Integrated Target Zero Model

19.3.2.2 Target Zero Leadership

The *Contractor* shall ensure that all personnel for whom it is responsible either as employer or duty holder and as part of its Principal Contractor duties are aware of their responsibility for ensuring they follow the principles of the Target Zero programme in all their work activities. Applying these principles to any programme that they own or adopt and which is suited to their own business, the *Contractor* and subcontractors and suppliers of any tier shall focus on ensuring that when delivering, managing and executing their role on the project they:

- align expectations against the *Employer's* Target Zero vision and objectives;
- demonstrate leadership commitment and provide training that will allow employees in positions of leadership to positively reinforce safe behaviours that prevent injuries, and to coach / discuss at-risk behaviours that can contribute to injuries or incidents;
- commit resources to fully support their health and safety duties and the Target Zero programme;
- embed effective communication systems;
- apply appropriate behavioural tools and techniques;
- establish reward and recognition systems;
- identify employee competency requirements and have training programmes in place to ensure employees are competent to understand the risk controls and behaviours expected to undertake the *works*;
- develop and apply key performance indicators (KPI's); and
- monitor effectiveness of systems and programmes.

The *Contractor* shall ensure that its leadership teams are familiar with the content of the Health and Safety Commission/Institute of Directors publication entitled "Leading Health and Safety at Work" which sets out an agenda for the effective leadership of health and safety. Its essential principles are:

- Strong and active leadership from the top:
- Visible, active commitment
- Establishing effective downward communication systems and management structures
- Integration of good health and safety management with business decisions

- Worker involvement:
- Engaging the workforce in the promotion and achievement of safe and healthy conditions
- Effective upward communication
- Providing high quality training
- Assessment and review
- Identifying and managing health and safety risks
- Accessing and following competent advice
- Monitoring, reporting and reviewing performance

19.3.2.3 Role of managers and supervisors

The *Contractor's* managers and supervisors shall be expected to demonstrate the following leadership behaviours:

- pro-actively co-ordinate, co-operate and interface with internal and external parties associated with the project;
- set high standards of health and safety performance and behaviour;
- take part in, and personally contribute to health and safety events, meetings and campaigns, and promote and implement the Target Zero programme;
- ensure that persons for whom they are responsible are aware and accurately informed about the risk and hazard associated with their tasks and of their own health and safety responsibilities and accountabilities;
- challenge poor health and safety performance and personally take action when they see a breach of rules or unsafe working practices, however small;
- reinforce to all direct reports and others their right to stop work that may expose employees and others to harm;
- maintain awareness of the *Employer's* health and safety policies, rules, standards and performance targets that affect their activities;
- ensure that a purposeful communication system is established between themselves and their workforce;
- ensure compliance with, and support of health and safety plans, audits, visits or inspections by the *Project Manager* and/or *Employer*;

- participate and actively engage in the *Employer's* steering groups forums provided as a platform to improve HSE co-ordination and co-operation;
- participate in behavioural perception and culture surveys as required or specified by the *Project Manager*;
- participate in organised site tours, leadership walk-downs as required or specified by the *Project Manager*;
- engage and require high standards of health and safety behaviours from the supply chain; and
- actively encourage feedback from the workforce and take appropriate actions and where necessary reinforcing the stop work process.

19.3.3 Crossrail Golden Rules

In support of the Target Zero programme, the *Employer* and *Project Manager* have developed Crossrail Golden Rules that are to apply to everyone involved in the Project.

The Crossrail Golden Rules focus on those activities that are known to represent particular safety risks at sites and are designed to mandate behaviours that will protect all workers from serious harm.

The *Contractor* shall ensure that all people engaged on the *works* understand and comply with the Crossrail Golden Rules to support the purpose of creating a safe working environment.

The Crossrail Golden Rules are detailed in Appendix C and cover the following seven topics:

- All projects (conveying general requirements that apply to all work).
- Plant Operation, Vehicles & Driving;
- Lifting (all lifting equipment and cranes);
- Working at Height (excluding the use of ladders for access);
- Breaking Ground;
- Confined Spaces; and
- Energy/ Electrical Isolation

The *Employer* will provide copies of the Crossrail Golden Rules in poster form and other formats. The *Contractor* shall display copies of the Crossrail Golden Rules in poster form in prominent locations around the Site and use other formats for communication of the Crossrail Golden Rules to all people engaged on the *works*.

The *Contractor* shall ensure that the Crossrail Golden Rules form a key part of the induction process and the ongoing training of all people engaged on the *works*. The *Contractor's* managers and supervisors shall routinely check the workforce's knowledge of the Crossrail Golden Rules and reinforce through their own actions and behaviour.

The Crossrail Golden Rules shall be applied firmly and fairly and the *Contractor* shall ensure that breaking the Crossrail Golden Rules is a disciplinary issue that the *Contractor* shall manage in accordance with the consequence management protocols described in 19.3.7 below.

19.3.4 Target Zero and Behavioural Safety

19.3.4.1 General

The *Contractor* shall actively co-operate with the *Employer* and the *Project Manager* in enabling people to make safe choices regarding their behaviour at work. This can be achieved by a range measures.

The *Contractor* shall cooperate and participate and shall procure subcontractors and suppliers of any tier that shall cooperate and participate in the *Employer's* Target Zero programme.

19.3.4.2 Behaviour Based Safety Programme

As a key part of this approach, the *Contractor* shall implement a behavioural based safety programme to address the human behaviour element of risk management and be able to provide feedback on behaviour trends and causes such that lessons may be shared and learned.

The *Employer* will run a Safety Alert process whereby lessons learned from behaviour observations, unsafe condition reports and/or incidents across the Project are reported and shared. The *Contractor* shall cooperate, support and participate in this process both as initiators of Safety Alerts and in the cascade of any Safety Alerts advised by the *Employer* and/or *Project Manager*.

19.3.5 Pre-Task Health and Safety Briefing

19.3.5.1 Pre-Task Health and Safety Briefing Process

The *Contractor* shall actively participate and engage in short specific health, safety and environmental briefings prior to the start of work activities. Use of this safety improvement process or similar shall be implemented on all sites in which the *Contractor* is the Principal Contractor.

The *Contractor* shall discuss the risks associated with the task and work area and compile necessary information to brief to the employees. The *Contractor* shall:

- ensure all employees are trained in the briefing process;

- establish a safe system follow-up with all employees to verify the briefing process is being implemented effectively;
- on completion of the briefing content discuss the content with employees; and
- display the briefing information in close proximity to the working areas.

19.3.5.2 Re-Briefing Process

Where an unsafe act or condition has been identified which involves stopping work, the Pre-Task Health and Safety Briefing requirements shall be re-assessed before work commences. The requirements for performing a re-briefing session are as follows:

- observe unsafe work in practice;
- stop work and send employees to a re-briefing session;
- advise the work's supervisor of the re-briefing action and where possible request their attendance at the session;
- determine the reason the unsafe work occurred;
- all employees involved agree to the safe work plan;
- employees sign the re-briefing documentation; and
- employees are allowed to return back to work.

These signed briefing sheets shall be retained by the *Contractor* at the location of the activity and made available to the *Project Manager* upon request.

19.3.6 Target Zero Communication, Engagement and Training

As part of the overall Target Zero programme, the *Contractor* shall introduce initiatives to reinforce the programme to stimulate education, engagement of the workforce and evolution of processes and procedures to provide a proactive approach to learning from experience and continuously striving to meet the principles of Target Zero.

Examples of these initiatives are listed below:

- contractor's HSE Forums;
- mobile safety bus;
- people based safety;
- incentive schemes;

- safety alerts and bulletins;
- HSE stand downs;
- broken lives programme;
- *Employer* led Target Zero programmes;
- poster campaign; and
- interactive media tools.

19.3.7 Target Zero and Consequence Management

The consequence management arrangements that the *Contractor* shall follow for breach of all rules (including the Crossrail Golden Rules) are as outlined in this part of the Works Information.

The *Contractor* shall have in place procedures to drive positive behaviours; where disregard for safety will potentially expose site personnel and visitors to danger. Procedures shall include a 'stop work' process that reinforces this approach providing site personnel with an opportunity to engage management and resolve unsafe activities at source. The *Contractor* shall maintain effectiveness of the safety programme, enable continuous improvement, and maintain records.

19.3.8 Target Zero and Recognition and Reward

The *Contractor* shall develop a health and safety recognition and reward programme designed to incentivise personnel and construction and management teams at all levels to make a positive contribution to excellent health and safety performance such as near miss reporting and safety observations.

The *Contractor* shall submit his proposals for a recognition and reward programme to the *Project Manager* for acceptance. The *Contractor* shall implement the accepted recognition and reward programme.

The *Contractor* shall fully support the *Employer's* health and safety incentive programmes, and actively engage in joint inspections, and reviews by the *Project Manager* and/or the *Employer*.

19.3.9 Work Safe Arrangements

19.3.9.1 Responsibilities

The *Contractor* shall ensure that all employees and subcontractors and suppliers of any tier are made aware of their responsibility for their own safety and the safety of others and for ensuring that the activities they undertake are safe and do not place others at risk. The *Contractor* shall ensure that employees do not enter any areas where they are putting themselves or others at risk in doing so.

The *Contractor* is reminded that no employee is expected to undertake a task where they have concerns for their own safety and safety of others. The *Contractor* shall ensure that any health or safety concerns raised by employees and the associated actions taken shall be recorded to allow for appropriate trend analysis and remedial action to be undertaken.

The *Contractor* shall ensure that work safe arrangements for complaints or concerns are addressed in a timely manner. Arrangements shall be put in place to advise all employees and subcontractors and suppliers of any tier and visitors before entering any worksite through orientation, pre-start briefings, work method statements, risk assessments and other communication forums reinforcing open communication for work safe issues and complaints and concerns.

19.3.9.2 Review of Worker Concern

The *Contractor* shall comply with the following guidance for a concern or a refusal to work issue raised by an employee (this guidance is also set out in the H&S Standard):

- it is the responsibility of the employee's supervisor or manager to include additional persons in the refusal to work review, where they bring required areas of expertise;
- if the employee is still not happy with the environment or task being carried out and agreement cannot be reached, they have the right to continue to refuse to work and the concern shall be raised as an incident. The task can then only be continued once a thorough risk based review has been undertaken of the task and environment;
- the employee is made aware of the various choices they have for raising concerns with other parties (e.g. local Health and Safety Representative, the *Employer's* and/or the *Project Manager's* health and safety team); and
- where an agreement has been made and the task continued, this shall be advised to the *Project Manager* for noting along with the associated mitigation action taken.

19.3.9.3 Review of Visitor Concern

The *Contractor* shall comply with the following guidance for a concern raised by a site visitor (this guidance is also set out in the H&S Standard):

- it is the responsibility of the supervisor or manager responsible for the visitor to include additional persons in the review where they bring required areas of expertise;
- it is essential that visitors are in a position of safety before any discussions on the concern takes place;

- if the visitor is a member of an enforcing authority then the visitors guide must ensure that the *Contractor's* senior manager and the *Project Manager* are notified immediately; and
- where an agreement has been made and the task continued, the *Contractor's* senior manager shall decide on the level of reporting for the concern. As a minimum, the concern raised and the mitigating action taken recorded to allow for trend analysis.

19.3.10 Regulatory Liaison

The *Contractor* shall provide free and unhindered access to any regulatory enforcement staff and other parties such as representatives of insurers. The *Contractor* shall ensure that the *Project Manager* is contacted and advised immediately of pre-arranged and unannounced site visits and of all actions by regulators in connection with the *works*, including:

- site visits and comments made during such visits;
- site inspections and comments made during such inspections;
- written communication; and
- enforcement notices or other formal action.

The following regulators are seen as key and influential stakeholders in relation to health and safety matters:

- Health & Safety Executive;
- Local Authority Environmental Health Officers;
- London Fire and Emergency Planning Authority;
- Office of Rail Regulation; and
- Port of London Authority.

The *Employer's* Health and Safety Director takes primary responsibility for maintaining good communications between the Project and the above parties on health and safety matters.

The Project via the *Employer's* Health and Safety Directorate shall maintain regular and routine contact with all regulators on health and safety matters, primarily through regular communications, formal reports and meetings.

19.4 Occupational Health

19.4.1 General

The *Employer* believes an occupational health programme delivered through the effective implementation of the occupational health standards, as essential in the delivery of the overall business objectives.

Good health will have a positive effect on employees and the delivery of the Project.

As well as providing clinical services such as health checks, occupational health services aim to be proactive in their management of employee health.

The *Employer* recognises key areas in occupational health which an effective programme will help to achieve:

- Promotion and maintenance of the highest degree of wellbeing of workers
- Ensuring that workplaces are designed in order to prevent workers health being affected by working conditions. Thus reducing the impact of work on health;
- The protection of workers in their employment from risks resulting from factors adverse to health
- Reduction absence due to work related illness
- Eliminate preventable ill health and
- Rehabilitate workers

Constructing Better Health

The *Employer* has adopted the Constructing Better Health (CBH) Industry Standards for Workplace Health in UK Construction as part of the Crossrail occupational health checks programme. Further information can be found on the Constructing Better Health website: www.constructingbetterhealth.co.uk.

Contractor CBH Responsibilities

The *Contractor* shall become a member of the CBH scheme and ensure that all employers within the *Contractor's* supply chain (contractors and suppliers of any tier undertaking construction work on this contract) also become registered members of Constructing Better Health and the Constructing Better Health standards are implemented by them;

The *Contractor* shall ensure that any individual working within the Site and/or the Working Areas are registered with CBH and issued with a CBH unique reference number and card unless they are an existing holder of a CBH card or an affiliated card.

The *Contractor* shall ensure that CBH Standards for health checks include; health surveillance, fitness work assessment of safety critical and non safety critical personnel are implemented on this contract, and the outcomes from the assessment are recorded in the CBH database.

The *Contractor* shall ensure that line managers and supervisors are given sufficient instruction and training to allow them to identify risks to employee health, with assistance from their health and safety team or professional occupational health advisor, where necessary.

19.4.2 Occupational Health Services Providers

The *Contractor* shall ensure that their Occupational Health Service Providers and those of their supply chain are members of CBH and have attained the standard of practice 'Safe Effective Quality Occupational Health Service (SEQOHS)' which has been accredited by the Faculty of Occupational Medicine by December 2013.

The *Contractor* shall ensure that their Occupational Health Service Providers and those of their supply chain provide advice and guidance on achieving compliance with this part of the Works Information as well as:

- providing advice on occupational health issues as they arise;
- development of strategies to reduce exposure to health risks and in response to
- potential emergency situations;
- providing guidance on monitoring performance; and
- promotion of health and fitness.

The *Contractor* shall ensure that:

- occupational health risk assessments are completed by a suitably competent person;
- an occupational health provider is engaged to provide full occupational health services and that additional first aid and emergency provisions which may be provided by a site nurse are made available at all facilities/sites;

The *Employer* has engaged with and prepared a list of Occupational Health Service Providers who have undergone an audit process in regard to occupational health capability. The list of Occupational Health Service Providers can be found on the *Employer's* website within the Occupational Health section of the Health, Safety and Security area. These organisations have demonstrated the capability to provide the full range (proactive and reactive) and/or solely preventative occupational health services. The *Contractor* (including the employees of site based subcontractors and suppliers of any tier except lorry drivers whose health requirements are included within LGV driving licence requirements and therefore outside the scope of CBH): may select any a SEQOHS and CBH accredited Occupational Health Service

Provider to provide the mandatory occupational health, drug and alcohol, first aid, treatment and emergency response services in the sections below.

19.4.2.1 Occupational Health Services (Mandatory Requirement)

The *Contractor* using the occupational health expertise required within the Works Information:

- provides health questionnaires for completion by individuals who are not safety critical on commencement for construction personnel and where appropriate for office based staff in accordance with the Industry (CBH) standards, unless the individual can demonstrate they have a current assessment recorded in the CBH database;
- provides construction Safety Critical Worker fitness for task assessments in accordance with the CBH standards to all construction safety critical workers unless the individuals can demonstrate they have a current assessment recorded in the CBH database;
- provides railway Safety Critical Worker health assessments in accordance with the London Underground and Network Rail standards where appropriate for all railway safety critical workers unless they can demonstrate they have a current assessment recorded in the CBH database;
- provides specific health assessments for those referred following evaluation of questionnaires and maintaining a record of these assessments in accordance with CBH Standards;
- provides specific health surveillance defined by risk assessment for those requiring such surveillance under applicable health and safety legislation;
- provides occupational hygiene services to support and assess ill health prevention management;
- provides the opportunity for health checks for operatives, including general health, personal guidance, health promotion, etc. and to include relevant factors for safety critical workers
- provides lifestyle checks including general health, personal guidance, health promotion, etc.;
- contributes to the effectiveness of attendance management, rehabilitation and return-to-work programmes;
- supports ill health incidence investigation where necessary; and provides health promotion programmes applicable to construction operatives' workplace and lifestyle
- makes physiotherapy services available to treat musculoskeletal problems arising at work or outside work, but impacting on work; and

- provides physiotherapy services to liaise with other clinical professionals to ensure effective case management.

19.4.2.2 First Aid, Treatment and Emergency Response Services (Mandatory Requirement)

- providing first aid and emergency response services to be operated from site based facilities appropriate to each work location;
- providing a treatment service for those likely to have difficulty accessing medical care locally;

19.4.2.3 Drug and Alcohol services (Mandatory Requirement)

- testing for drugs and alcohol in accordance with the requirements of the Works information

19.4.2.4 Other Occupational health services to be provided

In addition to the above Occupational Health services detailed, the *Contractor* shall ensure that the additional occupational health services detailed below are provided by the *Contractor's* Occupational Health Service Provider:

- provision of advice and guidance on occupational health to the *Contractor*
- contributing to the development and continuous improvement of the occupational health and well being strategy through attendance at and cooperation with the CBH meetings and *Employer's/Contractors Health and Safety Managers* (Occupational Health) Forums;
- providing advice to the *Contractor's* supply chain to assist in compliance with the *Employer's* occupational health standards;
- ensuring appropriate clinical governance is in place to incorporate suitable record keeping including the use of the CBH record system; and
- compiling periodic reports detailing activity and achievements.

The *Contractor* is responsible for auditing and reviewing their Occupational Health Service Provider on a regular basis and providing the outcome of these audits to the *Project Manager* upon request

19.4.3 Reducing the Impact of Work on Health

Eliminating and reducing exposure to health risks is a requirement of all organisations working on the Project; in particular the *Contractor* must ensure that:

- design teams have suitable and professional advice available, to enable them to conduct adequate/suitable and sufficient assessment of health risks;

- design teams are briefed/trained on the *Employer's* guidance document Healthy by Design which is available from the Employer's website (<http://www.crossrail.co.uk/delivering/health-safety-security/occupational-health>);
- design teams have systems and controls in place to ensure that occupational health issues are identified, eliminated where possible and/or mitigated where necessary so as not to import additional risk into the Project through materials, equipment or work processes;
- design teams have occupational hygiene advice available to enable suitable and sufficient assessment of health risks;
- design teams share issues across the Project at the designers forum;
- physiotherapy services are available to be involved in ergonomic / design issues as appropriate;
- line managers and supervisors are provided with time and resources to implement guidance given by the Occupational Health Service Providers;
- line managers are encouraged to work with Occupational Health Service Providers when carrying out risk assessments and considering process modifications to ensure that the potential health impacts are considered;
- time and resources are made available to line managers, from Occupational Health Service Providers, to facilitate the reduction of the impact of work on health
- line managers involve Occupational Health Service Providers in the review of accidents, incidents and exposure control;
- systems and controls are in place to ensure that occupational health issues are identified, eliminated where possible and/or mitigated where necessary so as not to import additional risk into the Project through materials, equipment or work processes; and
- processes are in place to audit and review occupational health arrangements.

19.4.4 Reducing the Impact of Health on Work

The *Contractor* must put in place processes to control the impact of work activities on people with existing health conditions. Processes to be introduced include fitness for work assessments and periodic health surveillance - including:

19.4.4.1 Fitness to Work

As a part of the induction process, the *Contractor* shall ensure that construction workers and office staff (where appropriate) shall be assessed using the health assessment matrix contained in the CBH Fitness for Task Standard which is

available on the CBH website (<http://www.cbhscheme.com/Publications>), and be classified as safety critical or non safety critical. These individuals must then be subjected to a health assessment in accordance with the Fitness for Task Standard.

In addition to the above any individuals undertaking railway related safety critical work listed in LU Standard 1-548 Safety Critical Work shall be subject to a health assessment in accordance with the LU standard 1-601 management arrangements to ensure medical fitness.

These assessments must be repeated at the intervals set out in the CBH Standards and LU Standards.

19.4.4.2 Health Surveillance

The *Contractor* shall have a process that identifies those workers who require health assessments. The period and nature of the assessment will be defined by the occupational health provider and CBH Standards. The assessment shall also take into account the nature of and risks associated with the work that is being carried out and any individual circumstances.

The *Contractor* shall ensure that the occupational health provider:

- develops and operates health surveillance programmes;
- provides advice when health surveillance is required having reviewed the risk assessments, hygiene data and CBH standards;
- completes health surveillance within an appropriate timescale;
- informs organisations and individuals, within an acceptable timescale, of the outcome of all health surveillance;
- retains all clinical records for the statutory period and ensure all data protection requirements are met;
- ensures a CBH compliant consent form for holding information on the CBH database is provided to all individuals and explains to them the purpose of the consent
- records details of assessments in the CBH database;
- provides statistical information and trend analysis of the results of health surveillance to an agreed programme; and
- provides advice to the *Contractor* and employees on all matters relating to occupational health and brings to their attention any matters where additional mitigating measures are required within design, procurement or construction and emergency service requirements.

19.4.5 Employee Wellbeing

The *Contractor* shall have in place processes to promote health and well-being. The *Contractor's* accepted Occupational Health Service Provider shall use these activities to raise awareness of work-related and lifestyle health issues.

19.4.5.1 Campaigns and Education

The *Contractor* shall ensure that their Occupational Health Service Providers utilise campaigns and targeted health education to reduce the risk of occupational disease, to raise awareness of health trends and the benefits of a healthy lifestyle. As a minimum this shall include:

- participation with the quarterly health and well being programmes which will run throughout the Project, based on topics agreed at the *Employer's* occupational health forum aiming to involve 100% of the construction workforce; and
- holding monthly construction site based campaigns which tackle site specific health issues based on risk assessment, health surveillance, fitness for work and accident data. These campaigns should target as a minimum 25% of the workforce.

19.4.5.2 Lifestyle screening

The *Contractor* will make available lifestyle screening, where appropriate tied in to health and well being programmes, to all personnel (including subcontractors) working on the contract with the aim of offering appointments to all personnel every two years.

19.4.6 Management and Assessment of Fatigue

The *Contractor* shall develop suitable management arrangements to control working hours and/or shift patterns in order to address and manage the risk of fatigue and submit these proposals to the *Project Manager* for acceptance.

The *Contractor* shall adopt industry best practice arrangements and review and assess these arrangements with the *Project Manager* in accordance with the Working Hours and Shift Pattern Assessment criteria detailed below. These include an assessment of shift patterns, rotation of workers, restrictions on overtime, maximum working hours identified, localised welfare provisions and the extent of mandated weekends off for operatives. Guidance on the management and assessment of fatigue is provided in Health and Safety Executive report reference RR446 entitled "The Development of a Fatigue/Risk Index for Shift workers".

Very Poor

Inadequate system in place to manage fatigue in the tunnelling/ construction scope of work.

Poor	Management of working hours only as part of it's arrangements to manage fatigue within the tunnelling /construction scope of work.
Fair	Shift patterns, overtime restrictions, rotation of workers and support inclusion of travel time as part of it's arrangements to manage fatigue, along with provision of welfare facilities within the tunnelling/construction scope of work.
Good	Shift patterns, restrictions on overtime, maximum working hours identified, localized welfare provisions, utilization of HSE Best practices, mandated weekends off for workers.
Excellent	Shift patterns, rotation of workers, restrictions on overtime, maximum working hours identified, localised welfare provisions, full utilization of the HSE Best practices on fatigue, risk index calculator, mandated weekends off for workers.

The *Contractor* shall ensure that the minimum Fatigue/Risk Index assessment achieved for its working hours and shift pattern proposals is 'Fair'. Where an assessment of 'Fair' is achieved the *Contractor* shall develop an improvement plan to work towards an assessment of 'Good' or 'Excellent'.

Working hours or shift pattern proposals that result in an assessment of 'Poor' or 'Very Poor' shall be unacceptable. Where an assessment of 'Poor' or 'Very Poor' is achieved the *Contractor* shall take immediate measures sufficient to achieve an assessment of 'Fair'.

19.4.7 Construction Site First Aid, Treatment and Emergency Response

The *Contractor*, shall ensure that its emergency response provision includes:

- Treatment room(s) and equipment positioned at appropriate locations taking into account risk assessments, hazards, work patterns, number of workers and access to local treatment services;
- Sufficient first aid cover, taking into account detailed risk assessment;
- First aiders trained in relation to site specific situations/ hazards and updated on the basis of accident data review;
- First aiders to have awareness of emergency response requirements.;
- Sufficient emergency medical staff cover, taking into account detailed risk assessment and speed of access to local off site emergency services;

- Sufficient emergency medical staff trained, in line with UK best practice, and able to manage site specific issues;
- Staff responsible for ensuring appropriate facilities, equipment, staff and first aid cover available;
- Emergency medical staff responsible for liaison with offsite emergency services as appropriate to this contract; and
- Regular liaison and planning with appropriate local offsite emergency services e.g. London ambulance service, helicopter emergency services and the hazard area response team..

19.4.9 Alcohol and Drugs

The *Contractor* shall enforce a strict drug and alcohol policy across the contract that will apply to all persons engaged on the *works*.

19.4.9.1 Policy

The *Contractor's* Drug and Alcohol policy shall be equivalent in effect to the *Employer's* Drugs and Alcohol Policy (Document Number CR-XRL-Z2-PCY-CR001-Z-50002) attached, related procedures and as specified within this document or as issued to the *Contractor* from time to time. It shall apply to all persons engaged on the works whether based within the Site and/or the Working Areas or travelling to and from the Site and/or the Working Areas in connection with the *works* (for example van, lorry and other delivery drivers).

Drugs

For the purpose of this document, the term 'drugs' includes:

- Controlled Drugs as defined in the Misuse of Drugs Act 1971 (comprising Class A, Class B and Class C drugs)
- Drugs that are taken for a reason other than for a medically prescribed purpose
- Drugs which have been prescribed by a registered medical practitioner, e.g. for a diagnosed health condition.
- Drugs that can be purchased over the counter, e.g. pain relieving tablets (Paracetamol) or hay fever relief
- Any other substances which can affect performance e.g. solvents and glues.

The *Contractor* is required to operate a zero tolerance approach to the misuse of drugs. In addition the Contractor shall ensure that no Controlled drugs as described

above shall be brought into, or consumed by any person within the Site and/or Working Areas and associated welfare facilities or while delivering Equipment or Plant and Materials.

Alcohol

The *Contractor* is required to ensure all personnel engaged on the Project take a responsible approach to alcohol.

- Individuals must not report for duty under the influence of alcohol.
- Alcohol must not be consumed while at work or while on call
- Alcohol must not be consumed during meal/rest breaks in the working day
- Alcohol levels must not exceed those stated in section 19.4.9.4
- Alcohol should not be consumed in the eight hours immediately before starting work

As a guide no more than seven units of alcohol should be consumed in the sixteen hours before that eight hour period commences. However please note that consumption levels are affected by gender, body mass index, metabolism and prescribed medication.

Individuals

The *Contractor* must ensure that employees, subcontractors and visitors are aware of their responsibility to inform management (Managers/Supervisors) if they are taking prescribed medication or over the counter medication e.g. Paracetamol or Ibuprofen preparations. This is to enable management to decide (with appropriate professional advice from their OH service) whether the medication will have a negative impact on the individual's ability to perform their duties.

The *Contractor* shall advise the *Project Manager* of any personnel who are 'safety critical' and are under any form of prescription medication without delay and comply with any direction given.

19.4.9.2 Drug and Alcohol Testing

The *Contractor* shall operate a comprehensive drug and alcohol testing programme and must ensure that all persons engaged on the works cooperate with the testing

programme by making themselves immediately available on request for a test required either by the *Contractor* or by the *Project Manager*.

The *Contractor* shall ensure that all persons tested have given explicit consent to testing and processing of such data by signing a consent form. The consent form should indicate the outcome of the testing may be shared with the *Project Manager*, the *Employer* and other organisations engaged on the Project for the purpose of ensuring that they are excluded from the Project on grounds of safety if a test is failed or refused. Further advice may be obtained from the *Employer*.

The consent form, as a minimum must contain the following text:

“I freely give my consent:

1. to the test;
2. for the results of the test to be forwarded to my employer/prospective employer; and
3. if I fail the test, for the test results to be forwarded to Crossrail Limited, and shared with other contractors on the Programme.

I also understand that, if I fail the test, I will be excluded from the Programme. “

In addition it should include a copy of the Crossrail Privacy Statement:

“Crossrail Limited operates in accordance with the Data Protection Act 1998. Crossrail Limited and its contractors will process the personal information you have provided solely for the purpose of compliance with Crossrail Limited’s Drugs and Alcohol Policy. We may share this information with other companies engaged on the Crossrail Project for the purposes of compliance with this Policy only. All your personal data in respect of this test will be deleted six months after the date of the test.”

The tests shall screen alcohol levels and look for the presence of drugs including cannabis, amphetamines, cocaine, benzodiazepines, barbiturates, ecstasy (MDMA), heroin, methadone, opiates, ketamine and other substances which meet the definition of drugs.

Drug and Alcohol testing will be undertaken for:

- Pre Placement screening at Induction*
- Random Screening**
- For Cause/Post Incident screening
- On visitors attending the worksite if their behaviour indicates a need to test.

* London Underground Ltd, Network Rail, Docklands Light Railway, and utility company employees and their subcontractors who are engaged in work not

contracted by the *Contractor* will have already been tested in accordance to the requirements of their own regime/agreement, and therefore will not be subject to the pre-placement testing programme. Any *Contractor* testing arrangements affecting London Underground Ltd, Network Rail or utility companies that exceed this standard will be managed by the *Contractor*.

** If a London Underground Ltd, Network Rail, Docklands Light Railway or utility company employee, or their subcontractors are selected by the Contractor for random testing; their respective employer shall be informed and shall make arrangements for a test to be completed. The employee shall be stood down from working at a Crossrail site until a test has been arranged by their employer and non positive results evidenced.

Learning Legacy Document

19.4.9.3 Testing Method

Collection and analysis of test samples (screening stage)

The *Contractor* must ensure that test samples are collected by suitably trained persons using either:

- The laboratory chain of custody protocol or
- The drug point of care (POCT) collection/ Alcohol Breathalyser protocols. Strict protocols as laid down by the kit manufacturers must be followed.

Where point of care testing is undertaken, as a minimum 11 bar kits must be used which test for all substances as listed above.

Where laboratory chain of custody protocol is undertaken, a suitably trained collection officer will collect samples and ensure they are securely transported and stored before analysis.

All methods will ensure that samples are tamper proof and correctly labelled before testing. There will be safeguards in place to ensure that the reported results can be related to the correct individual.

Confirmation stage of point of care test non negative result

Where the point of care/breathalyser protocol has been followed and there are concerns (Non negative result) with the result, a sample must be sent to the laboratory using chain of custody protocols. Individuals should be suspended from duty on full pay pending confirmation of the laboratory result. Fastrack laboratory testing, at additional cost, may be considered.

Positive results should only be recorded as such on the Drug and Alcohol Register following laboratory test confirmation.

Laboratories used for drug and alcohol analysis will be:

- a) UKAS (or European equivalent) accredited to IOS/IEC 17025:2005
- b) Subject to blind analysis testing under an external quality assurance scheme.

19.4.9.4 Positive test results and consequence

A positive result will be recorded when:

- More than 29 milligrams of alcohol in 100 millilitres of blood
- 13 micrograms or above of alcohol in 100 millilitres of breath
- More than 39 milligrams of alcohol in 100 millilitres of urine
- An individual avoids or refuses to undertake a test
- A test sample has been deliberately interfered with, contaminated, altered or corrupted by the individual being tested

19.4.9.5 Consequences of positive results

If a positive drug and alcohol test result is recorded as per the criteria above, this will constitute a failure and the *Contractor* shall immediately exclude that person from the Site and/or the Working Areas.

The *Contractor* shall report to the *Employer*, with a copy to the *Project Manager*, as per procedure by entering information onto the Drug and Alcohol Register immediately. If there are difficulties accessing the Drug and Alcohol Register, please email D&ARegister@crossrail.co.uk. Please enter the following Information on the Drug and Alcohol Register:

- Date of test
- The name, national insurance or passport number of the person who has failed a test
- A copy of the test result
- A copy of the consent form signed for the person who has failed a test

In the case of any person engaged on the works who has refused to take a test, details to be entered on the register are:

- The name and details of that person together with written confirmation of termination of employment or of engagement on the contract.

If the *Contractor* is unable to access the Drug and Alcohol Register for any reason, he shall immediately provide the information listed above to the *Employer* by emailing the details (including a copy of the signed consent form) to

D&ARegister@crossrail.co.uk. The *Employer* will arrange for those details to be added to the Drugs and Alcohol Register.

The Drugs and Alcohol Register contains details of all individuals who have failed a drugs and alcohol test or refused to take a test and remain subject to a period of exclusion from the Project. The period of exclusion will be six months.

The *Contractor* shall ensure that it does not permit any person on the current version of the Drugs and Alcohol Register to be engaged on the *works* or allowed into the Site and/or the Working Areas.

Access to the Drugs and Alcohol Register will be tightly controlled. The *Contractor* shall notify the *Project Manager* of the names and contact details of the individuals responsible for ensuring that persons who are excluded from the Project are not engaged on the *works*. The *Employer* will ensure that the notified individuals are given access rights to the Drugs and Alcohol Register. The *Contractor* shall notify the *Project Manager* immediately a notified individual is no longer responsible for ensuring that persons excluded from the Programme are not engaged on the *works* and will notify the *Project Manager* of the name and contact details of the individual who will assume that responsibility. The *Contractor* shall ensure that such individuals use the sensitive personal data contained in the Drugs and Alcohol Register solely for the purpose set out above.

The *Contractor* shall ensure that the responsible individuals use the sensitive personal data contained in the Drugs and Alcohol Register solely for the purpose set out above.

19.4.9.6 Reporting

The *Contractor* shall report to the *Project Manager* on a periodic basis, the number of drug and alcohol tests which have been carried out, the number of failures and the consequential action taken in each case.

19.4.10 Welfare Arrangements and Hygiene

The *Contractor* shall provide quality welfare facilities to support the overall occupational health programme. Welfare facilities must be established and in working order before any works on site commence. All toilet, washing, changing, personal storage and rest areas must be easily accessible and have adequate heating, lighting and ventilation. Facilities may need to be provided at more than one location on a large site to ensure workers have easy access.

The *Contractor* shall provide arrangements to ensure good hygiene standards throughout the welfare and office facilities provided. As a minimum the *Contractor* shall ensure that all of the following are provided before commencement of the works:

- washing facilities (including provision of barrier and after care skin treatments, etc);

- facilities for storage and drying of work wear;
- rest facilities;
- designated smoking areas;
- drinking water;
- general maintenance and cleaning; and
- welfare vehicles / temporary facilities.

The *Contractor* may use portable toilet/wash facilities on sites where the duration of works does not exceed seven days.

Special welfare and hygiene arrangements shall be provided as necessary in compliance with relevant specific legal requirements such as lead and asbestos, etc.

19.5 Construction Site Risk Management

19.5.1 Risk Management

The *Contractor* shall undertake assessments of the health, safety, security and fire risks involved in work activities and implement appropriate preventive and protective measures in accordance with the relevant health, safety and environmental legal requirements including Regulatory Reform Fire Safety Order, and the Management of Health and Safety at Work Regulations.

The *Contractor* shall consider transport and Equipment movements to and from the Site and/or the Working Areas and how they may impact third parties and the general public (for example abnormal loads and traffic routes past sensitive locations such as schools). These aspects shall be detailed in the *Contractor's* Traffic Management Plan).

For any work to be undertaken at sites and/or on property owned or controlled by Others, work that has the potential to impact such properties or where activities are assessed as being a high potential health or safety risk to such the *Contractor* shall submit method statements and health and safety risk assessments to the *Project Manager* for acceptance.

19.5.2 Method Statements, Work Package Plans and Risk Assessments

Prior to any work being undertaken in the Site and/or the Working Areas, including sites and/or on properties owned or controlled by Others, the *Contractor* shall produce task-specific method statements and health and safety risk assessments. The *Contractor* may use the work package plan system as an alternative to method statements but must ensure that these are acceptable to the *Project Manager* for the works. Where work is covered by generic risk assessments, the *Contractor* shall include copies of these in the Construction Phase Plan prior to commencement of the *works* onsite. During the *works*, the *Contractor* shall review any relevant generic

risk assessments against the task and conditions on site and modify them where appropriate. The *Contractor* shall provide the *Project Manager* with copies of modified and task-specific risk assessments for acceptance.

Within four weeks of the *starting date*, the *Contractor* shall submit to the *Project Manager* for acceptance a preliminary method statements schedule including the following:

- list of method statements that will be produced throughout the *works* and the relevant work activities;
- indication if the relevant work activities impact assets or properties owned or controlled by Others, or the public;
- rating of the potential health or safety risks of the relevant work activities; and
- method statements submission programme.

In the case of the first submission of the preliminary method statements schedule the *Project Manager* will reply within 4 weeks of the date of submission. Any revisions, submissions and responses regards the preliminary method statements schedule shall be made within the period for reply.

The *Contractor* shall provide further submissions of the schedule when additional method statements are identified or the schedule of method statements change. The *Project Manager* shall specify the method statements requiring review and acceptance based on the potential health, safety or environment risks of the relevant work activities and their impact on Others.

Up to and for the first three months following the commencement of the *works* the *Contractor* shall submit method statements for review and acceptance by the *Project Manager* a minimum of four weeks prior to activity commencing. The *Contractor* may submit an alternative submission timescale for activities after the first three months of the *works* for the acceptance of the *Project Manager*. The *Contractor* shall not start the relevant works activities until the *Project Manager* has accepted the method statement.

Where the method statements will require review by Others, the *Contractor* shall submit the method statement to the *Project Manager* six weeks prior to work commencing.

19.6 Construction Design & Management (CDM) Regulations 2007

19.6.1 General

The Programme and Project will be delivered through a number of separate contracts each with obligations under the CDM Regulations. Although each of these contracts will be independent, they will be managed as part of an overall programme of works with close coordination and cooperation between them.

Each contract will be independently managed with the respective CDM Regulations duty holders appointed via a documented process, which will verify that adequate and competent resources are available for each duty holder to discharge their duties under the CDM Regulations.

For contracts where the *Employer* is the appointed Client under CDM Regulations the *Employer* shall also be the CDM Coordinator, represented by a nominated Crossrail Director, unless otherwise stated.

19.6.2 Not Used

19.6.3 Responsibilities of the *Contractor* for Design

19.6.3.1 General

Where the *works* include a requirement for the *Contractor* to design part of the permanent works and for all temporary works designed by the *Contractor* the *Contractor* fulfils the obligations of a designer under the CDM Regulations and the *Employer's* Designing for Health & Safety Procedure (Document Number CRL-PDP-Z7-GPD-CRG03-00011) attached at Appendix 19N.

19.6.3.2 Co-operation with the CDM Co-ordinator

In accordance with the CDM Regulations, the *Contractor* shall take all reasonable steps to provide sufficient information to assist the CDM Co-ordinator to comply with his duties.

The *Contractor* shall designate a lead coordinator whose duties include:

- providing coordination and ensuring cooperation with the CDM Co-ordinator throughout the health and safety management of the design process;
- arranging design review meetings and workshops with the *Project Manager*, *Employer* and Others responsible for design of the *works*; and
- to ensure the cooperation of the *Contractor's* design team to eliminate or mitigate risks and ensure that full coordination and cooperation is achieved with other relevant works designers & contractors.

19.6.4 Responsibilities of Principal Contractors and Contractors

The *Employer* has assessed which contractors will be a Principal Contractor and which contractors will be a 'contractor' in accordance with the CDM Regulations for each site and the duration of the role.

Works Information Volume 2A describes the interfaces with Others for this contract and the sites and durations for which the *Contractor* will be Principal Contractor or a contractor.

19.6.4.1 Principal Contractors

In accordance with its duties under the CDM Regulations, the appointed Principal Contractor shall be responsible for planning, managing and monitoring the construction phase of the *works* including the work to be completed by Others with whom the Principal Contractor shares the worksite.

Without limitation to its duties under the CDM Regulations, where Principal Contractor shares the worksite with Others, the Principal Contractor shall:

- provide site inductions including a 'Welcome to Crossrail' induction;
- issue security passes and control site access;
- review risk assessments and method statements and incorporate plans into the Construction Phase Plan;
- ensure suitable welfare facilities are provided from commencement of the *works* and maintained throughout the construction phase; and
- collate information for the health and safety file.

The Principal Contractor shall also:

- check competence of all their subcontractors and suppliers and where a party is novated to them to ascertain whether adequate checks upon competency were carried out and maintain records of such checks;
- plan, manage and monitor the construction phase in liaison with subcontractors and suppliers of any tier and other contractors with whom he shares the Site and/or the Working Areas;
- prepare, develop and implement the construction phase plan and provide subcontractors and suppliers of any tier and other contractors with whom he shares the Site and/or the Working Areas with relevant parts of the plan
- co-operate fully with the assurance activities of the *Project Manager*.

19.6.4.2 Contractors

In accordance with its duties under the CDM Regulations, the appointed contractor shall cooperate with the Principal Contractor responsible for planning, managing and monitoring the construction phase of the *works* for the worksite.

Without limitation to its duties under the CDM Regulations, the *Contractor* shall:

- check competence of all their appointees
- ensure that all employees and persons under its control attend the Principal Contractor's site induction and other safety briefings;

- comply with the Principal Contractor's security requirements;
- submit risk assessments and method statements to the Principal Contractor simultaneously with submissions made to the *Project Manager* (as per 19.5.2);
- notify the Principal Contractor of any subcontractor's it has employed for the *works*;
- provide information the Principal Contractor requires for the health and safety file; and
- co-operate fully with the assurance activities of the *Project Manager*.

19.6.5 Construction Phase Plans

The *Contractor* shall submit to the *Project Manager* for acceptance a Construction Phase Plan that shall comply with the CDM Regulations and the health and safety performance and monitoring requirements stated in the Works Information.

The submissions of the Construction Phase Plan shall cover as a minimum the following phases:

1. Mobilisation
2. Start of Works
3. Other phases, to be determined by the *Contractor*.

The *Project Manager* will reply within four weeks of the date of submission. Any revisions, submissions and responses shall be made within the *period for reply*. The submissions must be accepted prior to the relevant phase of the *works*.

The *Contractor's* Construction Phase Plan shall comply with the "Managing Health and Safety in Construction: Construction (Design and Management) Regulations 2007" approved code of practice published by the Health and Safety Commission and describe as a minimum, the following:

- the *Contractor's* proposals to implement the *Employer's* Target Zero programme on this contract addressing the Crossrail Golden Rules;
- the *Contractor's* health and safety objectives identifying how these align with the *Employer's* Target Zero programme;
- the *Contractor's* health and safety management structure and roles and responsibilities of individuals within the organisation;
- how the *Contractor* proposes to manage interfaces between subcontractors and suppliers and with other contractors with whom it shares the Site and/or the Working Areas;

- hazards and risks advised by designers, the *Project Manager* and Others;
- identification of hazards and the evaluation of significant risks associated with the site and work activities;
- development of methods for dealing with those hazards (e.g. employ a hierarchy of risk reduction as described in the approved code of practice) with a focus on arrangements designed to protect all construction personnel and others who may be exposed;
- documentation of methods for risk control in the form of risk assessments and associated health and safety plans and method statements;
- development and adoption of method statements that address sequencing, work methodology and controls/ precautions to protect site personnel along with anyone else who may be affected;
- maintaining of the risk assessments and associated health and safety plans and method statements incorporating and communicating any changes required to reflect changes such as those associated with site conditions and work scope;
- proposal for amendments to the *Contractor's* hazard and risk register, through the *Project Manager* where relevant;
- communication of the risk control arrangements to the *Contractor's* own personnel, to the *Project Manager* and to Others who may require this information for their own safety and security and to ensure efficient operations;
- review of training plans including toolbox talks and briefings with reference to risk control. ensuring that changes are communicated appropriately
- briefing on applicable method statements to all personnel at the point that they commence the work covered by each method statement and provide update briefings where a method statement is amended;
- throughout this process for developing and implementing risk management arrangements, to ensure effective liaison with the *Project Manager* and the active engagement of the contract team;
- management issues including responses to accidents, incidents and emergencies; and
- the Target Zero leadership culture including behavioural safety activity, leadership tours and other initiatives; and
- a health and safety improvement plan aimed at improving health and safety at a construction worker level, with meaningful objectives and actions and measurable outcomes in terms of health and safety performance.

19.6.6 Health and Safety File

The *Contractor* shall develop the Health & Safety File in accordance with the format agreed with the *Project Manager*.

Four weeks prior to Completion of the whole of the *works* or any section of the *works* the *Contractor* shall submit information required for the production of the health and safety file for the relevant part of the *works* to the *Project Manager* for acceptance.

19.6.7 Specific Health and Safety Hazards

The *Contractor's* Construction Phase Plan shall include plans and procedures to address the following specific health and safety hazards:

- the hazards addressed within the Crossrail Golden Rules;
- safety issues associated with higher risk activities (for example temporary works, buried services, work at height, confined spaces, demolition, working adjacent to moving plant and machinery, lifting operations, vehicle movements, work adjacent to wharfs and rivers, work on or adjacent to operational railway lines);
- Project wide issues including fire, security, site transport, slips, trips and falls and welfare facilities;
- tunnelling and related underground works;
- health hazards including asbestos, noise, vibration, hazardous substances, muscular-skeletal issues, Leptospirosis, waste storage and handling, anthrax.

19.6.8 Procurement and Supply Chain Management

The *Contractor* shall ensure the assessment of health and safety competence and performance are key criteria in the selection of subcontractors and shall form part of the *Contractor's* procedure for procurement of subcontractors. The *Contractor* shall ensure only competent subcontractors capable of complying with and sufficiently resourcing the relevant subcontract scope shall be engaged.

During the procurement process and after the appointment of subcontractors, it is the *Contractor's* responsibility to ensure that subcontractors are aware of and understand the requirements of the health and safety requirements stated within this part of the Works Information. The *Contractor* shall manage the interface between his subcontractors to ensure compliance with the health and safety requirements set out in this part of the Works Information and shall monitor and report health and safety performance periodically to the *Project Manager*.

19.6.9 Health and Safety Reporting

19.6.9.1 General

The *Contractor* shall provide suitable and sufficient resources to collate and input health safety and security performance data in the *Employer's* IMS-Rivo Safeguard database and shall ensure that the data is update on a period basis. The *Contractor* shall provide reports on the following key performance indicators to the *Project Manager* each reporting period:

- Incident information and data;
- Security and crime;
- Hours worked (non-manual and manual);
- Leadership tours performed (planned and completed);
- Behaviour observations performed (Safe and At risk %);
- Details of site H&S Inspections
- Audits (planned and completed %);
- Site Inspections (planned and completed %);
- Corrective Action Reports (CAR's);
- Health performance (drugs and alcohol testing (planned and completed %) including details of number of failures;
- Notable best practice (Health Safety Environmental & Security);
- Number of site managers on site and number certified to CITB Site Manager's Safety Training Scheme (SMSTS or equivalent) standard; and
- Number of site supervisors on site and number certified to CITB Site Supervisor's Safety Training Scheme (SSSTS or equivalent) standard.

19.6.10 Not Used

19.6.11 Not Used

19.6.12 Not Used

19.6.13 Not Used

19.7 Construction Site Management of Health, Safety and Environment

19.7.1 Worksite Access and Security

The *Contractor* shall control access to the Site and/or the Working Areas and passage between zones within the Site and/or the Working Areas in accordance with the requirements of the Works Information.

19.7.1.1 Site Induction/Training

The *Contractor* shall ensure that all employees, visitors, subcontractors and suppliers of any tier and other contractors working in the Site and/or the Working Areas attend a site induction and other training appropriate to the work taking place in the Working Areas before the person starts work in or enters the Site and/or the Working Areas.

Generally the three types of induction and/or training necessary are Programme, site specific and job role.

The *Contractor* shall provide inductions specifically for visitors (see item 19.7.1.3 below).

The *Contractor* shall also provide specific induction and training for construction management and supervisory staff.

For safety critical work and access to sites and property owned or controlled by Others further training requirements may be required, these include (but are not necessarily limited to) those described in:

- Works Information Volume 2A;
- Works Information Volume 2B Part 10 Network Rail Interface;
- Works Information Volume 2B Part 11 London Underground Interface;
- Works Information Volume 2B Part 12 Docklands Light Railway Interface; and
- Works Information Volume 2B Part 26 Logistics Management.

The *Contractor* shall put in place systems that ensure all inductions/training are implemented effectively and that the persons providing inductions have received adequate training to do so.

The *Contractor* shall ensure that access to the Site and/or the Working Areas and construction zoned areas is restricted to individuals who have received an appropriate level of induction and training and who are supervised according to the level of induction and training received.

The *Contractor* shall maintain a written record of attendance for inductions and safety briefings. This record shall be made available to the *Project Manager* on request.

19.7.1.1 Programme Induction

The *Contractor* shall provide an induction to the Crossrail Programme, including a health and safety section, to all personnel who will be working in the Site and/or the Working Areas, irrespective of employment status. This induction is called "Welcome to Crossrail" and will be provided by the *Employer* for the use of the *Contractor*. "Welcome to Crossrail" shall cover an overview of the Programme and

the mandated health and safety requirements that shall apply across all personnel working in or visiting the Site and/or the Working Areas.

“Welcome to Crossrail” is a modular programme that can be adapted to suit the needs of different audiences.

The *Contractor* shall be responsible for delivering “Welcome to Crossrail” to all site workers. The *Contractor* shall be provided with a pack of information containing a memory stick with videos and slides along with guidance notes. The *Employer* will provide regular updates to the pack to ensure the information remains current, relevant and interesting.

The *Employer* will provide support to the *Contractor* in the form of training to the trainers/briefings to ensure that the *Contractor's* presenters are able to deliver “Welcome to Crossrail” successfully. The *Project Manager* and *Employer* will monitor the consistency and quality of delivery through planned and unplanned visits to site inductions.

“Welcome to Crossrail” shall provide information on:

- Crossrail's past, present and future;
- the Crossrail 'family' and who is involved in delivering Crossrail;
- Crossrail's vision and values; and
- Target Zero programme and key messages on health, safety, security and the environment

“Welcome to Crossrail” shall last for approximately 45 minutes.

19.7.1.1.2 Site Specific

A site-specific induction, managed by the *Contractor*, should be delivered directly after “Welcome to Crossrail”.

The *Contractor* shall ensure that all employees, before they start or upon arriving at new locations/ sites receive the site-specific induction and are fully briefed by the relevant manager on the site specific health and safety and environmental controls including first aid, fire, emergency and accident procedures as identified in the Incident Plan (See Works Information Volume 2B Part 8 Incident Reporting), welfare facilities and other relevant procedures and controls.

This training shall cover as a minimum the following:

- site health, safety and security rules inc. Security Pass and PPE issue;
- the Crossrail Golden Rules and local application of the consequence management procedure (Crossrail Golden Rules information shall be provided to all persons during the induction);

- commitments and undertakings including traffic management arrangements and the Considerate Constructors Scheme;
- environmental responsibility e.g. noise, pollution, use of resources;
- the need for quality workmanship and inspection;
- site housekeeping;
- working safely and reporting of concerns;
- general site safety requirements;
- welfare arrangements; and
- competency/ training

Contractors are advised to ensure inductions incorporating *Employer* information and site-specific requirements are scheduled effectively to ensure a captive audience. Lengthy repetitive induction programmes can have a negative impact on material and core message, and requirements being delivered.

19.7.1.1.3 Job Role

The *Contractor* shall provide specific health and safety and environmental training for employees commensurate with the risks identified and in accordance with their training and development plans.

The *Contractor* shall provide sufficient information, instruction and training to ensure that all employees, and subcontractors and suppliers of any tier are competent in their health and safety and environmental duties.

The *Contractor's* supervisors and managers whose duties involve the direction and supervision of staff and site operatives shall be given training on their health and safety responsibilities and how to discharge them.

19.7.1.2 Construction Skills Certification Scheme

With reference to the security zoning requirements contained in Part 16 Security of Volume 2B of the Works Information, the *Contractor* shall ensure that all employees, visitors, subcontractors and suppliers of any tier and other contractors entering Security Zones 1 and 2 within the Site and/or the Working Areas are in possession of a valid Construction Skills Certification Scheme (CSCS) card. The *Contractor* shall ensure that the CSCS card held by individuals is appropriate to their specific role on the Contract.

An exception to this requirement is granted where the individual holds a valid card from a CSCS affiliated or amalgamated scheme (see Appendix 19D) or other Programme accepted scheme which has been assessed as meeting similar standards.

All persons working on Crossrail projects whether for the *Employer* or any contracting company, must hold a valid CSCS card (or equivalent).

The *Project Manager*, may in exceptional circumstances grant a short duration exemption for visitors or technical staff providing that they are escorted at all times by a person competent and authorised to be in the area and where a documented risk assessment has been completed which is authorised by the Principal Contractor. Others who would be exempt are; HSE or other enforcing body representatives, members of the emergency services, LU, DLR and NR staff attending to their assets or visiting the site, utility company representatives attending site under their statutory utility powers (usually carrying a pink card) or others who may from time to time be granted exemption by the *Project Manager*.

Persons joining the project from overseas must have evidence of competence for their particular skill, which the Principal Contractor has verified.

The Principal Contractor must maintain a register of all such persons and be confident that they understand the health & safety requirements of the project. They must be able to show evidence for audit that all such persons are applying for the relevant CSCS card and must as a minimum hold the visitors card within two months of starting on the contract..

19.7.1.3 Induction Arrangements for Visitors

The *Contractor* shall have arrangements in place to provide visitor inductions which shall include a summary of the following aspects:

- Site health and safety arrangements;
- Incident reporting procedures;
- Identification of key personnel and their roles and responsibilities;
- Crossrail Golden Rules;
- Target Zero Principles;
- Drug and Alcohol Policy;
- Site Incident Plan
- Site environmental arrangements; and
- Site security arrangements.

The *Contractor* shall submit the content of visitors inductions to the *Project Manager* for acceptance.

19.7.1.4 Tunnel Safety Card (TSC)

The *Contractor* shall ensure that all individuals employed on the relevant tunnelling works (including without limitation subcontractors and suppliers of any tier) who will

be required to enter underground construction and fit-out areas (TBM drives, shotcrete lining works and their associated shafts to include existing tunnels being refurbished) are in possession of a valid Tunnel Safety Card. The *Contractor* shall only use training providers who are accredited to provide Tunnel Safety Card training programmes and/or testing, such as the National Construction College (the training division of construction skills) currently associated with The Underground Training Academy (TUCA).

19.7.2 Information, Training and Supervision

19.7.2.1 Information

The *Contractor* shall ensure that:

- health and safety records relevant to the *works*, including induction, training and Equipment inspection and testing records, shall be kept in the Site and/or the Working Areas (including site office) and be available for inspection on request;
- copies of all relevant health and safety information to particular site activities is held by the team carrying out the *works* including method statements, risk assessments, written briefings and safety alerts/bulletins;
- site safety briefings are provided to all persons carrying out work tasks subject to method statement, risk assessments and permit controls, and written records maintained of briefings signed by all persons carrying out the tasks; (These briefings shall be completed daily and when the task or condition changes)
- the *works* are suitably supervised at all times and that operatives are aware of the person supervising their work activities and their whereabouts at all times; and
- supervisors receive induction on the health and safety requirements and of their specific responsibilities for health and safety aspects.

19.7.2.2 Training

Competence through knowledge, training and information is one of the key steps within the *Employer's* Target Zero programme. The *Contractor* shall implement an acceptable training regime to ensure that employees, subcontractors, suppliers and others under his control are sufficiently trained and understand the risk controls and behaviours expected.

The *Contractor* shall prepare and implement a training programme that takes account, as a minimum, of tasks, environment, behavioural and cultural influences, language, and best practice / lessons learned. This training programme must include a comprehensive briefing process that ensures all employees have been given a briefing on the task risks and controls prior to beginning any work activity.

The *Contractor* shall identify training needs for all personnel and ensure that appropriate training is provided. The training shall include "toolbox talks" for site

operatives to maintain an appropriate level of awareness on applicable topics and to advise employees of changing circumstances as work progresses. Records of attendance are to be kept and tracked.

19.7.2.3 Supervision

The *Contractor* shall ensure that competent persons supervise and manage the *works* at all times, in accordance with the *Employer's* Target Zero supervision requirements. The arrangements shall specifically address the supervision of new-to-site personnel and any others at particular risk. The arrangements shall also include those for addressing foreseeable emergencies. The supervisory arrangements shall be reviewed for adequacy and suitability in connection with any lone or isolated work.

Persons appointed to supervisory and management positions shall be experienced in the management of health and safety on construction projects and shall have received adequate training and induction for their role on this contract. Training and induction shall include demonstration by example of good practice and the impact of poor practice.

All persons employed by the *Contractor* who have supervisory responsibilities for others (including those from subcontractors and suppliers of any tier) must hold a current CITB site supervisors safety training scheme certificate (or equivalent accepted by the *Project Manager*). Persons considered to have supervisory responsibilities are those involved in the direction of day to day work activities with direct responsibility for putting people to work. They will typically brief the workers on how to carry out their work and ensure that they are carrying out their work safely.

The *Contractor* shall ensure that supervisors have attended a minimum one-day course related to recognising safe and unsafe behaviours. The *Employer* has developed a packaged course entitled "Leadership in Action" that will be made available to the *Contractor* on a train the trainer basis. The *Contractor* shall use this course or provide a course that covers the subject matter of this course as representative of a minimum standard of training.

All persons employed by the *Contractor* who are responsible for managing a site or managing the activities of others (including those from subcontractors and suppliers of any tier) must hold a current CITB site manager safety training scheme (SMSTS) certificate or CITB site supervisors safety training scheme (SSSTS) or equivalent accepted by the *Project Manager*. Persons having management responsibilities are considered to be construction directors, construction project managers, site agents, sub-agents, site managers/engineers, and senior supervisors such as general foreman and works managers.

19.7.2.4 HSE Forums

The *Contractor* shall be invited by the *Employer* and *Project Manager* to attend HSE Forums and events as part of the overall Safety Programme. The purpose of these forums or events is to stimulate engagement, learning opportunities and share lessons learnt and best practices between all members to assist developing and shaping the zero accident culture.

19.7.3 Vehicle Safety Management

The *Contractor* shall ensure they have a robust vehicle safety management plan to manage the movement of vehicles to and from the Site and/or the Working Areas and within the Site and/or the Working ..

19.7.4 Foreign Workers

The *Contractor* shall ensure its workforce fully understands the contract health and safety requirements including emergency arrangements and the application of the Crossrail Golden Rules. The *Contractor* shall have adequate arrangements for communicating health and safety information to non-fluent English speakers on site. These arrangements shall include:

- ensuring a translator is available who is capable of instructing the non-English speaking personnel in safety and other operational matters; and
- maintaining a ratio of not greater than four non-English speaking personnel to each translator at all times.

Special provisions for safety critical instructions conveyed by the translator shall be recorded as being received and clearly understood by non-fluent English speakers. Such records shall include those for safety induction, emergency procedures, safety method statements and safety awareness talks.

19.7.5 Confined Space

The *Contractor* shall ensure that a safe system of work is identified that documents all hazards, safety precautions and safe working practices associated with all confined space activities performed by employees.

A written risk assessment and method statement will be prepared by the *Contractor* to identify the controls required for a safe operation. The risk assessment and method statement will include the confined space entry permit and the control systems required for working in confined spaces.

The *Contractor* shall evaluate the workplace to determine which spaces (if any) are confined spaces and develop a safe system of work in accordance with The Confined Space Regulations and INDG258 Safe work in Confined Spaces.

The *Contractor* shall ensure their safe system of work includes:

- checks that employees are medically fit and competent to enter a confined space and have received adequate training;
- an adequate communication system to enable clear communication between those inside and outside of the confined space;
- testing and monitoring of the atmosphere within a confined space for hazardous gas, fume or vapour and checks on the concentration of oxygen prior to entry;

- a permit-to-work system which requires a formal check to ensure all the elements of a safe system of work are in place before personnel are allowed to enter or work in a confined space;
- the provision of safe way in and out of the confined space that allows for quick, unobstructed and ready access and egress;
- a requirement for the *Contractor* to check to ensure that the isolation of all mechanical and electrical is effective and if gas, fume or vapour could enter the confined space, physical isolation of pipe work etc is made;
- a requirement for emergency arrangements to be in place before any person enters or works in a confined space, and contingency plans appropriate to the nature of the confined space, the risks identified and consequently the likely nature of an emergency rescue;
- a process for revising the safe system of work to correct its deficiencies and/or procedures before subsequent entries are authorized; and
- particular considerations where confined space access has additional hazards (for example tunnel boring machine interventions under compressed air).

19.7.6 Working at Height

The *Contractor* shall ensure a robust safe system of work is in place for any activities involving working at height where there is a risk of a fall liable to cause injury. The *Contractor* shall:

- eliminate the need to work at height where reasonably practicable;
- develop suitable and sufficient risk assessments for working at height;
- ensure that the work is properly planned, and appropriately supervised;
- provide training and awareness sessions and ensure all employees involved in working at height activities are competent to do so;
- select the appropriate Equipment for the task and ensure collective measures take precedence over personal protective measures (i.e.; fall prevention Equipment);
- Ensure that appropriate emergency plans are in place and tested to enable suspended person(s) to be safely quickly retrieved;
- implement an inspection and testing regime for all Equipment identified as assisting in any working at height operation that is compliant with statutory regulations;
- Maintain records of Equipment inspections; and

- comply with all relevant BS and EN standards and codes of practice relating to working at height.

19.7.7 Lifting Operations

The *Contractor* shall produce a risk assessment and lifting plan identifying the nature and level of risks associated with a proposed lifting operation. The *Contractor* will brief the content of the risk assessment and lifting plan to all employees involved in lifting operations. appropriate competence.

The *Contractor* must implement or source adequate training for employees who operate or test/examine lifting equipment. Training records must be kept and where lifting operations are planned, copies of these records should be submitted to the *Project Manager* with the Construction Phase Plan.

The *Contractor* will ensure that any persons who operate lifting equipment or conduct inspections and examinations are competent to do so and ensure that the safe system of work is in compliant with statutory regulations and the approved code of practice for safe use of lifting equipment published by the health and safety executive.

The *Contractor* shall comply with the Notification of Conventional Tower Crane Regulations 2010 and the guidance notes on complying with the regulations (INDG437) published by the Health and Safety Executive. All lifting operations shall be managed in accordance with BS 7121 is the British Standard Code of Practice for the Safe Use of Cranes.

19.7.8 Excavations

The *Contractor* shall ensure suitable and sufficient planning for excavations to ensure that hazards are identified, and their risk is reduced to as low as reasonably practicable. An excavation work permit system may be required, or the *Contractor's* own permit to work system.

The *Contractor* shall ensure that a risk assessment is performed prior to the commencement of trenching or excavation activities. The *Contractor* shall take reasonable steps to obtain and review survey drawings, utility records and ground penetrating radar survey information on the Site and/or the Working Areas when planning excavation works.

The purpose of the risk assessment is to determine that the proposed excavation is conducted in a manner that minimises the risk of harm to personnel and existing underground services.

Without limiting the requirements for the *Contractor* to complete a risk assessment, the risk assessment shall assess the risks associated with the excavation in relation to:

- existing services and their isolation;
- working at heights, falls of persons, materials, tools and plant;

- personnel;
- potential contamination sources;
- the nature of the work;
- mobile Equipment;
- portable Equipment and tools to be used during the excavation:
- the ground conditions and water table;
- property and structure adjacent to the excavation;
- other Equipment movements within the vicinity of the excavations;
- any gradient on the Site;
- the proximity of the excavations to members of the public and in particular access by children;
- safe access and egress, shoring and stabilisation measures;
- pre-use and during use inspection regime; and
- the potential effect of adverse weather on the excavations.

The *Contractor* shall ensure that site specific excavation and trenching instructions satisfy the requirements of applicable legislation, standards and ACOP HSG47 'Avoiding Danger from Underground Services' published by the Health and Safety Executive, the *Contractor* shall communicate these requirements to employees and Sub-contractors.

19.7.9 Demolition

19.7.9.1 General Requirements

The *Contractor* is responsible for ensuring that any demolition work is undertaken in accordance with the current best practice, British Standard Code of Practice for Demolition 6187:2000 the ICE Demolition Protocol and other applicable standards and legislation.

The *Contractor* shall ensure they undertake an initial survey to establish a baseline for the method statement and controls. This survey shall take account of:

- the presence of adjoining or adjacent properties; for example hospitals where noise, dust or vibration may effect the method of demolition;
- the type of structure and its key elements;

- flammable substances;
- the condition of structural members and the contribution of floors, walls, roofs to overall stability;
- the need for temporary works or shoring;
- confined spaces;
- health hazards such as asbestos, lead, dust or paint, residues from previous processes, contaminated land or any other occupational health or biological hazard;
- implementation of the controls regarding Asbestos as defined in this Works Information; and
- suitable access for proposed method of demolition and vehicle access for the removal of the waste.

19.7.9.2 Not Used

19.7.9.3 Not Used

19.7.9.4 Hazardous Material and Asbestos

The *Contractor* shall carry out hazardous material and Type 3 asbestos surveys within the structure to be demolished. The survey shall be carried out by a team of experienced and qualified surveyors. Where such surveys were completed by other *Employer's* contractors, the results shall be provided to the *Contractor* by the *Project Manager*.

The survey results shall be available in advance of the demolition works allowing sufficient time for the *Contractor* to plan their safe removal and the method statement to be reviewed and accepted. The removal and disposal of asbestos shall be undertaken in accordance with Control of Asbestos at Work Regulations 2002 and the Control of Asbestos Regulations 2006.

The removal and disposal of other hazardous material shall be in compliance with project environmental and legal requirements.

19.7.9.5 Exclusion Zones

Where practicable, demolition works shall be provided with an exclusion zone. The *Contractor* shall:

- set up exclusion zones around demolition works;
- have a safe system of controlling access into the exclusion zone; and
- have a safe system of controlling changes to the exclusion zone.

Details of the exclusion zones and safe systems of control shall be included in the method statement.

The *Contractor* shall provide upon request assessments to demonstrate that the zones provided will ensure that persons outside the zone will not be harmed as a result of any demolition activity.

Where it is not practicable to set up exclusion zones, the *Contractor* shall propose alternative means of providing protection from demolition works and submit them for the *Project Manager's* acceptance.

19.7.9.6 Permit to Start Demolition

No demolition, including asbestos removal, of any building or structure shall commence until a permit to demolish is approved by the *Project Manager*.

The *Contractor* shall complete and submit to the *Project Manager* for approval a permit to demolish form using the template attached in appendix 19G.

19.7.9.7 Actions in the Event of Unexpected Finds

In the event that ground water, asbestos, hazardous materials or any other situation that impacts the demolition works is found not to be as expected, the *Contractor* shall:

- stop the works affected;
- make area safe and prevent unauthorised access; and
- advise the *Project Manager* and convene a meeting to agree appropriate actions.

19.7.10 Electricity

The *Contractor* shall implement a safe system of work for all electrical cord sets and receptacles not part of the permanent electrical wiring system of a building or structure, and all electrical equipment and tools used in connection with construction activities on the Crossrail Project, including but not limited to the following:

- electrical Equipment;
- GFCI/ELCB requirements;
- power generators;
- distribution boards;
- hand tools; and
- overhead transmission and railway power lines.

To support the above the Principal Contractor shall also have testing provisions in accordance with section 19.7.18 below and compliant with statutory regulations.

19.7.11 Fire Safety and Prevention

The *Contractor* shall develop, implement and maintain strict housekeeping practices as an integral part of daily activities, and ensure that adequate control measures are implemented to prevent fire.

The *Contractor* shall provide fire prevention and fire precautions training to all employees and those authorized to carry out hot work. The training program will include as a minimum:

- checking portable fire extinguishers;
- hazard recognition and risk potential;
- inspection methods;
- hot work permit requirements;
- emergency fire procedures;
- selection and use of portable fire extinguishers;
- equipment refuelling procedures;
- storage and handling of flammable and combustible liquids; and
- pre- and post- hot works inspections.

In accordance with the Regulatory Reform Fire Safety Order the *Contractor* shall produce fire risk assessments identifying the nature and level of risk for the scope of works.

19.7.12 Manual Handling

The *Contractor* shall ensure that all manual handling operations are identified and documented within a suitable and sufficient risk assessment. Work methods must be designed to eliminate, as far as is reasonably practicable, the need for workers to manually handle any heavy load.

The *Contractor* shall ensure that all employees receive training which includes an overview on back injury prevention, stretching, and correct lifting methods. Back injury prevention will be continually emphasized to supplement initial training (e.g., safety meetings, toolbox meetings, coaching or other methods, etc.).

Topics that can be linked to manual material handling and back injury prevention include, but are not limited to, the following:

- potential hazards (job or task specific);
- unfamiliar handling operations;
- proper use of handling aids (tools, equipment);
- proper use of personal protective equipment;
- the working environment and personnel safety;
- housekeeping;
- factors affecting individual capabilities;
- good handling techniques; and
- ground conditions.

19.7.13 General behaviour

The *Contractor* shall ensure, through its policies, training and supervision that all personnel are aware of basic requirements including:

- respect for good site practice and avoidance of horseplay;
- respect for other people, including no use of foul, abusive or racist language, no aggressive or violent behaviour, harassment or bullying; and
- avoid congregating outside worksite where this could cause concern or disruption.

The *Contractor* shall have explicit policy statements on good site practice, horseplay, harassment and bullying. Such policies shall be supported by a complaints procedure accessible to all.

The *Employer* and *Project Manager* in conjunction with the *Employer's* Target Zero programme shall also develop a detailed manual focusing on industry best practices using pictorial examples where practical ensuring the *Contractor* can implement lessons learnt requirements easily and effectively.

19.7.14 Smoking

Smoking within the Site and/or the Working Areas is prohibited with the exception of designated smoking areas. The *Contractor* shall provide suitably signed designated smoking areas within the Site and/or the Working Areas close to welfare facilities but away from the immediate vicinity of work locations where it is safe to do so and away from site access routes and sensitive neighbouring properties. The *Contractor* shall take all reasonable measures to prevent personnel under his control from smoking on the streets adjacent to sites.

19.7.15 Mobile Phones, Radios and Audio Equipment

Use of mobile phones within the Site and/or the Working Areas is prohibited with the exception of designated areas. The *Contractor* shall provide suitably signed designated areas which shall include offices and welfare/rest facilities. The *Contractor* shall ensure that the use of mobile phones do not create risks to the user or others.

Use of personal radios and portable audio equipment is prohibited within the Site and/or the Working Areas with the exception of welfare/rest facilities.

Mobile phones, including hands free kits or Bluetooth headsets, are banned from use by delivery drivers whilst driving in connection with the Project. This also applies to Citizens' Band (CB) radios and handheld 'walkie talkie' style radio sets.

19.7.16 Personal Protective Equipment

The *Contractor* shall ensure that suitable and appropriate personal protective equipment (PPE), determined by risk assessment, is provided in accordance with the Personal Protective Equipment at Work Regulations (reference HSE L25) and where required that specialist PPE is supplied (defined within HSE guidance HSG47).

The type of PPE utilised shall be specified within the risk assessment after it has been assessed against the specific risks on each worksite. As a minimum the *Contractor* shall provide the following PPE to be worn when working within PPE zones within the Site and/or the Working Areas:

- high visibility upper body clothing with reflective tape which complies with BS EN 471: 2003 class 2 and conforms to the Project PPE branding requirements described in Appendix 19K;
- safety helmet which complies with BS EN 397: 1995 (although an exception may be made for Sikhs wearing turbans, who do not wish to wear a safety helmet on religious grounds, where risk assessment determines that a turban provides adequate protection from the risk of head injury);
- safety footwear which complies with BS EN ISO 20345:2004 and provides support to the ankle, mid-sole protection and has a covered steel toe cap. Rigger boots are not acceptable, and shall not be worn.;
- hand protection that conforms to BS EN388 intermediate design;
- eye protection, safety glasses that conform to BS EN166, 1.F;
- where persons are exposed to working in inclement weather conditions, protective equipment which complies with BS EN 343: 2003 Class 3, 3 shall be provided; and

- for employees working in close proximity to buried services flame retardant PPE which complies with BS EN 533.

The *Contractor* shall ensure that where work is performed on the infrastructure of another party and their PPE requirements exceed these *Employer's* standards then their PPE requirements must be met. All hi-visibility PPE must carry the *Contractor's* logo, as a minimum on the back and conform with the *Employer's* corporate branding requirements.

The *Contractor* shall ensure for task specific activities and activities on non construction sites that the type of PPE required shall be determined by the risk assessment and documented in the relevant method statement or work planning documentation. Where employees wear glasses the *Contractor* shall consider the use of prescription safety glasses for individuals who require them.

The *Contractor* shall provide suitable and sufficient storage and cleaning facilities for PPE.

In addition to PPE the *Contractor* shall ensure that suitable work wear is worn which will include long trousers and sleeved shirts. The *Contractor* will also ensure that personnel do not wear clothing that could be offensive to Others.

The *Contractor* shall procure PPE from companies who are members of the Registered Safety Suppliers or similar scheme to reduce the risk of procuring counterfeit or substandard products and ensure that products are procured from ethical sources.

19.7.17 Construction Equipment

The *Contractor* shall ensure that all Equipment operators hold a valid construction plant competence scheme card for the Equipment they are required to operate. Equipment shall only be maintained (including changing cutting blades) by personnel qualified to do so.

The use of semi-automated devices for attaching excavator buckets (quick hitch buckets) is prohibited on the Project.

The *Contractor* shall ensure that all Equipment is recorded in an Asset Register (see Part 14 Management and Administration of the Works of Volume 2B of the Works Information) and tested/inspected and examined in accordance with relevant legal and manufacturers requirements.

19.7.18 Inspection & Testing

As part of the workplace health and safety requirements the *Contractor* shall have in place an effective inspection and testing programme for construction plant and Equipment including but not limited to the following:

- electrical tools and appliances;
- Equipment;

- lifting and rigging equipment; and
- office Equipment.

19.7.19 Not Used

19.8 Site Mobilisation and Starting Works

19.8.1 Site Mobilisation

The *Contractor* is not permitted to commence site mobilisation to the Site and/or the Working Areas until formal notification is obtained from the *Project Manager*. This notification will record that the *Contractor* has fulfilled each of the requirements set-out in appendix 19H, where applicable to the type and scope of the *works*.

The items outlined in appendix 19H constitute the minimum requirements to be fulfilled by the *Contractor*. The *Contractor* shall be aware that, in addition to the items listed in Appendix 19H, other contractual and applicable statutory requirements may need to be fulfilled before the mobilisation is formally approved. Such approval shall not relieve the *Contractor* from his duties specified elsewhere in the contract

Mobilisation works include but are not limited to:

- installation of hoarding, fencing and gates around the Working Areas;
- installation of required corporate, security and statutory signage;
- setting-up the site office accommodation, temporary buildings, welfare facilities and associated utilities services and furnishing;
- setting-up the storage facilities, on-site testing facilities, plants and workshops;
- setting-up the first aid and medical facilities;
- establishing site specific health and safety arrangements and controls in and around the Working Area;
- establishing site specific security and traffic controls and arrangement in and around the Working Area;
- setting survey control points and performing topographical ,buried services and existing facilities surveys in and around the Working Areas; and
- transport of Equipment, construction plant, tools and Plant and Materials to the Working Areas.

For the avoidance of doubt, the receipt of notification permitting the *Contractor* to mobilise shall allow the *Contractor* to undertake those activities in connection with

mobilisation only. No construction work shall start until the *Project Manager* has notified in accordance with 19.8.2 below.

19.8.2 Commencement of Construction Works

The *Contractor* is not permitted to commence construction works (other than mobilisation works) until formal notification is received from the *Project Manager*.

A pre-commencement readiness assessment shall be undertaken by the *Project Manager* to ensure that the *Contractor* has in place the documentation, consents, processes and controls to allow the *works* to proceed.

The *Contractor* shall supply all necessary information and/or access to information that the *Project Manager* requires to support this process.

The requirements shown in Appendix 19J below constitute the minimum requirements to be fulfilled by the *Contractor* prior to commencing construction works and shall not relieve the *Contractor* from his duties specified elsewhere in the contract. The *Contractor* shall be aware that, in addition to the items listed in appendix 19J, other contract and applicable statutory requirements may need to be fulfilled before the start of work is formally approved.

19.9 Monitoring, Inspection and Surveillance

19.9.1 Health and Safety Inspections

The *Contractor's* supervisors and other management staff shall carry out regular health and safety inspections. The frequency of general inspections shall be at least weekly and shall take account of the nature of the work, previous results, and any other relevant factor .

19.9.2 Leadership Tours

Senior managers from the *Employer's* and *Project Manager's* organisations shall complete leadership tours in accordance with and in support of the Target Zero programme. The frequency of leadership tours shall be accepted by the *Project Manager* but shall be at least monthly. The *Contractor's* senior managers and those of his Subcontractors shall contribute actively in these leadership tours as part of the joint commitment to deliver health and safety excellence across the Project.

The basis of any leadership tour shall be to focus on the four broad categories listed below and to provide an opportunity for employees and the subcontractors and suppliers of any tier to raise and share any health or safety successes and concerns and to seek assurance that health and safety systems across the Project are understood and followed:

- Target Zero programme activity;
- worksite conditions and paperwork systems;
- observed work practices; and

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- discussion with site operatives.

19.10 Assurance, Audit and Review

19.10.1 General

The emphasis throughout the provision of the *works* shall be on the *Contractor* conducting their own monitoring, auditing and investigations and providing assurance that the information so generated is valid and verifiable. The *Contractor* shall also co-operate fully with any monitoring, audits or specific investigations carried out by the *Employer* and/or the *Project Manager* and associated representative bodies. The *Contractor* shall conduct health and safety assurance activities in order to maintain and improve health and safety performance across the Project.

19.10.2 Assurance

The *Contractor* shall establish suitable arrangements to monitor compliance with health and safety requirements, the results of these monitoring arrangements shall be communicated to the *Project Manager* and action taken to address any issues or concerns.

The *Project Manager* and/or *Employer* may actively engage in joint inspections managed by the *Contractor* for the purpose of monitoring compliance

The *Contractor* shall maintain suitable and sufficient records to identify safety trends, performance reports and associated industry benchmarks. The *Contractor* shall upload and provide assurance via the IMS (RIVO) system and ensure the *Contractor's* data is reported and closed out in a timely manner. The *Contractor* shall also be assigned responsibilities for close out of actions as a primary function of the system.

19.10.3 Auditing of Health and Safety Management

The *Project Manager* may carry out audits of the *Contractor's* health and safety management systems in operation on this contract.

The level of audits conducted on the *Contractor*, including any required ahead of the start of work, as part of the competence review process, shall be decided by the *Project Manager*. Any such audits shall include site verification that management systems are being applied.

Findings considered by the *Project Manager* to represent serious safety risks shall be referred immediately to the *Contractor's* senior managers for immediate action.

19.10.4 Corrective Action Reports (CAR's)

Any failures to meet health or safety requirements identified through audits and inspection shall result in the generation of a Corrective Action Report by the *Project Manager*. The *Contractor* shall ensure a process is in place to track/trend and close out identified actions and report on same during periodical reports.

The *Contractor* shall ensure tracking of action close out are in place and recorded periodically throughout the Project. The *Contractor* shall use the IMS (RIVO) system for reporting non-conformances and ensure the *Contractor's* data is reported and closed out in a timely manner.

19.11 Best Practice

During the lifecycle of the Project, it is anticipated that a number of industry best practices shall be developed and rolled out across the Project. Where identified the *Contractor* shall adopt such industry best practice to improve health, safety and environmental performance. Such industry best practice may comprise HSE Standards and, behavioural techniques and processes along with general site safety 'best practices' adopted from specific *Contractor's* who are successfully delivering the *Employer's* Target Zero programme.

The *Contractor* shall attend health and safety forums and events as part of the *Employer's* Target Zero programme.

19.12 Appendices

Appendix 19A	Transport for London and Crossrail Health Safety and Environmental Policies
Appendix 19B	Health, Safety and Environmental Agreement
Appendix 19C	The Crossrail Golden Rules
Appendix 19D	CSCS Amalgamated and Affiliated Schemes
Appendix 19E	Method Statement and Risk Assessment Standard Requirements
Appendix 19F	Not Used
Appendix 19G	Permit to Demolish Form
Appendix 19H	Site Mobilisation Requirements
Appendix 19J	Commencement of Works Requirements
Appendix 19K	PPE Branding Requirements
Appendix 19L	Drugs and Alcohol Policy
Appendix 19M	Not Used
Appendix 19N	Designing for Health & Safety Procedure
Appendix 19P	Healthy by Design