CR Construction (U.K.) Company Limited
華營建築(英國)有限公司
浙建集團

NT02
Construction Phase Plan
Rev 05

Project Name: NT02

Project Reference No: C013

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CR Construction (U.K.) Ltd Employee CPMP Review Register

Project Director	Philip Yeung	Date:	
Senior Project Manager	Darrell Cullen	Date:	

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1. DESCRIPTION OF PROJECT

1.1. Project Address and useful contacts

The address of the project is as follows:

NT02 Project, Dantzic Street, Manchester, M4 4DN.

The nearest hospital is The Manchester Royal Infirmary, Oxford Road, Manchester, M13 9WL. Tel: 0161 276 1234. The Local Fire Authority is Greater Manchester Fire and Rescue Service, 146 Bolton Road, Swinton, Manchester, M27 8US. Tel: 0161 736 5866.

Site working hours are : The working hours for the project are, Monday to Friday 07:30 to 18:00, Saturday 08:30 to 14:00 and no working Sunday and Bank Holidays.

Communication to the Local Community

CR (UK) will communicate by letter (see Appendix 12.1) to residential and commercial properties in the immediate area advising the occupiers of the following:

- Dates and times of monthly consultation meetings. These are open meetings where we will update attendees of progress and upcoming works, address any concerns regarding the development and welcome feedback regarding any improvements we could potentially make to mitigate against complaints.
- Complaints procedure items are to be directed to the Project Director
- Project email address nt02@crukconstruction.co.uk and Project Director PhilipYeung@crukconstruction.co.uk

In addition to the above, we will publish quarterly newsletters regarding progress, upcoming works and the contact details of the Project Director.

Contact information has been provided to the two operational commercial properties (one on Dantzic Street and one on Bromley Street) in case of concern / complaint. This information is also available via the concierge service at the nearby Meadowside development for residents to access if required.

The site notice board, displayed by the site entrance on the hoarding contains contact details for the Project Director.

In the event of any complaints CRUK will respond within 12 hours to the complainant to confirm receipt of the complaint and to communicate the steps to resolution. The steps to resolution for dealing with complaints will be to understand the complaint, establish the facts of the cause for complaint, develop a remedy for the complaint, communicate the remedy to the complainant and implement the remedy. It is envisaged all complaints will be addressed within 24 hours with the remedy implemented.

A full record of all complaints and any actions taken in relation to the NT02 scheme will be maintained by CR Construction (U.K.) Ltd. These can be available for review if required.

1.2. Project description

Construction of 316 Apartments within 1 insitu concrete framed tower of 35 floors. The development includes public realm and commercial units within the ground floor areas.

The project is being constructed following substructure enabling works completed by BAM Nuttal from 09/2022 to 8/2025. In terms of the remediation strategy for the project, CR Construction (U.K.) Company Limited will comply with the remediation strategy produced for the scheme referenced: (ROC May 2023) as previously issued to Manchester City Council (MCC) as part of the verification report to MCC Planning Department. CR Construction (U.K.) Company Limited confirm compliance with the

requirements will be continued as summarised in the extract of (ROC consulting –Remediation strategy dated May 2023) summarised below:

COMPLEX CHALLENGES ...
MADE SIMPLE

Interim Remediation Advice

A full Remediation Strategy will be completed following the completion of site works and the subsequent completion of the Phase 2 Site Investigation Report. In the meantime, we can provide interim advice on the likely elements of the remedial works, based on the observations of site investigations at the time of writing.

Requirements for capping systems and construction workers

Elevated levels of contaminants have been identified within made ground deposits across the site arising from previous site uses including metals, asbestos, and PAHs. Under the current proposals the majority of the site will be covered in buildings and areas of hardstanding. While hardstanding will inhibit exposure pathways between site users and contaminated soils, areas of soft landscaping have the potential to expose future site users to contaminants.

A detailed remediation design should be undertaken as part of a Remediation Strategy for the site, which is likely to include the provision of a clean soil capping system in areas of proposed soft landscaping, with a minimum thickness of 600mm, of which 150mm should be topsoil. This system should also be subject to a validation system of its own including chemical testing and validation excavations. Vapour control measures may also be required as recommended by the Remediation Strategy.

In addition, construction workers will be potentially exposed to contaminants during excavation works and may also release mobile contaminants that may be stored in any below ground relic structures. Outside of the areas undergoing intensive remediation as detailed below, it is considered the risks posed to construction personnel, be sources of contamination, can be adequately mitigated against via the use of full PPE and the adoption of good hygiene and site practices. Any sources of contamination uncovered during site development works should be brought to the immediate attention of RoC Consulting for consideration and comment.

Soil Contamination Remedial Requirements

A body of evidence, including visual and olfactory evidence, soils testing, water sampling, as part of the previous site investigation, Phase 2 site investigation, and Phase 2e additional site investigation, supports the presence of a significant contamination plume in the western part of the site. The extent of this contamination has not yet been definitively mapped, however, it is anticipated to encompass Made Ground soil beneath the existing warehouse buildings in Plot NT02, and may extend further into underlying natural soils and across further parts of the plot currently operated by The Love Factory temporary use. Contamination is anticipated to comprise predominantly the volatile chlorinated solvent Trichloroethene, but may also include secondary elements such as Lead, Polyaromatic

Hydrocarbons, Total Petroleum Hydrocarbons, and benzene. The source of the contamination has not yet been established, and an ongoing offsite source cannot yet be ruled out. This contamination poses significant potential ongoing risks to human health and controlled waters, requiring extensive remediation. This is a statutory requirement separate to requirements for safe reuse of material onsite or disposal.

A full Remediation Strategy will be completed following the completion of site works, and the subsequent completion of the Phase 2 Site Investigation Report. The works have the objectives of preventing harm both to future site users and construction workers, as well as the underlying aquifer and the nearby watercourse, the River Irk.

The remedial works may have three potential elements.

- Soil treatment – to remove the potential source of contamination.
- Barrier installation – to prevent any ongoing flow of contamination into the site if this is identified as a likely risk.
- Water treatment – to remove contamination from the onsite Principal Aquifer onsite with the potential to affect the wider controlled waters environment.

Soil treatment will comprise the removal and/or stabilisation of contamination of site soils in the affected area. The methodology, costs and timescales of these works are dependent on the extent of contamination and future risk assessments. Remedial Targets would be developed as part of the Remediation Strategy, based on the forthcoming Detailed Quantitative Risk Assessment. The Remediation Strategy will assess a number of potential remediation methods, establishing a short list from which the contractor may select and combine methods, based on which will achieve the required targets at an optimal combination of costs and timescale. The Remediation Strategy might also allow for stabilisation methods to be used in addition to, or instead of contamination reduction. Likely methods of remediation might include excavation of the material, sorting, and bioremediation, with the intention of retaining some or all of the material onsite. Until the completion of the Remediation Strategy, the disposal of all this material as Hazardous Waste cannot be ruled out.

In the event that a potential offsite source is identified, methods may be required at the site boundary to prevent ongoing ingress of contamination into the site. This might involve the installation of a Permeable Reactive Barrier or similar solution. A final recommendation will be made as part of the Remediation Strategy.

Water treatment will be required in the likely event that an ongoing risk to the controlled water environment is identified. These works are likely to remain in place for an extended duration, but would be designed to be undertaken alongside other construction works. The works would involve the installation of a number of boreholes to extract, clean, and restore water. Treatment would be undertaken onsite. Again, the Remediation Strategy will assess a number of potential remediation methods, establishing a short list from which the contractor may select and combine methods, based on which will achieve the required targets at an optimal combination of costs and timescale. A likely method is the use of an air stripping/bubble tank system with GAC adsorption.

1.3. Programme details including any key dates

Start date: December 25

Duration of Construction Phase: 127 Weeks.

Based on current programme logic the maximum number of operatives involved at any one time will be circa 300 operatives.

1.4. Client

Name: The Far East Consortium

Address: 2nd Floor, Northern Assurance Building, 9-21 Princess Street, Manchester, M2 4DN

Contact: Nick Whitehouse

1.5. Employers Agent

Name: Arcadis

Address: 1st Floor, Suite 1a, 4 Piccadilly, Manchester, M1 3BN

Contact: Ellen Freegard

1.6. Principal Designer

Name: Hawkins Brown

Address: 3 Tariff St, Manchester, M1 2FF

Contact: Katie Tonkinson

1.7. Principal Contractor

Name: CR Construction (U.K.) Company Limited

Address: 2nd Floor, 8 Gate Street, London, England, WC2A 3HP

Contact: Philip Yeung

1.8. Architect

Name: Hawkins Brown

Address: 3 Tariff St, Manchester, M1 2FF

Contact: Katie Tonkinson

1.9. Structural Engineer

Name: ROC Consulting

Address: 6 Commercial Street, Manchester, M15 4PZ

Contact: Jon Smith

1.10. Mechanical and Electrical Services Designers

Name: Futureserve

Address: 10 Oxford Ct, Bishopsgate, Manchester M2 3WQ

Contact:

1.11. Temporary Works Engineer

Name: ROC Consulting

Address: 6 Commercial Street, Manchester, M15 4PZ

Contact: Jon Smith

1.12. Building Control Consultant

Name: R5

Address: Bloc, 17 Marble Street. Manchester, M2 3AW

Contact:

1.13. Acoustic Consultant

Name: Hann Tucker

Address: First Floor, 346 Deansgate, Manchester M3 4LY

Contact:

1.14. Fire Consultant

Name: Hoare Lee

Address: Royal Exchange, Manchester, Manchester M2 7FL

Contact:

1.15. Landscape Architect

Name: Open

Address: 5th floor, 35 Dale Street, Manchester. M1 2HF

Contact:

1.16. Existing records and plans

Copies of the information detailed below will be maintained in the Site H&S File. The information will be updated with regards to the requirement for the project phase as the project moves through the construction programme.

CR Construction (U.K.) Company Ltd will be the principal contractor on the site and will be inheriting the site from BAM Nuttal. CR Construction (U.K.) Company Ltd have taken receipt of the enabling works as built information which contains residual risk information in the form of existing drainage details which remain live together with new substructure constructions. The preconstruction information (PCI) has also been received from FEC which has been reviewed and issued to the design team for incorporation into the design from stage 3 onwards. The design team have been novated to develop the stage 4 design onwards for CR Construction (U.K) Company Ltd and CR Construction (U.K.) company limited are using a Eliminate, Reduce, Isolate, Control, PPE, Discipline (ERICPD) approach to risk assess and manage / design out the residual risks from stage 3 onwards where possible. CR Construction (U.K.) Company Limited hold weekly team meetings with the design team to manage the incorporation of the PCI information into the process to develop the design and work package scopes to be bought with the supply chain partners.

At the end of the project, the novated design team and where necessary supply chain partners will be providing the as built information for collation into the Health and Safety File.

Information	Required	Available	Provided	Details / Reference / Notes
Underground drainage drawings	√			Received
Underground services drawings	√			Received
Construction drawings	√			Received
Structural drawings	√			Received
Mechanical services drawings	√			Received
Electrical services drawings	√			Received
Asbestos Surveys / Registers	√			Received

1.17. Surveys and Investigation Reports

Copies of the information detailed below will be maintained in the Site H&S File.

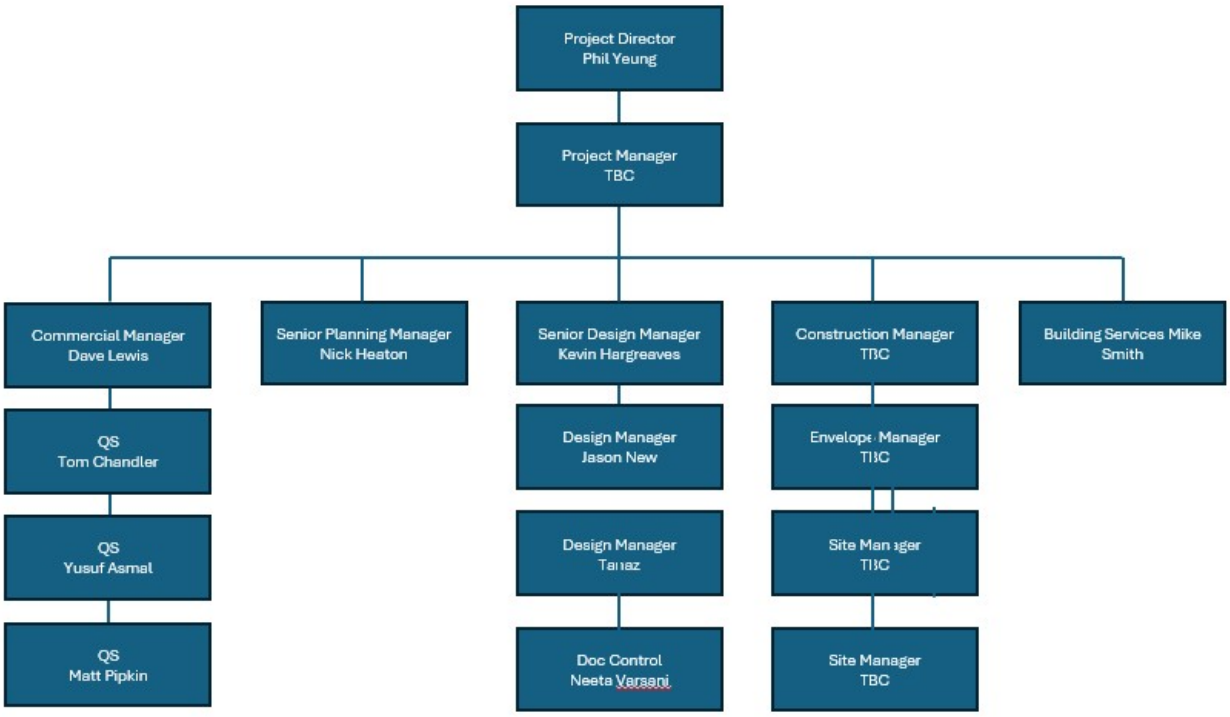
Information	Required	Available	Provided	Details / Reference / Notes
Demolition & Refurbishment Asbestos Survey (when demolishing or working on buildings constructed before 2000)	√			Received
Geotechnical report	√			Received
Soil Contamination Report	√			Received
U/G services investigation (desktop)	√			Received
U/G services investigation (physical)	√			Received
Electrical services investigation	√			Received
Mechanical services investigation	√			Received
Structural survey	√			Received
Ordnance report	√			Received
Lead paint test (when redecorating existing wood or metalwork on buildings constructed before 1980)				Not required for this phase
Drainage Survey	√			Received
UXO Desk Study and Report	√			Received
Tree Survey	√			Received
Network Rail asset protection study and survey	√			Received

2. THE PROJECT TEAM

2.1. Project Organisation Structure

See fig 1 below (Also in Appendices)

2.2. CR Construction (U.K.) Company Limited Organisation Structure



For ease of reference the organisation chart is available as a full-scale document with the appendices. Kai Shen is the Chairman for CR Construction (U.K.) Company Limited with Philip Yeung as the responsible Project Director for the NT02 project.

In terms of the health and safety roles and responsibilities the following personnel as shown in the organogram have the following health and safety roles and responsibilities:

Kai Shen

Kai is responsible for the implementation of Health and Safety policy for CR Construction (U.K.) Company Ltd across the business and the projects where CR Construction (U.K.) Company Ltd operates.

Philip Yeung

Philip Yeung is the Project Director for The NT02 Project and is responsible for all Health and Safety matters on The NT02 Project.

Darrell Cullen

The Senior Project Manager for The NT02 Project and is responsible for assisting Philip Yeung in implementing Health and Safety policy on The NT02 Project.

DUTY HOLDERS

Project Director

Name: Philip Yeung

Email: PhilipYeung@crukconstruction.co.uk

Phone: 07445671969

Project Manager

Name: Darrell Cullen

Email: darrellcullen@crukconstruction.co.uk

Phone: 07377733810

Senior Planning Manager

Name: Nick Heaton

Email: nickheaton@crukconstruction.co.uk

Phone: 07526564768

Commercial Manager

Name: Dave Lewis

Email: davelewis@crukconstruction.co.uk

Phone: 07743219849

Senior Design Manager

Name: Kevin Hargreaves

Email: kevinhargreaves@crukconstruction.co.uk

Phone: 07593 387747

Design Manager

Name: Jason New

Email: jasonnew@crukconstruction.co.uk

Phone: 07497 896 916

Design Manager

Name: Tannaz kalantarzadeh

Email: tannazkalantarzadeh@crukconstruction.co.uk

Phone: 07549025969

Construction Manager

Name: TBC

Email: TBC

Phone: TBC

The Responsible Person (Fire Safety)

Name: Phill Yeung

Email: PhilipYeung@crukconstruction.co.uk

Phone 07445671969

Fire Marshal

Name: Catherin Janes

Email: Catherinejanes@crukconstruction.co.uk

Phone: 07738083610

First Aider

Name Phill Yeung

Email PhilipYeung@crukconstruction.co.uk

Phone 07445671969

Temporary Works Coordinator

Name: TBC

Email: TBC

Phone: TBC

The Appointed Person (Tower Cranes)

Name: TBC

Email: TBC

Phone: TBC

Scaffold Inspection

Name: TBC

Email: TBC

Phone: TBC

The following named individuals have specific responsibilities as follows:

Health and Safety Co-Ordinator	Philip Yeung
Health and Safety File Coordinator	Neeta Varsani
Induction Co-Ordinator	Philip Yeung
Fire and Emergency Co-Ordinator	Philip Yeung
Logistics Co-Ordinator	Philip Yeung
Temporary Works Co-Ordinator	TBC
Lifting Manager / Coordinator	TBC
Welfare Coordinator	Philip Yeung
Buried Services Coordinator	Philip Yeung
Electrical Co-ordinator	Philip Yeung

3. RESPONSIBILITIES

In accordance with CDM Regulations 2015, CR Construction (UK) Company Limited will fulfil the following duties as Principal Contractor on the NT02 Project;

- CR Construction (UK) Company Limited will plan, manage and monitor the construction phase and coordinate matters relating to health and safety during this phase to ensure that, so far as is reasonably practicable, construction work is carried out without risks to health or safety.
- Consult and engage with the workforce
- Liaising with the client and principal designer.
- Ensuring anyone appointed has the necessary skills, knowledge, and experience and, where they are an organisation, the organisational capability to carry out the work
- Coordinate the work of contractors.
- Ensure that the contractors under their control cooperate with each other.
- Ensure suitable site inductions are provided.
- Ensure reasonable steps are taken to prevent unauthorised access.
- Ensure that suitable welfare facilities are provided and maintained throughout the construction phase
- Ensure that the construction phase plan is appropriately reviewed, updated and revised during the construction phase.
- Provide the principal designer with any information in the principal contractor's possession relevant to the health and safety file

In addition to the items listed below which mainly cover H&S related items, please see the 'Project Roles - Responsibilities Matrix' for a full break down of all roles and responsibilities for each discipline.

3.1. Senior Project Manager

Is responsible for the overall effectiveness of this construction phase plan.

Shall monitor and review this construction phase plan during the course of the project.

Shall inspect the sites to ensure that the construction phase plan is being complied with and implement immediate remedial action if hazardous situations are discovered.

Shall review site health and safety audit reports with the Senior Project Manager and shall ensure that actions are completed by the due date. The Senior Project Manager may agree revised closure dates where they believe this to be both appropriate and safe to do so.

Shall ensure Risk Assessments and Method Statements [RAMS] are being provided and then reviewed/approved by the Site Manager(s) s

Shall assist the Site Manager(s) s if required to produce or review risk assessments and shall ensure that training, equipment and facilities are available to comply with the findings of the assessments, and that once in place procedures laid down are complied with.

Shall review any safety recommendations received and implement where necessary.

Shall investigate all accidents and implement corrective action.

Are responsible for the day to day running of NT02 Project for which they have been appointed and is responsible at site level for ensuring that the construction phase plan is:

- implemented.
- reviewed monthly, or following any incident or other situation where its effectiveness is called into question. The plan must be signed to confirm this review;
- updated when required.

Shall familiarise oneself with the construction phase plan.

Shall ensure that operatives, trade contractors and other visitors to site are aware of and abide by all requirements of this construction phase plan including where any risk assessments are to be carried out for work associated with the contractual obligations.

Shall ensure that contractors, and other personnel working on site, carry out their works in such a way that does not create for themselves or any other person, risk to health and safety so far as is reasonably practical.

May exclude from site any person who does not comply with any of the above requirements.

Shall ensure that suitable head protection to EN397:2012 is worn at all times during the construction work.

When work is undertaken by CR Construction (U.K.) Company Limited employees or CR Construction (U.K.) Company Limited appointed agency labour shall undertake a suitable and sufficient assessment of the health and safety risks involved in the activity, identify all controls required to control the risks and produce suitable written RAMS for the activities being undertaken.

Before any operation starts on site, will review all RAMS with the work supervisor to confirm that both they and the supervisor understand the risks and controls, and are satisfied that the RAMS identify and address the risks presented by the current site conditions.

Shall set an example by always wearing the correct PPE.

Shall enforce the use of PPE where its use is required by law, this policy or its use is necessary to control a risk.

Shall ensure that all contractors working under the company's control provide and use personal protective equipment wherever it is required by law, a Director, this policy or its use indicated in statutory assessments;

Shall ensure that suitable hearing protection is worn by all personnel working on the project whenever there is a risk that they may be exposed to noise level at or above 85 dB(A),$L_{EP,d}$ or the 140 dB, peak action level.

Shall undertake site health and safety inspections on a weekly basis using the Fieldview Site Inspection Form. The current inspection report must be displayed in the Health and Safety section of the site notice board.

Shall ensure that there are adequate welfare and first aid facilities on site and that:

- all employees know the whereabouts of the facilities.
- the facilities are maintained, cleaned regularly and kept stocked as required.

Shall ensure that adequate supervision is available at all times, particularly where young and inexperienced workers are concerned.

Shall ensure that work areas are maintained in a safe and tidy condition.

Shall provide to all personnel who work on or visit the site with such information, instruction and training as is necessary to make them aware of any significant hazards, risk control measures, safe systems of work and the site health and safety rules (a site induction).

Shall ensure that relevant details of all accidents that occur on the project or that involve company employees/sub-contractors working under their control are reported as soon as it is safe to do so, in accordance with the companies accident reporting procedures.

Shall ensure that any necessary remedial action identified by the company's Health and Safety Advisor during a formal safety inspection is implemented within the agreed timescale and when this is not reasonably practicable a revised completion date is agreed with and approved by the Project Manager.

Shall appoint a competent person with sufficient training to oversee current site operations to deputise for them when they are unable to be on site and shall ensure that deputy is aware of all site specific rules and method statements for the safe working of all trades.

3.2. The Temporary Work Coordinator

The Temporary Works Coordinator shall:

- co-ordinate all temporary works activities.
- ensure a temporary works register is established and maintained;
- ensure that the various responsibilities for temporary works have been allocated and accepted;
- ensure on all temporary works that a design brief is prepared with full consultation, is adequate, and is in accordance with the actual situation on the site.
- ensure that any residual risks, identified at the design stage, assumed methods of construction, or loading constraints identified by the designer of the permanent works are included within the temporary works design brief.
- ensure that a satisfactory temporary works design is carried out.
- ensure that a design check is carried out, where required, on temporary works by someone who was not involved in the original design; this should include:
    - concept.
    - structural adequacy.
    - compliance with the brief.
- where appropriate, ensure that the temporary works design is made available to other interested parties e.g., the Principal Designer or the designer of the permanent works.
- register or record the drawings calculations and other relevant documents relating to the final design
- ensure that those responsible for on-site supervision receive full details of the temporary works design, including, including any limitations and guidance notes associated with it and preparation of a specific method statement if required.

3.3. The Electrical Installation Coordinator

Shall ensure:

- Coordination of all permanent and temporary electrical installations inclusive of being the main point of contact for commissioning activity.
- Electrical supply installations, both temporary and permanent, are installed in accordance with the latest edition of BS 7671: Requirements for electrical installations and the Electricity at Work Regulations 1989;
- Temporary low voltage (110V) supply installations are installed in accordance with the Electrical Safety Council's Guidance on the management of electrical safety and safe isolation procedures for low voltage installation [http://www.electricalsafetyfirst.org.uk/mediafile/100370766/Best-Practice-Guide-2-Issue-3-.pdf];
- All electrical work is undertaken by a skilled electrician as defined in BS 7671: Requirements for electrical installations.
- Temporary electrical distribution installations and equipment are tested before use in accordance with BS 7671 "Requirements for Electrical Installations. IET Wiring Regulations" and a copy of the test certificate maintained in the site office;
- Installations (especially of a temporary nature) are inspected regularly and tested at

intervals not greater than every three months, or when they have been altered and the results recorded in the register kept for the purpose;

- Electric cabling (especially of a temporary nature) is protected against damage from construction site activities in its vicinity;

3.4. The Appointed Person (Tower Cranes)

The Appointed Person (Tower Cranes) is in overall control of the lifting operations and the members of the lifting team. Their duties include ensuring:

- That lifting operations involving tower cranes are properly planned and carried out.
- A suitable and sufficient risk assessment is carried out to evaluate the hazards associated with the lifting operations and identify control measures.
- Planning is recorded in a lift plan which is effectively communicated to all members of the lifting team.
- Accurate weights, radius, heights, etc. are established.
- Suitable tower cranes, lifting accessories and other equipment are selected.
- Suitable access is provided to unload and store materials within the operating area of the tower crane.
- Competent, properly trained personnel are provided and that they are fully briefed.
- All tower cranes, lifting accessories and other equipment are properly maintained, inspected, examined and tested (when necessary);
- Appropriate steps are taken to exclude persons not directly involved with the lift from the lifting zone using barricades etc.

3.5. Company Employees

- Shall take reasonable care of their own health and safety whilst at work.
- Shall work in such a manner so as not to put at risk any person who is likely to be affected by their works.
- Shall not interfere or misuse anything provided in the interest of Health Safety and Welfare.
- Shall watch out for warning and hazard notices and obey hazard warnings given.
- Shall not attempt to operate plant and machinery unless trained and authorised to do so.
- Shall not interfere with ladders, alter scaffolding, or move boards unless trained and properly authorised to do so.
- Shall not throw anything from scaffolding or from any height.
- Shall assist in keeping the site tidy and safe.
- Shall observe all site safety rules, and act on all reasonable instructions given by the Project Manager and the Senior Project Manager on matters of health and safety. Refusal to comply with a reasonable instruction will result in immediate expulsion from site. A second breach of any company safety rule may result in instant dismissal.
- Shall wear or use personal protective equipment wherever it is required by law, the company, the Senior Construction Manager, this construction phase plan or its use indicated in a risk assessment.
- Will report all accidents and damage to the Senior Project Manager whether persons are injured or not.

- Will immediately report any defects in protective equipment issued to the Construction Manager.

3.6. All other persons legitimately on the Company premises (Including Client Fit Out Contractor)

- Shall observe the company safety rules and the instructions given by persons implementing this construction phase plan.
- Shall not work on the premises until the relevant safety rules are read, understood and accepted.
- Shall not work on the premises until site induction undertaken.
- Shall not work on the premises until covered by insurance against risk.
- Shall observe the Company rules and regulations for contractors.

Client Fit-Out contractor Only

- Shall notify the principal contactor of any accidents & incidents within their designated area.
- Shall carry out their own approvals of RAMS for subcontractors working within their designated area.
- Shall not allow any other persons within their designated area unless RAMS in place and Permit issued to those persons working on behalf of Principal contractor.
- In an Emergency Client fit out contractor to follow Principal contractors emergency procedures.
- Shall attend Daily Activity Briefings (DABS) to coordinate works with the principal contractor.

3.7. Goals for the project

The project team should establish that this project will:

- Provide the agreed solution which fully matches the client's needs. Where possible be proactive in looking at alternatives that better match or enhance the client's needs;
- Is robustly costed, affordable and has been designed to an acceptable quality standard for the benefit of those who will use the facilities provides.
- Will meet all statutory requirements and as far as possible relevant non-mandatory standards.
- Set health and safety standards through comprehensive risk assessment, which minimises risks for the client and their staff, constructors, others who may be affected by the works and end users.

Health and Safety goals for the project are as follows:

- Have zero RIDDOR's throughout the project
- 100% CSCS accredited personnel working on the project
- Create and promote a pro-active culture surrounding identifying H&S issues early and resolving them immediately
- Identify H&S issues early on in the design process to eliminate before works start on site

3.8. Monitoring and review

Plan review and revision

The Project Manager shall ensure that this plan and all other ancillary plans is:

- reviewed monthly, or following any incident or other situation where its effectiveness is called into question.
- updated when required.

The plan must be signed by the site to confirm this review and details of any changes referenced within the document history.

Site audit / Inspections

The site will be audited / inspected by the following persons who will produce a report detailing their findings

Person	**Regularity**
Project Director	Quarterly
Project Manager/QS/M&E Manager	Monthly
Site Manager(s)	Weekly
H&S Advisor	Monthly as a minimum

A copy of the report will be sent to the Project Manager for action.

The Project Manager shall ensure that all items are remedied by the dates detailed on the report and no later than the date of the next site audit.

The current actioned audit report must be stored in the Site H&S File.

Site meetings

Compliance with this document will be discussed at the monthly site meetings. The Project Managers shall ensure all remedial action or recommendations discussed at these meetings are actioned where additional resources or a corporate decision is required.

The meeting matrix details the frequency, attendees and basic agenda for all meetings that will are required to effectively manage this project.

Monitoring

The Project Managers are responsible for monitoring the procedures laid down in the company's H&S policy and procedures, alongside this construction phase plan and are responsible for ensuring that breaches, where relevant, are reported.

3.9. Liaison

Communication and liaison with the design team on this project is facilitated by a combination of:

- regular meetings with all parties including client progress meetings, design team meetings and monthly subcontractor meetings and;
- distribution of minutes.

The Project Director is responsible for managing communication and liaison between on site and interfacing with the client and design team. The overriding principle guiding all parties to the process is their agreement to work together in a co-operative and collaborative manner to achieve the overriding objective, acting in good faith and in the spirit of mutual trust and respect.

3.10. Consultation

3.11. with the workforce

The company shall consult with the workforce by:

- Iinvolving workers in carrying out site-specific risk assessments.
- Alerting the workforce to developments on site by the use of a site safety notice board.
- Briefing sub-contractors regularly on the work programme.
- Requiring regular briefings by front line supervisors to workers on the work programme and day-to-day risks on site.
- Ensuring that issues raised are dealt with and feedback is provided to the workforce.

Forum	Requirement
Site Induction	All site personnel are required to attend the project operatives' health and safety induction course prior to accessing the site. Site security access control system rights are issued only on completion of the course.
Visitor Induction	All visitors to site are required to attend the basic site induction providing them with information regarding key risks and control measures on site at that time. All visitors will also be escorted by a fully inducted member of the site team unless they attend the full site induction.
Supplier Induction	All suppliers are required to undertake their own thorough inductions on every project. The Contractors are also required to conduct health and safety method statement briefing meetings with their employees prior to commencing work on site, as well as daily (or nightly) task / activity briefings.
RAMS Briefings	Suppliers shall undertake RAMS briefings to their workforce and any others affected by the work, these shall be recorded. Briefings will take place prior to commencement of the task and shall include an explanation of risks, agreed methods and precautions. Suppliers will undertake re-briefing following any changes to the work in hand, or for ongoing works at regular intervals defined within their RAMS.
Safety Toolbox Talk Training	Weekly by the contractors' managers or health and safety managers Safety toolbox talks must be on a relevant H&S topic associated with the current or planned imminent works. Toolbox talks may further be instructed at any time to cover learning points from incidents.

Environmental Toolbox talks	Delivered on a monthly basis by suppliers on relevant environmental issues to raise awareness. When undertaken, attendance records are to be uploaded to CR Construction Company (U.K.) Limited bespoke monitoring system to demonstrate good practice.
Quality Toolbox Talks	Undertaken by the suppliers' managers / suppliers or CR Construction Company (U.K.) Limited Project Managers. Must be on a relevant topic associated with the current or planned imminent works. Toolbox talks may further be instructed at any time to cover learning points from issues identified through quality inspections.
Daily Activity Briefings	DAB's undertaken daily by the contractors' supervisors prior to commencing shift. To communicate requirements regarding high-risk activities impacting on planned activities and any key issues / lessons learnt from previous shifts. May also undertake NAB's for night shift working.
Worker consultation	List here any consultation meetings, project communication sessions, etc. aimed at consultation with the workforce: H&S Committee meetings – Monthly Project Stand Down (includes any wellbeing or H & S initiatives – Monthly) Regular dialogue and consultation as detailed in section 3.11 to ensure the supply chain contractors provide their workforces with the necessary information and training.

3.12. Exchange of design information

The company shall liaise with the Principal Designer on design carried out during the construction phase, including design by specialist contractors, and its implications for this construction phase plan.

The company shall invite the Principal Designer to all design team meetings with specialist contractors and provide them with copies of design information and other relevant communications between designers.

3.13. Handling design changes

The company recognizes that with the ongoing development of new and improved designs and methods of working, changes are inevitable. Therefore, there will be a continuous need to amend and reissue safety documentation. These changes will be managed by the Project Managers who will ensure that all safety-related information passed on by designers is communicated to all workers, enabling them to take account of the overall scope of the works. The Project Manager will formally transmit all information and any resulting revisions.

The Principal Designers point of contact for the project on all matters pertaining to health and safety is the Project Director, who will ensure all such information is disseminated to the appropriate recipients. Equally relevant information with regards to the CDM Regulations will be formally transmitted to the Principal Designer.

3.14. Selection and control of contractors

No contractor shall be permitted to work for CR Construction Company (U.K.) Limited until the person placing the contract has satisfied themselves that the contractor has provided suitable documentary evidence that they have the skills, knowledge and experience, and, if they are an organisation, the organisational capability, necessary to fulfil the role that they are appointed to undertake, in a manner that secures the health and safety of any person affected by the project.

Competency assessments of organisations should be carried out as a two stage process:

Stage 1: An assessment of the company's organisation and arrangements for health and safety to determine whether these are sufficient to enable them to carry out the work safely and without risk to health.

Stage 2: An assessment of the company's experience and track record to establish that it is capable of doing the work; it recognises its limitations and how these should be overcome, and it appreciates the risks from doing the work and how these should be tackled.

Stage 1 Assessments shall be made against the set of 'core criteria' have been agreed by industry and HSE and set out in PAS 91 Core Question Module C4 Health and safety policy and capability.

Surveyors shall ensure that contractors have been confirmed as competent before they are asked to tender.

Project Managers are responsible for reviewing contractors competence submission. They shall ensure that contractors are not appointed until the contractor has provided satisfactory evidence of their skills, knowledge and experience, and, if they are an organisation, the organisational capability.

CR Construction Company (U.K.) Limited will accept accreditation by any organisation within the SSIP Forum (www.ssip.org.uk) [CHAS, Safe contractor, etc.] as evidence of a contractors Stage 1 competence. Where there is any doubt about the contractors competence the matter may be referred to the CR Construction Company (U.K.) Limited Health & Safety Advisors.

Contractors that have not been used before by the company or who have not been used for a significant period of time shall prior to appointment be invited to a Pre Tender Interview. Interviews will be held with, so far as is reasonably practicable, both the surveyor and the Project Director in attendance. Contractors will be asked to provide references to verify both their competence and their health and safety record. The purpose of the interview will be to verify that the contractor is competent to undertake the work that they are contracted to execute on behalf of the company and will manage the risks associated with their work effectively.

Contractors shall only be appointed once both the surveyor and the Project Director are satisfied that a contractor is competent to undertake the work and has made adequate provision to manage health and safety

Exchange of health and safety information

CR Construction Company (U.K.) Limited sees the requirement to inform all contractors and any self-employed persons on site as to the hazards associated with the operations involved, or the working environment, as a requisite to ensuring a safe place of work.

Relevant health and safety information contained in this construction phase plan will form part of the contractual documentation. The communication of health and safety information is coordinated by the Project Manager and shall be passed to all relevant parties at pre-contract meetings and site meetings.

Any significant changes in any circumstances will be communicated to all affected contractors at a formal meeting or by toolbox training sessions, carried out on site by the Project Manager and where it is thought necessary, by letter to the contractor's management.

3.15. Site security

The Project Manager shall take reasonable steps to prevent access by unauthorised persons to the construction site. Only people who are explicitly authorised, individually or collectively, by the Project Manager are allowed access.

The site will be secured by the following means, but further details can be found in the logistics plan:

- With either Solid 2.4m high timber hoarding or temporary heras fencing to the entire perimeter of the site.

- Mesh gates at 2.4m to all vehicular entrances
- Turnstiles with face recognition access.
- All visitors are to report directly to site management and sign a logging in book upon entering and exiting the site. Visitors must complete the visitors briefing form (CRC-SHE-030) and are to be escorted around the site at all times.
- Security guard stationed at the site entrance to monitor all personnel moving in and out and to ensure that all personnel register their arrival on site
- Traffic Marshalls located at each gate to control all access onto site

3.16. Site induction

The Project Manager shall ensure that authorised people are not allowed access until they have the relevant site rules explained to them and undertake any necessary site induction.

The Project Manager shall:

- Develop a project specific site induction presentation.
- Ensure that all personnel working on site and all visitors that will not be escorted by a member of the CR Construction Company (U.K.) Limited team receive site induction using the project site induction presentation.
- Ensure upon completion of the site induction that the Inductee shall complete induction form providing details of their CSCS Card number, where they have a CSCS card, and where relevant PASMA, IPAF, CPCS or CIRS Card Number.

Upon completion of the induction the inductee will confirm they have:

- been delivered the site induction.
- been explained the site rules.
- had any relevant competence cards checked, and a copy taken;
- have not been made aware verbally or on the form of any reason why they cannot safely undertake the work they have been employed to do.

Completed Induction Records will be stored in the Site H&S Induction Folder.

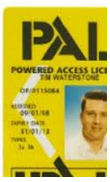
3.17. PASMA



All personnel erecting prefabricated access equipment (mobile towers, etc) shall provide the Site Manager(s) with a current PASMA card or other relevant documentation to demonstrate their competence.

Copies of a person's certificate will be taken and appended to their induction record.

3.18. IPAF



All personnel using mobile elevating work platforms shall provide the Site Manager(s) with a current IPAF card or other relevant documentation to demonstrate their competence.

Copies of a person's certificate will be taken and appended to their induction record.

3.19. Construction Plant Operators

All construction plant operators will be required to provide to the Site Manager(s) with a current CPCS Scheme Operator card relevant to the plant they are operating.

Copies of a person's certificate will be taken and appended to their induction record.

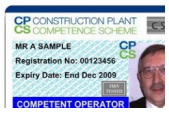
Trained Operator Card (red)



A two-year Trained Operator Card that is not renewable for those who have demonstrated a level of:

- Health, safety and environment awareness through the CITB HSE test
- underpinning knowledge and understanding through the CPCS Theory Test
- operating ability through the CPCS Practical Test.

Competent Operator Card (blue)



A five-year card which is renewable for those who have demonstrated a level of:

- Health, safety and environment awareness through the CITB HSE test
- underpinning knowledge and understanding through the CPCS Theory Test
- operating ability through the CPCS Practical Test
- proven operating competence through achievement of a relevant SVQ or NVQ.Scaffolding

3.20. CISRS

Scaffolders will be required to provide to the Site Manager(s) with a current Construction Industry Scaffolders Record Scheme (CISRS) Card appropriate to the work they will be undertaking.

Copies of a person's certificate will be taken and appended to their induction record.

CISRS Labourer Card



For operatives who will only be involved with the labouring duties, moving materials etc. If the operative will be required to carry out any scaffolding works, they must hold a CISRS Trainee card or above.

CISRS Trainee Scaffolder Card



For operatives working towards the CISRS Scaffolder qualification. CISRS Trainee Scaffolders should not be carrying out any work unless under the direct supervision of CISRS qualified Scaffolder.

CISRS Scaffolders Card



For operatives required to erect, dismantle and alter scaffolding.

CISRS Advanced Scaffolders Card



For operatives required to erect, dismantle or alter scaffolding of a complex nature.

CISRS Supervisors Card



For operatives involved in Supervising Scaffolding Works on site, i.e. Site Foreman, These may not necessarily be qualified scaffolders.

3.21. Asbestos Awareness Training

The Site Manager(s) shall ensure that all personnel on site receive or have received adequate information, instruction and training where they are or are liable to be exposed to asbestos, or if they supervises such employees, so that those employees are aware of:

- the properties of asbestos and its effects on health, including its interaction with smoking;

- the types of products or materials likely to contain asbestos;
- the Contracts which could result in asbestos exposure and the importance of preventive controls to minimise exposure;
- safe work practices, control measures, and protective equipment;
- the purpose, choice, limitations, proper use and maintenance of respiratory protective equipment;
- emergency procedures;
- hygiene requirements;
- decontamination procedures;
- waste handling procedures;
- medical examination requirements;
- the control limit and the need for air monitoring,

Copies of a person's asbestos awareness training certificate will be taken and appended to their induction record.

3.22. Toolbox Talks

The Site Manager(s) shall:

- ensure that all contractors undertake at least two 'toolbox talks' (a short presentation to the workforce on a single aspect of health and safety) each month;
- collect and store all toolbox talk records in Site H&S File, in the folder or section of the contractor responsible for the operative who have received the toolbox talk.
- instruct additional toolbox talks following any significant breach of site rules or safety arrangements and as often is necessary to make site operatives aware of any significant or unusual risks present on site.

Toolbox talks shall be delivered using the CITB's Toolbox Talks (GT 700) or other equivalent and suitable formats.

3.23. Welfare facilities

Welfare facilities all in accordance with the requirements of Schedule 2 of the Construction (Design and Management) Regulations 2015 shall be provided and maintained. Further details can be found in the Logistics Plan.

Welfare shall include:

- Onsite ladies and gent's toilets
- Ladies and hents drying facilities with lockers,
- Hot and cold running water,
- Canteen and seating areas with fridge and microwave provisions,
- Office with desks
- 24-hour security 7 days per week.

The Project Manager shall ensure that:

- all personnel under their control have reasonable access to appropriate welfare facilities;
- all welfare facilities are maintained, cleaned regularly and kept stocked with soap, towels etc.

3.24. First aiders

The Project Manager shall ensure that there is adequate first aid cover on site at all times and shall ensure that the names of all first aiders are listed on the site notice board and communicated to all operatives at site induction.

	Numbers on site	First aiders
☐	5-50	At least two first-aiders trained in First Aid at Work [FAW]
☐	More than 50	At least one first-aider trained in FAW for every 50 people employed (or part of 50)

The numbers of first aiders required on this site is 7 number at peak personnel of the project.

The Project Manager shall ensure that details of all other first aiders on site are recorded in the relevant section of the site information board, displayed in the site accommodation.

Mobile numbers of all first aiders will be recorded so that they can be contacted in an emergency.

Copies of the certificates for all first aiders with be maintained in the Site H&S File, and details recorded on the Site Health and Safety Training Matrix.

3.25. First aid facilities

A first aid box of the appropriate size is stored in the security gate huts, site main offices:

	Numbers on site	Size of First Aid Kit
☐	Less than 25	1 Small Kit plus eye wash station
☐	25 to 100	1 Medium Kit plus eye wash station
☐	More than 100	1 Large Kit per 100 operatives on site

Eye wash stations should contain at least:

- 10 x 20ml Eye Wash Pods containing 0.9% Saline solution for eye irrigation;
- 2 x Sterile Eye Dressings; and
- A mirror

If mains tap water is not readily available for eye irrigation, the eye wash station should contain:

- at least one litre of sterile water in the form of 2 x 500ml Eye Wash Bottles containing 0.9% Saline solution should be provided;
- 2 x Sterile Eye Dressings; and
- A mirror

Once the seal is broken on an Eye Wash bottle, the remaining contents and the bottle shall be disposed of. Eye Wash bottles that are beyond their expiry date shall also be disposed of.

Burns kit should contain at least:

- 5x non-adherent dressing
- 5x sterile Hydrogel burn gel.

The Site Manager(s) s are responsible for ensuring that first aid kits, eye wash stations and burns kit are kept fully stocked.

3.26. Action to be taken in case of major injury

The Site Manager(s) shall:

- call the emergency services when an accident demands their attendance;
- secure the area of the accident;
- make any injured persons safe until the emergency services arrive
- act as site liaison with the emergency services.

3.27. Accidents and incidents reporting and investigation

All accidents, incidents, and dangerous occurrences must be reported to the Project Manager as soon as it is safe to do so.

Where an employee is injured at work, the following details shall be recorded as soon as practicable in an accident report form (CRC-SHE-011 - Accident Form) by the Project Manager;

- the full name and address of the injured person;
- the occupation of the injured person;
- the date of entry;
- date and time of accident;
- accident details - the location and circumstances, work, process;
- injury details and treatment given;
- signature of the person making entry.

After completion, the record shall be stored on the project shared drive and recorded in the Accident & Incident Register.

A copy of the record shall be given to the injured person.

As soon as it is safe to do so, all accidents, incidents, and dangerous occurrences reportable under the Reporting of Injuries Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) that occur on company controlled sites or involve company employees or personnel working under CR Construction (U.K.) Company Limited control shall be reported to the Project Director who will ensure that the HSE are contacted:

- without delay online at [https://extranet.hse.gov.uk/lfserver/external/F2508IE];
- within 10 days of the incident;

The Project Director must report an employee death as soon as it is safe to do so to the HSE Incident Contact Centre on 0845 300 9923.

The Project Manager must report any injuries which result in more than seven days absence from work to the Project Director who will report it to the relevant enforcing authority online [https://extranet.hse.gov.uk/lfserver/external/F2508IE] within fifteen days from the date of the injury.

Notifiable diseases must be reported online by the Project Director using [https://extranet.hse.gov.uk/lfserver/external/F2508IE] without delay.

The following injuries are reportable:

- fractures, other than to fingers, thumbs and toes;
- amputations;
- any injury likely to lead to permanent loss of sight or reduction in sight;

- any crush injury to the head or torso causing damage to the brain or internal organs;
- serious burns (including scalding) which:
  - covers more than 10% of the body;
  - causes significant damage to the eyes, respiratory system or other vital organs;
- any scalping requiring hospital treatment;
- any loss of consciousness caused by head injury or asphyxia;
- any other injury arising from working in an enclosed space which:
  - leads to hypothermia or heat-induced illness;
  - requires resuscitation or admittance to hospital for more than 24 hours.

Accidents must be reported where they result in an employee or self-employed person being away from work, or unable to perform their normal work duties, for more than seven consecutive days as the result of their injury. This seven day period does not include the day of the accident, but does include weekends and rest days. The report must be made within 15 days of the accident.

Accidents to members of the public or others who are not at work must be reported if they result in an injury and the person is taken directly from the scene of the accident to hospital for treatment to that injury. Examinations and diagnostic tests do not constitute 'treatment' in such circumstances.

Where it affects an employee the following diagnoses of occupational diseases, where these are likely to have been caused or made worse by their work, are reportable:

- carpal tunnel syndrome;
- severe cramp of the hand or forearm;
- occupational dermatitis;
- hand-arm vibration syndrome;
- occupational asthma;
- tendonitis or tenosynovitis of the hand or forearm;
- any occupational cancer;
- any disease attributed to an occupational exposure to a biological agent.

The following Dangerous Occurrences are reportable:

- The collapse, overturning or failure of any load-bearing part of any lifting equipment, other than an accessory for lifting;
- The failure of any closed vessel or of any associated pipework (other than a pipeline) forming part of a pressure system as defined by regulation 2(1) of the Pressure Systems Safety Regulations 2000, where that failure could cause the death of any person.;
- Any plant or equipment unintentionally coming into:
  - contact with an uninsulated overhead electric line in which the voltage exceeds 200 volts; or
  - close proximity with such an electric line, such that it causes an electrical discharge.
- Any explosion or fire caused by an electrical short circuit or overload (including those resulting from accidental damage to the electrical plant) which either:
  - results in the stoppage of the plant involved for more than 24 hours; or
  - causes a significant risk of death.
- The complete or partial collapse (including falling, buckling or overturning) of:
  - a substantial part of any scaffold more than 5 metres in height;

- any supporting part of any slung or suspended scaffold which causes a working platform to fall (whether or not in use); or
- any part of any scaffold in circumstances such that there would be a significant risk of drowning to a person falling from the scaffold.

- Any other dangerous occurrences listed in Schedule 2 of RIDDOR 2013 [http://www.legislation.gov.uk/uksi/2013/1471/schedule/2/made]

3.28. Accident Investigation

The Project Manager shall ensure that all accidents are investigated, and a record kept of the investigation. Photographs shall be taken when appropriate & incident reporting form completed (CRC-SHE-042 Incident and Near Miss report form)

Where the accident is or may be reportable under RIDDOR the Project Manager shall:

- preserve the scene of the incident until they have notified the Project Manager and the Company's Health and Safety Advisers;
- where requested to do so by the Project Manager or the Company's Health and Safety Advisers, appropriately preserve the scene of the incident and / or take photographs to record all relevant details of the accident scene, outcome and contributory factors;

The Project Manager shall ensure that a competent person carries out an investigation of the accident.

Copies of all accident investigation reports, whether reportable under RIDDOR or not shall be forwarded to:

- the Company's Health and Safety Advisers; and
- the Office Manager at the CR Construction (U.K.) Company Limited Head Office

3.29. Risk assessments and written systems of work

The Site Manager(s) shall maintain a record of all required, reviewed and approved risk assessments and method statements on the document control system.

Review and Approval of Contractors Risk Assessments and Method Statements [RAMS]

Contractors shall provide the Project Manager, prior to appointment, a copy of their RAMS for the work they will be undertaking.

Upon receipt of the RAMS, the Site Manager(s) will review the RAMS, record their review and, if satisfied, the works can proceed.

Where the Site Manager(s) is not satisfied, they must be returned to the contractor with the form for revision and resubmission.

When the Site Manager(s) is satisfied that all significant risks have been identified and control measures recorded, they will ensure that so far as is reasonably practicable, construction work is carried out without risks to health or safety, and they shall sign the RAMS to confirm this. If they are not satisfied, they must be returned to the contractor for revision and resubmission.

Where the Site Manager(s) is satisfied with the RAMS the works supervisor must sign off the RAMS to confirm:

- that they have read and understand the risk assessments and method statements [RAMS];
- that should other works not covered in the RAMS be required or the work or work method must change, then additional RAMS will be produced before such works are undertaken.
- that they are responsible for briefing all operatives working under their control on risks and risk control measures set out in the RAMS; and
- they shall supervise the works and ensure that the risk control measures set out in the

RAMS are implemented.

Risk Assessments

The Site Manager(s) shall ensure that all necessary assessments not covered by this document are carried out in accordance with the requirements of statutory legislation.

Assessments that require additional resources shall be forwarded to the Project Manager for immediate attention.

Safe systems of work identified within all assessments will be implemented in full and communicated to those involved, and those who may be affected by the works identified.

Records

Copies of all risk assessments, written systems of work and associated review will be will be stored in Site H&S File - Section 4.0, in the folder or section of the contractor responsible for the person who has been inducted.

3.30. Site rules

The Project Manager shall:

- develop project specific site rules;
- ensure that the site rules are displayed in the mess room, induction room;

ensure that the site rules are communicated as part of the site induction to all personnel working on site and all visitors that will not be escorted by a member of the CR Construction (U.K) Company Limited site management team.

3.31. Competency and Training

A formal up-to-date record of training is maintained for the CR Construction (U.K.) Company Limited project team and located on the project server.

A training and competency matrix and training requirements shall be maintained for CR Construction (U.K.) Company Limited personnel; assessed by line managers as part of the appraisals process.

CR Construction (U.K.) Company Limited employees must satisfy the mandatory training requirements for their role and responsibilities on the project.

All suppliers and consultants shall only employ competent and trained personnel on the project and shall provide an up-to-date record of relevant training for their personnel employed on the project.

All suppliers and consultants will confirm the requirement for training, qualifications and certification in their operational control plans. This information is required as part of Method Statements and shall be audited upon request by CR Construction (U.K.) Company Limited. A record of relevant qualifications shall be maintained, updated and provided to CR Construction (U.K.) Company Limited.

4. FIRE RISK ASSESSMENT

4.1. Introduction

Both the Regulatory Reform (Fire Safety) Order 2005 (FSO) and the Construction (Design and Management) Regulations 2015 (CDM2015) place duties on duty holders in relation to fire safety.

This section of the construction phase plan includes both an assessment of the fire risks and the general fire precautions that will or have been put in place to ensure, so far as is reasonably practicable, the safety of anybody who may be affected by the project during its construction phase.

4.2. Responsible Person

CR Construction (U.K.) Company Limited as Principal Contractor for this project is the responsible person.

CR Construction (U.K.) Company Limited shall:

- carry out, and keep up to date, a risk assessment and implement appropriate measures to minimise the risk to life and property from fire.
- take such general fire precautions as will ensure, so far as is reasonably practicable, the safety of his employees and, in relation to persons who are not his employees, take such general fire precautions as may reasonably be required in the circumstances.
- Review and update the site fire plan monthly to include changes to the project.

General fire precautions will include that:

- all procedures, precautionary measures and safety standards as laid down on this site's fire safety plan are clearly understood and complied with by all those on the project site(s);
- where necessary, the hot work permit system described in this plan will be used and compliance monitored;
- weekly testing of the fire alarm is carried out;
- where installed smoke and heat detectors on site are tested as determined by a risk assessment;
- weekly inspections are conducted of escape routes, fire and rescue service access, firefighting facilities, temporary emergency lighting, the routing of temporary electrical cables and work areas;
- Every 6 months a full evacuation fire drill will be conducted and monitored. Any findings are to be recorded and actions developed to improve fire safety
- the requirements laid down in this site fire safety plan are monitored;
- liaison is maintained with the local fire and rescue service and they are invited to undertake site inspections and familiarisation tours;
- liaison is maintained with site security personnel where they are employed;
- a proper maintenance regime for fire protection equipment is instigated, including the keeping of a written record of all checks, inspections and tests;
- a written record of fire safety training of site operatives and of all fire patrols and fire drill procedures is maintained;
- the detailed arrangements and actual procedures for calling the fire and rescue service are regularly monitored and checked.
- during an alarm, those duties required for the safe evacuation of the site are executed, and all staff and visitors report to the assembly points;
- a fire safe working culture is proactively promoted at all times; and

- one or more competent persons are appointed to assist the responsible person
- ensure there is a correct number of adequately trained Fire marshals on site
- ensure all fire marshals are briefed of all changes to the site fire plan monthly.

4.3. Fire safety standards

The following fire safety standards apply to this project and have been taken into account when undertaking the risk assessment and preparing this plan.

Standard	Application	Applicable
HSG 168 Fire Safety in Construction	All projects	☒
The Joint Code of Practice on the Protection from Fire of Construction Sites and Building Undergoing Renovation 9th edition: October 2015 published by the Construction Confederation and the Fire Protection Association	Projects of £2.5m and above and where it is required by the clients or companies insurers	☒
Structural Timber Association (2011) 16 Steps to Fire Safety	Timber frame projects	☐
Structural Timber Association (2012) Design guide to separation distances during construction for timber frame buildings above 600m2 total floor area together with supporting documents	Timber frame buildings above 600m2 total floor area	☐

4.4. Fire risk assessment

The risk assessment below identifies all sources of fuel and ignition and establishes general fire precautions, including; means of escape, warning and fighting fire.

When assessing risk, the assessor shall follow the guidance set out in Part 1 of HSG168 Fire Safety in Construction (http://www.hse.gov.uk/pubns/priced/hsg168.pdf) Pages 8 to 17 and, where appropriate, The Joint Code of Practice on the Protection from Fire of Construction Sites and Building Undergoing Renovation 9th edition: October 2015 published by the Construction Confederation and the Fire Protection Association.

4.5. Proximity to neighbouring properties

The property is situated within its own plot with neighbouring residential to the west of the project. There is the Network Rail infrastructure (Rail Line) adjacent the site and a scrap yard retaining wall adjacent.

4.6. Is the site / structure deemed HIGH RISK?

Tick those applicable. (to tick box – double click on box and set default value to checked) A HIGH RISK site is defined as:

☒ **Site is high rise** (workforce is working outside a distance at which mechanical rescue is possible - currently 30m from position from of siting a fire appliance.)

☒ **A large project** (original value is £20 million or above)

☐ **A large timber frame structure** (timber frame of 3 storey or more)

☐ Project where there is a significant potential for loss of life or property

[The Fire Risk Assessment for a HIGH RISK project must be carried out by a fire engineer with suitable experience of the type of construction.]

4.7. Persons at Risk

Tick where at risk & provide maximum numbers present (to tick box – double click on box and set default value to checked)

	Site personnel	**Numbers present**
☒	Operatives	350
☒	Visitors	15
☒	Tower crane operators	3
☐	Lone workers	0
Immediate neighbours		
☐	Staff	28
☐	Visitors	15
☐	Persons with limited or no mobility	0
☐	Persons with other disability	0

4.8. Sources of ignition

☒ smokers' material, eg cigarettes, matches and lighters

☒ naked flames, eg gas- or liquid-fuelled open-flame equipment

☒ those deliberately introduced (arson)

☐ bonfires

☒ plant and equipment, eg fuel and vehicle exhausts

☒ electrical – faulty or misused electrical equipment;

☒ poor electrical installations, eg overloads, heating from bunched cables and/or damaged cable

☒ hot processes/hot work, eg welding by contractors

☒ light fittings and lighting equipment, eg temporary lighting, halogen lamps too close to stored products

☒ electrical, gas- or oil-fired heaters, room heaters in temporary office accommodation or welfare cabins

☒ heat sources, such as gas, electric, cooking equipment, microwaves

☒ friction-generated heat from mechanical equipment such as disc cutters

☐ static charge from mechanical equipment

☒ use of oxy-fuel equipment

☒ lightning and refracted sunlight

4.9. Sources of fuel

- ☒ components of the structure itself such as some composite panels and timber
- ☒ stored/in-use building products such as composite panels and timber
- ☒ rubbish
- ☒ flammable liquids such as paints and varnishes
- ☒ protective coverings
- ☐ scaffold sheeting
- ☒ volatile flammable substances such as paints, thinners
- ☒ fuel for portable equipment
- ☒ liquefied petroleum gas (LPG), eg bitumen boilers, temporary site accommodation and similar areas
- ☒ acetylene
- ☒ packaging materials
- ☒ petrol disc cutters and other portable equipment
- ☐ fall-arrest bags

4.10. Sources of oxygen

- ☒ Air / atmosphere
- ☐ 02 enriched atmospheres
- ☒ Oxygen cylinders
- ☒ oxygen used in welding processes
- ☐ oxidising agents

4.11. Remove or reduce sources of ignition

Arson

There is a risk of arson however the risk is not believed to be significant.

The site is fully locked down and secure over night to minimise the risk of breaking and entering.

Where the building envelope forms the site perimeter, all accessible openings such as ground floor windows and doors and vulnerable higher level windows shall be secured against unauthorised entry. This may be achieved through the early installation of doors and windows or temporarily boarding such apertures with 18mm plywood or proprietary steel shuttering. Doors and windows shall be fitted with locks, and secured when the building is vacant. Access to upper levels via scaffolding shall be prevented.

Contracted security guards shall be licenced under the Private Security Industry Act 2001.

Smoking

Smoking is not permitted on site unless in the designated area.

Where a smoking shelter is provided it shall be:

- included specifically in this project fire risk assessment;
- constructed of non-combustible materials;
- situated as far as reasonably practical from any building or structure, but at least 20m on a high fire risk site, where possible;

- provided with suitable metal ashtrays and a separate metal waste bin with a fitted metal lid; and
- provided with a suitable fire extinguisher.

- Hot Works

- All hot works are to be controlled by a permit to work system.

- Hot works permits shall be issued by the Site Manager(s) or responsible party as identified by the appendices to this document

- The following information shall be recorded on the permit to work

- the location and nature of the hot work intended;
- the proposed time and duration of the work;
- the limits of time for which the permit is valid; and
- the person in direct control of the work.

Precautions to be taken and reflected in the PTW before, during and after the work include:

- clearing the surrounding area of all loose combustible material;
- checking for combustible material on both sides of a wall or partition, where work takes place only on one side;
- having suitable extinguishers at hand and a careful watch maintained for fire during the work and following completion;
- protecting combustible material which cannot be cleared;
- examining the hot work area thoroughly for some time after the work has finished (this will be for at least 1 hour, but ignition can sometimes occur much later than this). In view of the potential risk, it is a sensible precaution for all hot work to stop by a safe period before the end of the day.

[Further information and legal obligations on Systems of Work and Permits-to-Work are detailed in DSEAR ACOP L137 and HSE leaflet INDG98 Permit-to-work systems]

Site burning of vegetation or rubbish

The burning of any vegetation or rubbish on site is prohibited.

Electricity

Electrical supply installations, both temporary and permanent, shall be installed in accordance with the latest edition of BS 7671: Requirements for electrical installations and the Electricity at Work Regulations 1989

All electrical work should be undertaken by a skilled electrician as defined in BS 7671: Requirements for electrical installations.

Installations (especially of a temporary nature) shall be inspected regularly and tested at intervals not greater than every six months, or when they have been altered. The results shall be recorded in a register kept for the purpose.

Electric cabling (especially of a temporary nature) should be protected against damage from construction site activities in its vicinity.

Temporary lighting

Where portable or temporary lights are required, these shall be located well away from combustible materials.

Low voltage festoon lighting shall be used where ever practicable. Where this cannot be used, sealed fluorescent light tubes shall be used.

Unprotected quartz halogen lights shall not be used on site.

Where possible, main switches - other than those controlling fire protection, security and life safety systems - should be turned off when work ceases, and all equipment unplugged when not in use.

Photovoltaic panels

Photovoltaic panels shall be installed in accordance with the manufacturer's instructions.

Where photovoltaic panels are being installed, signs must be displayed at the earliest opportunity to warn site staff and firefighters of the presence of live DC power supplies and the location of the isolators.

Following their installation, photovoltaic panels shall be isolated and not be used to produce power for site use during the construction phase.

Gas supplies

All permanent gas supplies must be installed by a registered Gas safe gas installer.

Gas supply to appliances should be by fixed piping or armoured flexible tubing. Gas cylinders should be located outside buildings, secured and protected from unauthorised interference. Gas appliances should be fitted with control taps.

LPG connected to an appliance by a flexible link should only be installed by a competent person

Plant and vehicles

Stationary plant powered by internal combustion engines, such as compressors and generators, shall be positioned in the open air or in a well-ventilated non-combustible enclosure. They s hall be sited so that exhaust pipes and exhaust gases are kept clear of combustible materials and shall, wherever reasonably practicable, be separated from working areas and other buildings.

Where plant and vehicles are refuelled on site:

- fuel tanks must not be filled whilst engines are running or hot;
- vehicles should only be fuelled in designated areas; and
- fuel should be stored in accordance with the standards set out in this plan.

The long-term parking of vehicles within 10m of the building under construction shall be avoided. When equipment and materials are being unloaded from or reloaded onto contractors' and sub-contractors' vehicles, such vehicles may be permitted to park on site within 10m of the building for no longer than the duration of unloading or reloading.

Under no circumstances shall long-term parking be permitted within the building without a suitable and sufficient fire risk assessment being undertaken.

4.12. Remove or reduce sources of fuel

Stored Materials

Where it is reasonably practicable to do so, combustible materials shall be stored outside the building under construction or undergoing refurbishment, and shall not be so close to it that fire is able to spread from the materials to the building.

Site Storage of Flammable Liquids and LPG

Flammable liquids and gases used and stored on site shall be subject to a periodic assessment in compliance with the Dangerous Substances and Explosive Atmospheres Regulations 2002.

Containers of flammable liquids and LPG cylinders shall preferably be stored in open compounds which are securely fenced, shaded from the sun and remote from pits, drains and low lying areas.

Stores of liquid fuels must be surrounded by an imperforate bund sufficient to contain the maximum contents of the largest drum stored, plus 10 percent. The bund must not be allowed to accumulate water or waste material.

Flammable liquids and LPG shall not be stored together.

Storage areas should be sited as far as reasonably practical from permanent and temporary buildings. Where practical, given the constraints of the site, containers and drums of flammable liquid or gas cylinders must not be stored within 10m of any building or boundary fence (and in no circumstance closer than 4m) unless the boundary is a wall at least 2m high and constructed to provide a minimum of 30 minutes fire resistance. In the latter case, containers and drums should be at least 1m below the top of the wall.

Products which could add to the intensity of a fire, such as acetylene or oxygen, shall not be stored in the same compound as flammable liquids and LPG.

Appropriately worded warning signs, eg 'HIGHLY FLAMMABLE LIQUIDS', 'NO SMOKING' and 'NO NAKED LIGHTS' shall be displayed prominently at the entrances to stores.

The floors of flammable liquid or LPG cylinder stores should be paved or compacted level, with a suitable hard-standing provided for the delivery and dispatch of cylinders. The area must be kept clear of all combustible materials, weeds and rubbish.

Adequate numbers of extinguishers appropriate to the hazard shall be sited at entrances to storage areas.

There should, where possible, be designated areas for fuelling plant and vehicles. The use of petrol generators in high risk structures shall be avoided.

Acetylene

The use of acetylene on construction sites should be eliminated wherever reasonably practicable, and alternative methods of cutting and welding be adopted.

Where the use of acetylene is unavoidable, the number of spare cylinders stored on site should be kept to the absolute minimum.

Acetylene cylinders should be removed from the workplace and returned to the storage area as soon as the period of work has been completed.

Acetylene cylinders should be removed from the site as soon as their use is complete.

Waste management

All non-essential combustible wrapping and packaging shall be removed to a safe place away from the working area and be disposed of at the earliest opportunity, and in any case not less than once per day.

Separate metal bins, with close-fitting metal lids, shall be provided for combustible materials such as oily rags.

Unwanted materials from open areas of the site shall be collected at regular intervals.

All recycling collection points and other combustible waste materials awaiting disposal shall be kept in an area as far as reasonably practical away from the building under construction, temporary buildings, smoking shelters, stores and equipment.

All dry vegetation must be cleared regularly.

Temporary Protective Covering Materials

Finished surfaces, fittings or expensive items of plant and machinery incorporated into a building should be temporarily protected during construction or refurbishment. When selecting a temporary protective covering material, regard must always be paid to the relative fire load and the potential for fire growth and spread.

Where flexible protective covering materials are used, these shall conform to the requirements of the LPCB's Loss Prevention Standard LPS 1207: Fire requirements for protective covering materials or equivalent standard.

When flexible materials are used to clad scaffolding, these materials shall conform to the requirements of LPS 1215: Flammability requirements and tests for LPCB approval of scaffolding materials or equivalent standard.

All protective materials shall be manufactured in accordance with a quality assurance and certification programme, and the scaffolding covering material shall be approved by a third-party certification body accredited by the United Kingdom Accreditation Service. The relevant approval mark shall be printed on the material.

Overprinting of materials with advertising or images must not detrimentally affect their fire performance. Confirmation of this shall be sought through testing of the printed material by the certification body.

Flame retardant protective covering material can still burn; therefore at least one fire escape stairway should be kept free of all protective coverings.

5. CONSTRUCTION PHASE PLAN

This section of the Project Delivery Plan addresses the arrangements for planning, managing and monitoring the construction phase activities to safeguard the occupational health and safety of all interested parties. It is to be read and implemented in conjunction with other sections of the Project Delivery Plan, particularly Section 1 – Project Details. This section is set out in accordance that the Project Delivery Plan complies with the requirements of Regulation 12 of the Construction (Design and Management) Regulations 2015 and is based on the CR Construction (U.K.) Company Limited Pre-Commencement Risk Register. These documents are designed to highlight the key risks and overall precautions to be implemented on the project. The pre-commencement risk assessment can be found in the Health and Safety folder and forms the basis for managing risk on this project.

5.1. H&S Documents

The following CR Construction (U.K.) Company Limited documents will be provided to all suppliers and the latest versions are available on the CR Construction (U.K.) Company Limited system:

- Traffic Management & Logistics plan
- Fire plan and fire risk assessment

5.2. H&S File

Purpose of the Health and Safety File

The information contained in the Health and Safety File will be made available for inspection by any person who may need information from the file for the purpose of complying with the relevant requirements and prohibitions imposed on him or her by or under relevant statutory provisions.

This includes persons who clean, maintain, alter, refurbish, repair or demolish any of the listed properties. Those persons are required by the Management of Health and Safety at Work Regulations 1992 to carry out risk assessments in respect of the task they intend to undertake. In order to do this effectively they need adequate information about that part of the property or properties which will be worked on and any possible hazards which may exist. The provision of this information to these persons is the fundamental purpose of the health and safety file.

Keeping and Maintaining the File

The information in the Health and Safety File will only be amended, updated or added to, following careful consideration. A complete history of revisions will be kept in this document.

The person or persons responsible for keeping and maintaining this Health and Safety File will ensure that the information contained within it is clearly presented, legible and accessible. The file should also form an integral part of any system established in accordance with current legislation for ensuring health and safety.

Amendments to the File

Alterations or amendments to this file will only be carried out by the authorized persons. Alterations or additions should be noted on the amendment Control Sheet on the following page. Any information which has been superseded should be noted on the amendment Control Sheet. Any information appertaining to fittings or equipment removed from the structure should be noted on the amendment Control Sheet. The File should be audited and consolidated at regular intervals by the authorised person who is duly qualified, so that the information contained is complete and fulfils the intent of the Construction (Design and Management) Regulations 2015.

Layout & Format

Suggested content for the H & Safety File is listed below –

Introduction

A brief introduction as to the purpose of the health and safety File

Project Description

Scope of works

Key Commencement Dates

CDM Appointment details

Project Directory

List of all key consultants/contractors involved in the project

Design Overview

Overview of the current design

Significant Services

Description of the Significant services both existing and new.

Residual Risks

Description of any Residual Risks that are present

Surveys and Reports

Details of a certification requirements to be populated as a and when information is available.

As Built Drawings / Operating & Maintenance Manuals

Full set of As-built drawings to be located in the Health & Safety file.

Additional Information

Any additional information not covered by the above.

Updating of Information.

The document will be a live document which is updated with information as it is gathered throughout the project.

Arrangements for Collecting & Storing information

Information will be collated through an online portal to ensure the relevant information can be uploaded in a timely manner commented on and filed in the correct place and accessed by the appropriate personnel.

5.3. H&S Co-ordination Roles

The nominated project manager is responsible for allocating key health and safety coordination roles to members of the CR Construction (U.K.) Company Limited management team, as soon as possible and before construction,
The project manager is also responsible for maintaining the coordination list, displaying it on all relevant project H&S noticeboards and ensuring all the coordinators are trained sufficiently to undertake their role.

Roles	Name	Contact details
Emergency contact	Philip Yeung	07445671969
Scaffold Coordinator	TBC	
Temporary Works Coordinator	TBC	
Fire Coordinator	TBC	
COSHH Coordinator	TBC	
Noise Coordinator	TBC	
Permit-to-Work Coordinator	TBC	
Excavation Coordinator	TBC	
Lifting Coordinator/ Appointed Person	TBC	
Environmental Coordinator	TBC	
Waste Management Coordinator	TBC	
Traffic Management & Logistics Coordinator	TBC	

6. ARRANGEMENTS FOR CONTROLLING SIGNIFICANT SAFETY RISKS

This section covers the arrangements for controlling the significant safety risks on the project. In particular reference to services i.e. water / liquid / gas and electric, CR Construction (U.K.) Limited have appointed Warner Surveys Utility Mapping Limited to carry out a desktop analysis and RADAR survey of the site to ascertain the locations of the existing services in and around the site. The information will be used to control the permits to dig and break ground such that all the relevant supply chain partners on the project have detailed understanding of these services locations such that control measures can be developed. At the time of compiling the construction phase plan the survey has not been undertaken but will be done prior to the commencement of the construction works.

6.1. Access and Egress

Refer to the site logistics plan within the appendices

6.2. Traffic Management

See Logistics plan for further details.

The site operates with vehicles entering and exiting onto Dantzic Street.

The site Logistics Plan is subject to change as the project develops.

Suitable pedestrian routes will be set up to allow safe access to and around the site.

Access gates will be secured when not in use in order to prevent unauthorised access to the site.

Suitably qualified (CPCS or similar) Plant and Traffic Marshall will be provided at all times when vehicles are manoeuvring.

Deliveries and collections for the majority of the work shall, so far as is reasonably practicable, be restricted to between 8.00 am and 6.00pm. Where necessary to ensure continuity of concrete pours an earlier start and later finish may be required but this will be in accordance with the permitted planning constraints for the project.

There will not be any deliveries outside normal working hours (07-30 – 18-00 on Monday to Friday, and 08-30 – 14-00 on Saturday). No working or deliveries on Sunday or Bank Holidays.

Hard standing at the entrances for delivery and muck away vehicles will be laid to ensure that mud / detritus originating from the site is not deposited on the public highway.

Parking is not available on site, but there are numerous parking facilities offsite for use by site personnel. This is identified within our logistics and traffic management plan C013-CRC-SHE-010.

All engines will be switched off to control noise on delivery and waste away vehicles. Horns will not be sounded on site.

We will spray and dampen down dusty material and make sure that any dusty material leaving site will be watered down. Waste removal vehicles will be, where required, sheeted down before leaving site. To prevent loose materials / debris being blown from vehicles it will be mandatory for suitable sheeting to be used.

Where necessary vehicles will be washed down before leaving site. After washing a vehicle down the Traffic Marshall must check that no mud or debris has been left road surfaces.

Any mud or debris that reaches the public highway will be cleaned immediately by the Traffic Marshall. Under no circumstances should concrete residue or other detritus be washed into the public drainage system.

Delivery vehicles and waste carriers will be prevented from extending outriggers on the footpath. Where outriggers must be extended on the roadway, suitable timber sleepers will be used to spread the load and prevent damage.

Deliveries shall, so far as is reasonably practicable, be given times to arrive. Delivery instructions will be sent to all suppliers and contractors with orders. The Site Manager(s) and Traffic Marshalls are responsible for supervising, controlling and monitoring vehicle movements to and from the site and will coordinate and allocate time slots.

We will use temporary barriers when needed for pedestrian safety along with barriers to close off pedestrian routes on site. Banksmen shall ensure the safe passage of pedestrians and vehicular traffic when vehicles are being loaded or unloaded.

Vehicles will not, so far as is reasonably practicable, wait or stack on local roads. An appropriate location will be identified and communicated to delivery companies, if a large number of delivery vehicles are expected, trained Traffic Marshalls will assist when delivery vehicles are accessing the site.

6.3. Demolition

There are no demolition works on this project

6.4. Electrical Installations

Electrical supply installations, both temporary and permanent, shall be installed in accordance with the latest edition of BS 7671: Requirements for electrical installations and the Electricity at Work Regulations 1989.

Temporary low voltage (110V) supply installations shall be installed in accordance with the Electrical Safety Council's Guidance on the management of electrical safety and safe isolation procedures for low voltage installations
[http://www.electricalsafetyfirst.org.uk/mediafile/100370766/Best-Practice-Guide-2-Issue-3-.pdf]

All electrical work should be undertaken by a skilled electrician as defined in BS 7671: Requirements for electrical installations.

Temporary electrical distribution installations and equipment shall be tested before use in accordance with BS 7671 "Requirements for Electrical Installations. IET Wiring Regulations" and a copy of the test certificate maintained in the site office.

Installations (especially of a temporary nature) shall be inspected regularly and tested at intervals not greater than every three months, or when they have been altered. The results shall be recorded in a register kept for the purpose.

Electric cabling (especially of a temporary nature) should be protected against damage from construction site activities in its vicinity.

6.5. Identification and Isolation of Services

Before starting work in any area, the Site Manager(s) shall, in consultation with the relevant specialist, establish the location of all existing services (including foul and surface water drainage) that may be disturbed by the work.

Identification of services shall include the inspection of services records and both a physical survey and electronic scanning survey of all areas that may be affected by the work.

Except for testing when no disconnections or connections are to be made, no one shall work on electrical equipment unless all supplies to it are dead.

In all situations where services are shut down for work to be carried out, a competent person shall verify that they are effectively isolated and safe to work on. This shall include the placing of notices, and physically securing valves and switches.

6.6. Underground Services

Any excavation carried shall be carried out by a competent person with care and in accordance with the procedures laid down in the Health and Safety Executives guidance HS(G)47 - Avoiding danger from underground services.

6.7. Overhead power lines

Work should be avoided in any area where there is a risk of contact with, or close approach to, the overhead power lines.

Where work cannot be avoided and there is a risk of contact or close approach to the wires, the Site Manager(s) must consult the line owner to find out if:

- to find out if the line can be permanently diverted away from the work area or replaced with underground cables; and if this cannot be done;
- to find out if the overhead line can be temporarily switched off while the work is being done.

In all cases where there is a risk of contact with, or close approach to, the overhead power lines the work will be planned and managed in accordance with the guidance given in the HSE's Guidance Note GS6 Avoiding Danger from Overhead power lines (http://www.hse.gov.uk/pubns/gs6.pdf)

6.8. Accommodating adjacent land use

There are local businesses & residential units on Dantzic Street whereby liaison will be managed through updates and letter drops depicting site activities and progress matters.

6.9. Temporary works / stability of structures

CR Construction (U.K.) Company Ltd have appointed ROC Consulting Limited to manage the temporary works for CR Construction (U.K.) Company Limited. ROC will carry out all necessary temporary works checks for CR Construction (U.K.) Company Limited. At the time of compiling the construction phase plan, ROC Consulting Limited are working with CR Construction (U.K.) Company Ltd to develop the temporary works design and inspection regime. This will cover the necessary CAT 2 and Cat 3 temporary works checks for the activities within the construction programme.

6.10. Hoardings

Guidance on the design and installation is given in 'Hoardings – A guide to good practice published by the Temporary Works Forum and available to download from
http://www.twforum.org.uk/media/39110/twf2012_01_hoardings_good_practice_01.pdf

Site hoardings shall be designed by a competent person and installed in accordance with the guidance given in the above document.

The condition of all hoardings, particularly where they run adjacent to public areas, must be checked weekly by the Site Manager(s) as part of their Weekly Health and Safety Inspection. The hoarding should also be checked by the logistics sub-contractor on this be recorded on Feildveiw on the hoarding checklist form.

6.11. Work involving the assembly or dismantling of heavy prefabricated components.

No prefabricated components require dismantling.

6.12. Preventing falls

To prevent or minimise risk when planning for work at height, a sensible risk-based approach to identify suitable precautions shall be taken. Control measures for determining how to work at height safely shall be taken following the hierarchy set out below. The hierarchy shall be followed systematically and only when one level is not reasonably practicable may the next level be

considered. Where it is reasonably practicable to prevent a fall, precautions shall be taken to do so. It is not acceptable to select work equipment from lower down the hierarchy (e.g. personal fall arrest systems such as harnesses and lanyards) in the first instance.

The company shall in controlling work:

- avoid work at height where they can;
- use work equipment to prevent falls where work at height cannot be avoided;
- where the risk of a fall cannot be eliminated, use work equipment to minimise the distance and consequences of a fall should one occur;
- always consider measures that protect all those at risk, i.e. collective protection measures (scaffolds, nets, soft landing systems) before measures that only protect the individual, i.e. personal protection measures (a harness);
- ensure work is carried out only when weather conditions do not jeopardise the health and safety of the workers.

Safe working platforms

A working platform is virtually any surface from which work is carried out, such as a roof, scaffold, MEWP, tower scaffold, trestle etc. It becomes a safe working platform when you can't fall off it or through it, or when measures have been taken to mitigate a fall from it.

Working platforms shall be:

- capable of supporting the weight of the workers using it and any materials and equipment they are likely to use or store on it;
- stable and will not overturn. For example, scaffolds usually need to be tied to a supporting structure and MEWPs should not be operated on sloping or uneven ground;
- wide enough to allow people to pass back and forth safely and use any equipment or material necessary for their work at that place;
- kept clear of loose materials and constructed to prevent materials from falling. As well as toe boards or similar protection at the edge of the platform, the platform itself should be constructed to prevent any object that may be used on the platform from falling through gaps or holes, causing injury to people working below. For scaffolds, a close-boarded platform would suffice, although for work over public areas, a double-boarded platform sandwiching a polythene sheet, fans or protected walkways may also be needed. If MEWPs or cradles are used and they have meshed platform floors, the mesh should be fine enough to prevent materials, especially nails and bolts, from slipping through;
- free of openings and traps through which people's feet could pass, causing them to trip, fall or be injured in any other way; and
- kept free of tripping and slipping hazards. Keep platforms clean and tidy and do not allow materials or waste to build up on them.

Inspections and reports

The Site Manager(s) shall ensure that all scaffolding and working platform is inspected by a competent person:

- after installation or assembly in any position;
- after any event likely to have affected its stability, e.g. following strong winds or substantial alteration; and
- at regular intervals if the working platform is below 2m, or at intervals not exceeding seven days if the working platform is at 2m or above.

Inspections shall be undertaken by the Site Manager(s) if they are competent to do so. Where the Site Manager(s) does not have the relevant training and experience to undertake the inspection they shall arrange for a competent person to inspect.

Scaffold inspections reports shall be recorded using a Reports of Inspection for Scaffolding Book [Construction Industry Publications ISBN: 9781852639624 http://www.cip-books.com/]

Completed forms and report books will be stored in Site H&S File - Section 8.

Scaffolding

It is a requirement of the Work at Height Regulations 2005 that unless a scaffold is assembled to a generally recognised standard configuration, e.g. NASC Technical Guidance TG20 for tube and fitting scaffolds or similar guidance from manufacturers of system scaffolds, the scaffold should be designed by bespoke calculation, by a competent person, to ensure it will have adequate strength, rigidity and stability while it is erected, used and dismantled.

Tower Scaffolds

Tower scaffolds delivered to site without a current inspection and maintenance certificate or with parts missing will not be accepted or used.

Towers shall be erected by trained and competent people who are following one of the two approved methods recommended by the Prefabricated Access Suppliers' and Manufacturers' Association (PASMA) and developed in consultation with the HSE.

Ladders and Steps

An assessment shall always be undertaken before choosing to use ladders or stepladders. If the assessment indicates that more suitable equipment is not justified, a ladder or stepladder may be used:

- for short-duration work (15-30 minutes in one position depending on the risk assessment);
- ladder permits must be implemented to operatives by Site Manager(s) before works commence
- for light work (they are not suitable for strenuous tasks which may involve carrying materials or supporting components, e.g. guttering); and
- if a secure handhold is available.

6.13. Fragile roofs

The terms 'fragility' and 'fragile surfaces' are used to describe roof assemblies that will not safely support the weight of a person and any materials they may be carrying.

Site Manager(s) s shall ensure that no one working under the company's control goes onto or near a fragile surface unless that is the only reasonably practicable way for the worker to carry out the work safely, having regard to the demands of the task, equipment, or working environment.

If anyone does work on or near a fragile surface the company shall:

- Ensure, so far as it is reasonably practicable, that suitable platforms, coverings, guard rails, and the like are provided and used to minimise the risk;
- do all that is reasonably practicable, if any risk of a fall remains, to minimise the distance and effect of a fall.

If anyone working under the company's control may go onto or near a fragile surface, the company shall do all that is reasonably practicable to make them aware of the danger.

The hierarchy for work on fragile roofs is:

- work from underneath the roof using a suitable work platform;
- where this is not possible, consider using a MEWP that allows people to work from

within the MEWP basket without standing on the roof itself;

- if access onto the fragile roof cannot be avoided, perimeter edge protection should be installed and staging used to spread the load. Unless all the work and access is on staging or platforms that are fitted with guard rails, safety nets should be installed underneath the roof or a harness system used;
- where harnesses are used they need adequate anchorage points. They also rely on discipline, training and supervision to make sure that they are used consistently and correctly.

Identification of fragile surfaces

Whatever roofing assembly has been specified, all non-fragile roofs will deteriorate with time and at some point, the assembly will become fragile. All roofs, once fixed, should be treated as fragile until a competent person has confirmed that they are non-fragile.

6.14. Fragile materials

No fragile materials have been specified for use on this project

6.15. Control of lifting operations

The Site Manager(s) shall not permit a lifting operation to be undertaken on their site until a safe system of work has been laid down and effectively communicated to all those involved in a lifting operation.

A safe system of work for a lifting operation must include:

- thorough planning of the operation, along with the selection, provision and use of suitable cranes and equipment;
- the maintenance, testing and examination of all equipment;
- supervision by trained and competent personnel, with all necessary authority to progress or stop a job as necessary;
- the provision of all test certificates and other documentation relevant to the equipment being used;
- the prevention of unauthorised use or movement of equipment, both by workers or members of the public who may be trespassing; and
- the safety of all persons, both those involved in the lift as well as those not involved in the lift but who may be affected by the lifting operation.

Particular attention must be paid to any factors that may affect the stability of the lifting equipment and the safety of others who may be affected by the lifting operations.

The Site Manager(s) will review the lifting plan prior to the commencement of the lifting operation with the lifting coordinator to ensure that it identifies and addresses all risks associated with the lift.

One person shall be appointed to take responsibility for the organisation and control of any lifting operations. They shall be adequately trained and have the necessary experience to be deemed competent.

The appointed person must:

- assess the proposed lift to provide for planning and selection of equipment;
- provide instruction and supervision to enable the work to be carried out safely;
- ensure that all tests, inspections, examinations and maintenance have been carried out, and that there is a procedure for reporting defects and taking whatever corrective action is necessary;
- have the authority to carry out their duties and to stop the operations if they think there is

a danger.

The appointed person's duties, but not their responsibilities, may be delegated to another competent person.

Drivers of cranes and other lifting appliances and others involved in lifting operations, including signallers, must be adequately trained and experienced and aged 18 years or over, unless under the direct supervision of a competent person for the purpose of training.

If a driver cannot see the load during the whole lifting operation, they must have one or more trained signallers or some other signalling system (e.g. radio) to enable them to handle the load safely. Signals must be clear and distinct. Mechanical or electrical signals should be kept in good order and safeguarded against accidental operation.

Copies of all Lifting Plans and Lifting Equipment Examination and Inspection Records shall be stored in Site H&S File - Section 18.

Lifting equipment and accessories for lifting must:

- be properly maintained;
- as far as its construction permits, be inspected regularly at least once each week by the driver or other competent person.

Weekly and regular inspections of all lifting equipment shall cover:

- the soundness of materials, attachments, fittings, outriggers, jibs, ropes and hooks, etc;
- the testing of the automatic safe load indicator, the correct settings of cams, linkages and switches, and the correct working of audio-visual warning signals;
- the mechanical condition of the lifting equipment.

A record shall be kept of all lifting equipment inspections.

6.16. Tower Cranes

Top Slew Tower Cranes [TSTC] shall generally be installed, used, dismantled and removed from site in accordance with the guidance given in Safe Use of Top Slew Tower Cranes - CPA Best Practice Guide.

Self-Erecting Tower Cranes [SETC] shall generally be installed, used, dismantled and removed from site in accordance with the guidance given in CPA Best Practice Guide - Safe Use of Self Erecting Tower Cranes.

Both guidance documents can be downloaded at http://www.cpa.uk.net/tower-crane-interest-group-tcig-publications/ .

There are a wide variety of contractual arrangements used in the construction industry and it is important to ensure that the planning, organisation, control and management of lifting operations is not compromised. In general, any organisation requiring a load to be moved by crane, which does not own its cranes, has two basic options:

- Hiring a crane (Hired Crane) or
- Employing a contractor to carry out the lifting operation (Contract Lift).

Hired Crane

Where a crane is hired, the CR Construction (U.K.) Company Limited Project Manager must ensure that:

- all work is carried out in accordance with BS 7121 Code of practice for safe use of cranes;
- a person with the required skills, knowledge and experience is appointed as "Appointed

Person" to plan, manage, monitor and review the siting, setting up, use, dismantling and removal from site of the tower crane;

- the appointed person plans the lifts and operates a safe system of work;
- the crane hired is of a suitable type and capacity;
- the credentials of the crane hire company and certification supplied are checked and suitable.

Where a crane is hired, the crane hire company (the owner) has a duty to:

- provide a crane that is properly maintained, tested and certified;
- provide a competent operator.

Contract Lift

Where CR Construction (U.K.) Company Limited employ a contractor to carry out the lifting operation (Contract Lift) the CR Construction (U.K.) Company Limited Project Manager must ensure that:

- all work is carried out in accordance with BS 7121 Code of practice for safe use of cranes;
- the contractor supplies a person with the required skills, knowledge and experience as "Appointed Person" to plan, manage, monitor and review the siting, setting up, use, dismantling and removal from site of the tower crane;
- they specify what information and/or services will be provided to the Contractor by CR Construction (U.K.) Company Limited.

On Contract Lifts, the Contractor is responsible for:

- supplying the Appointed Person;
- planning the lift and operation of a safe system of work;
- organisation and control of the lifting operation;
- providing a crane that is properly maintained, tested and certified;
- providing a competent operator.

Appointed Persons

The Project Manager shall ensure that an "Appointed Person" is appointed with the necessary skills, knowledge and experience to plan, manage, monitor and review the siting, setting up, use, dismantling and removal from site of a tower crane.

The appointment shall be made using Appointed Person Appointment Form.

In practice there may be separate "Appointed Persons" for:

- siting, setting up, use, dismantling and removal from site (This will generally be carried out by the crane owner or supplier, who will carry out the planning in conjunction with the hirer and occupier of the site); and
- use of the crane (This will normally be carried out by the hirer (user) who is responsible for the planning, supervision and execution of each lift).

The Appointed Person should be:

- notified formally in writing of their appointment.
- given authority to carry out the duties involved, including consulting others with specialist knowledge and experience, and
- able to delegate duties and tasks for any part of the Safe System of Work to suitably

qualified individuals.

CR Construction (U.K.) Company Limited as occupier of the site will generally be responsible for ensuring that both access and tower crane base foundations are adequate for the tower crane before it is brought on to site and erected.

Where CR Construction (U.K.) Company Limited does not have expertise in lifting operations, they should not hire in cranes and manage the lifting operation but should opt for a contract lift.

Before entering into a contract, the Project Manager must satisfy themselves that the contractor has the necessary skills, knowledge and experience to carry out the work. The responsibilities for insurance of the crane, personnel, the load and third parties must be clarified.

The normal form of contract conditions used when hiring a crane are the Construction Plant-hire Association's Model Conditions for the Hiring of Plant (July 2001). The Project Manager shall ensure that they are fully aware of CR Construction (U.K.) Company Limited liabilities under these conditions, including ground conditions, and arrange for adequate insurance cover for all risks including possible loss of or damage to the crane and make adequate provision for addressing complying with all conditions.

On construction sites where lifting operations are carried out by various subcontractors, including the crane supplier, CR Construction (U.K.) Company Limited will appoint the Appointed Person for the whole site. Each of the sub-contractors on site may employ individuals who have undergone appointed person training, but they should remain subservient to the CR Construction (U.K.) Company Limited appointed person.

Both the CR Construction (U.K.) Company Limited (hirer's) appointed person and the crane supplier's appointed person must ensure that the planning for each task includes the following:

- Identifying the task to be undertaken;
- Identifying the hazards associated with the task;
- Carrying out a risk assessment;
- Identifying control measures;
- Developing the method to be used;
- Recording the planning in a Method Statement (including any contingency activities for rescue);
- Communicating the plan to all persons involved;
- Reviewing the plan before the tasks starts and incorporating any changing circumstances.

APA Requirements/Safety Risks

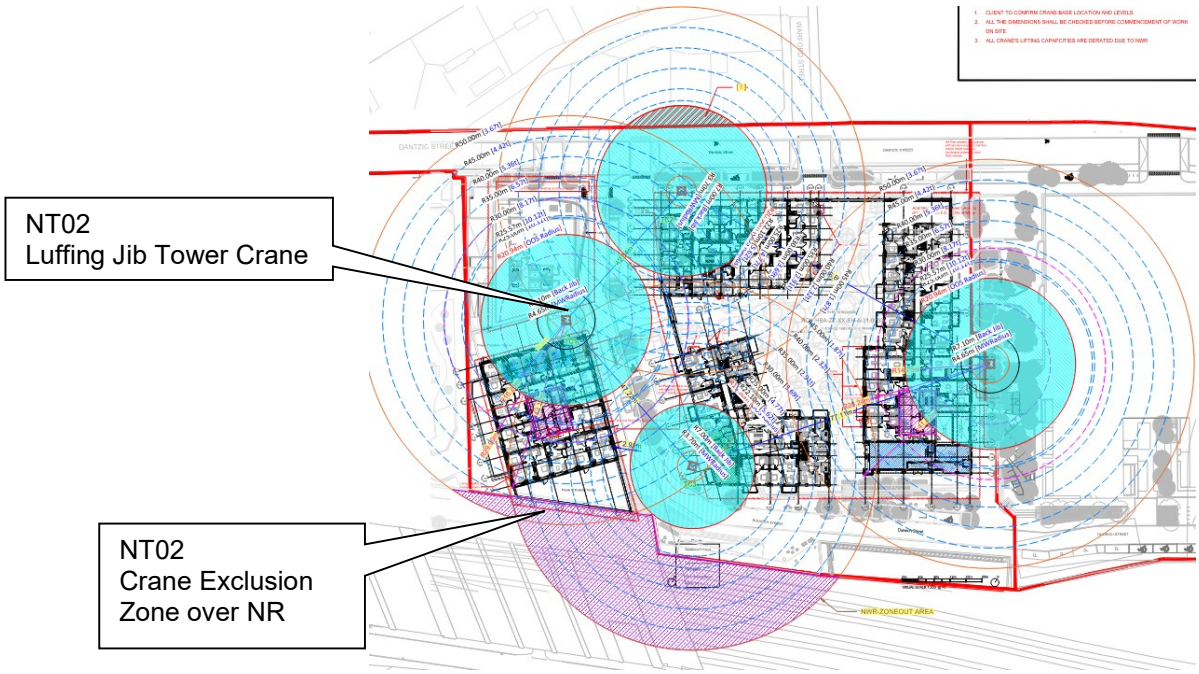
There is currently an APA (Asset Protection Applications) in place for the NT02 plot with Network rail for the development of Victoria Riverside & the Enabling works for the NT02/03 plots being delivered by BAM. CRUK are in regular contact with Stephan Bowles from Network rail to discuss the deliverables that are required to add items to the current agreement and the level of detailed design information that is required to allow satisfactory sign off.
The following items will need to be submitted and discharged by Network Rail prior to commencement.

- Piling Mat
- Tower Crane Base/Crane ties
- Hoist Bases
- Concrete Protection Screens

- Jumpform System

Concrete Frame/Jump from Protections Screens
As per the diagram below the screen surrounding the concrete frame will provide both a safe working area for the frame contractor and a safety zone to ensure that items are unable to fall on to the railway.

Tower Crane
The tower crane will be downrated by 25% as per the requirements from Network Rail and this will be factored into the based design.
The crane will be restricted Via a mechanical system which will stop oversailing on to the NR assets.
Below is a diagram that shows the crane location and the oversailing radius showing the NR zone as a protected zone.



Site surveys

The planning of delivery to site, erection, alteration and dismantling of a tower crane will require a site survey, carried out by a representative of the crane owner. This involves visiting the location where the task is to be carried out, preferably with a representative of the hirer, so that both the task and any hazards involved can be identified. For simple tasks the remainder of the planning process may be completed at the same time, whilst for more complicated jobs the site surveyor may need to complete the process off site.

Identifying the hazards associated with the task

The hazards associated with the task should be identified. These might be associated with the location where the work is to be carried out, the nature of the tower crane, load to be lifted or the people associated with the task or located in the vicinity.

Carrying out a risk assessment

Having identified the hazards associated with the task, a risk assessment should be carried out to identify who might be harmed, the chance of them being harmed and the consequences of any harm. This assessment should be recorded.

Identifying control measures

Once the risk assessment has highlighted the risks involved in the task, the procedures and measures required to control them should be identified.

Developing the method to be used

Having identified the hazards, evaluated the risks and worked out the control measures required to carry out the task safely, these components should be developed into a coherent plan. Any contingency measures and rescue procedures should be included in the plan.

Recording the planning in a Method Statement

Once the plan has been developed it should be recorded in a Method Statement. The length and detail of this document depends on the complexity of the task to be undertaken and on the risks involved. A simple low risk job such as a routine lift of dry lining sheets might only require the use of a brief generic method statement, whilst a more complex and high risk job such installation of a TSTC on site would require a more detailed job specific method statement. The method statement covering all planned lifting on a site is often referred to as the “lift plan”. The method statement should include a “lifting schedule”, listing each type of item to be lifted together with the following information:

- Item description;
- Weight;
- Dimensions;
- Lifting points/method;
- Type of lifting accessories to be used and configuration;
- Pick up and landing locations referenced to the site plan;
- Height and maximum radius.

Communicating the plan to all persons involved

One of the most important aspects of successful planning is to ensure that the contents of the plan are communicated effectively to, and between, all parties involved taking account of language differences. Arrangements should be made to ensure that copies of any method statements are given to the appropriate people and that others involved in the job are fully briefed. Similarly any changes to the plan should be communicated to all parties.

Reviewing the plan before the job starts

Immediately before a job starts the risk assessment and method should be reviewed to check if any aspect of the job has changed and the effect that these changes could have on the safety of the operation. If any modifications to the plan are required these should be communicated to all those involved. The appointed person should amend the method statement (lift plan) and initial any significant changes.

The Duties of the Appointed Person

The duties of the Appointed Person include ensuring that:

- the lifting operation is properly planned and carried out;
- a suitable and sufficient risk assessment is carried out to evaluate the hazards associated with the lifting operation and identify control measures;
- planning is recorded in a lift plan which is effectively communicated to all members of the lifting team;
- accurate weights, radius, heights, etc are established;
- suitable tower cranes, lifting accessories and other equipment are selected;
- suitable access is provided to unload and store materials within the operating area of the tower crane;

- competent, properly trained personnel are provided, and are fully briefed;
- all tower cranes, lifting accessories and other equipment are properly maintained, inspected, examined and tested (when necessary);
- appropriate steps are taken to exclude persons not directly involved with the lift from the lifting zone, using barricades etc.

The appointed person must ensure that a tower crane supervisor is appointed and present throughout the lifting operation in order to control it and ensure that it is carried out in accordance with the planning. The appointed person may choose to act as the tower crane supervisor. The tower crane operator must know who the tower crane supervisor is and, if they have any problems whilst on site, they should consult him.

The appointed person retains overall responsibility for the lifting operation and has the authority to stop the lifting operation at any time if it is considered that there is a risk to safety. If the appointed person is not present, then this authority passes to the tower crane supervisor.

It is not appropriate for the tower crane operator to be in control of the lifting operation because he has to concentrate on the control of the tower crane during lifting.

On multi-crane sites the appointed person should appoint a crane co-ordinator for the site and a crane supervisor for each crane.

Composition of a TSTC Lifting Team (minimum)

The lifting team shall include as a minimum a:

- Crane Supervisor (See duties below);
- Crane Operator (See duties below);
- Slinger Signaller (See duties below);

Note- All personnel must be either over 18 years of age or under the direct supervision of a person competent for the purpose of training

Composition of a SETC Lifting Team (minimum)

In certain circumstances it may be possible to combine some of the roles of members of the lifting team. The table below illustrates where this may take place, however the table should not be taken as definitive for every circumstance. Role combination should only take place following review of the lifting operation by the appointed person.

It should be noted that an appointed person is required to plan all lifting operations but need not be present during the lifting operation, except for complex lifts.

<table>
<tr><th rowspan="2">Activity</th><th rowspan="2">Role</th><th colspan="3">Lift Category</th></tr>
<tr><th>Basic</th><th>Intermediate</th><th>Complex</th></tr>
<tr><td>Planning</td><td>Appointed Person</td><td>Required</td><td>Required</td><td>Required</td></tr>
<tr><td>Site Visit</td><td>Appointed Person</td><td>Not essential</td><td>May be required</td><td>Required</td></tr>
<tr><td rowspan="4">Lifting Operation</td><td>Appointed Person</td><td>Not essential</td><td>May be required</td><td>Required</td></tr>
<tr><td>Crane Supervisor</td><td rowspan="3">Roles may be combined in one person</td><td rowspan="2">Roles may be combined in one person</td><td>Required</td></tr>
<tr><td>Operator</td><td>Required</td></tr>
<tr><td>Slinger/ Signaller</td><td>Required</td><td>Required</td></tr>
</table>

Basic Lift: A lifting operation where the weight of the load(s) can be simply established, and there are no hazards or obstructions within the area of the operation.

Intermediate Lift: A lifting operation where there are hazards, either within the working area of the crane or on the access route to the working area, but no multiple crane lifting is required.

Complex Lift: A lifting operation which requires more than one crane to lift the load, or cranes using load enhancement equipment, lifting of persons or when the lifting operation is at a location with exceptional hazards.

Tower Crane Supervisor Duties

The tower crane supervisor's duties include:

- ensuring that the tower crane and other equipment are in accordance with the lifting plan prepared by the appointed person;
- ensuring that sufficient personnel are available to safely carry out the lifting operation;
- ensuring that the conditions on site are the same as those identified by the lifting plan;
- reporting back to the appointed person if there are any problems;
- briefing the personnel before the lifting operation begins;
- supervising and directing the slinger, signaller and tower crane operator;
- only lifting items that have been detailed in the lifting plan;
- stopping the operation in the event of any risk to safety.

For some basic lifting operations the slinger/signaller may, with appropriate authority and training, act as the crane supervisor. Crane supervisors should not act as a slinger/signaller unless they are trained and competent to do so. (This generally means holding a CPCS slinger/signaller qualification).

Crane Coordinator Duties

Where required, the Crane Co-Ordinator's duties include the planning and directing of the sequence of operations of cranes to ensure that they do not collide with other cranes, loads and other equipment (e.g. concrete placing booms, telehandlers, piling rigs).

TSTC Operator Duties

The tower crane operator's duties include:

- establishing who is in charge of the lifting operation and the other members of the team and their roles;
- establishing which signalling system is to be used and following instructions from only one nominated signaller at a time;
- stopping operations if given any instructions that would take the tower crane outside its permitted duties;
- informing the crane supervisor if any problems arise which would affect the lifting operation;
- carrying out the daily checks and weekly inspections;
- carrying out specified maintenance in accordance with the manufacturers and employer’s instruction and training;
- using the tower crane to lift only the loads that are identified in the lift plan.

If the tower crane operator believes that the operation they are being asked to carry out is unsafe, they should initially speak to the crane supervisor or appointed person. In the event that there is a

disagreement between the operator and the crane supervisor or appointed person, the operator should notify their employer.

SETC Operator Duties

The SETC operator's duties include:

- establishing who is in charge of the lifting operation and the other members of the team and their roles;
- establishing which signalling system is to be used and following instructions from only one nominated signaller at a time;
- stopping operations if given any instructions that would take the SETC outside its permitted duties;
- informing the crane supervisor if any problems arise which would affect the lifting operation;
- carrying out the daily checks and weekly inspections;
- carrying out specified maintenance in accordance with the manufacturers and employer's instruction and training;
- using the SETC to lift only the loads that are identified in the lift plan.

If the SETC operator believes that the operation they are being asked to carry out is unsafe, they should initially speak to the crane supervisor or appointed person. In the event that there is a disagreement between the operator and the crane supervisor or appointed person the operator should notify his employer.

Slinger Duties

The slinger's duties include:

- attaching and detaching the load to and from the tower crane;
- using the correct lifting gear in accordance with the lifting plan or procedure;
- visually checking the lifting gear for damage before use;
- initiating and directing the movement of the load by giving the appropriate signals;
- to place the load safely.

On some occasions the appointed person may ask the slinger to act as the signaller.

Signaller Duties

The signaller's duties include relaying signals from the slinger to the tower crane operator. The roles of slinger and signaller are generally combined in one person.

Training

The Project Manager shall ensure that all persons involved in the installation and operation of a TSTC are adequately trained and assessed as competent. The current standards are set out below:

Activity	Provided by	Qualification
Slinger	CPCS Accredited Training Provider	CPCS Scheme Category A40
Signaller	CPCS Accredited Training Provider	CPCS Scheme Category A40
TSTC Operator	CPCS Accredited Training Provider	CPCS Scheme Category A04A or A0-4B
SETC Operators	CPCS Accredited Training Provider	CPCS Scheme Category A63
	Additional training required for	CPCS Scheme Category A04A

	operating from cab	or A04B
SETC Configuration (erect & dismantle) and partial reconfiguration on site (folding jib and/or mast)	Crane manufacturer to crane owner for each model of SETC	In-house assessment by a competent assessor
TSTC Erect, alteration and dismantling	Crane manufacture to crane owner for each model of TSTC CPA/Construction Skills Tower Crane Erection Training Scheme	In-house assessment by a competent assessor NVQ Level 2 and 3 Plant Installation (Tower Cranes)
Maintenance	Crane manufacture to crane owner for each model of TSTC / SETC	In-house assessment by a competent assessor
Operator familiarisation	Crane owner to operator for each model of TSTC	In-house assessment by a competent assessor
Appointed Person	CPCS Accredited Training Provider	CPCS Scheme Category A61
Crane Supervisor	CPCS Accredited Training Provider	CPCS Scheme Category A62
Site survey - fundamental	Crane owner to representative	In-house assessment by a competent assessor
Site survey - familiarisation	Crane owner to representative for each model of TSTC	In-house assessment by a competent assessor

In addition to initial assessment on appointment/employment, arrangements should be made to reassess/review the competence of personnel at periodic intervals.

The Project Manager shall obtain and check the qualifications of all personnel involved in the erection, use, maintenance, inspection and dismantling of a TSTC and ensure that copies of training certificates and qualifications are kept in Section 11 of the Site Health and Safety File.

Written plan (method statement or lifting plan)

After completion of the survey, the Appointed Person should prepare, or have drawn up under his direction, a scale drawing of the site. The drawing should include the following information:

- Plan and side elevation views;
- Outline envelope of the building under construction;
- The planned location of the crane with dimensions to reference points to aid location;
- The make and model of crane selected;
- The radius that the crane can reach;
- SWL at max radius;
- Height under hook;
- Proximity hazards and delivery vehicle unloading areas.

The Project Manager shall ensure that a copy of the written plan is kept in Section 15 of the Site Health and Safety File.

Maintenance

The supplier (owner) of a tower crane has a responsibility to provide a crane that is in good condition, free of defects and safe to use when the crane goes out on hire. The Project Manager shall verify that the tower crane is in good condition, free of defects and safe to use by obtaining from the owner and reviewing the:

- pre-delivery inspection records carried out by the crane owner in their yard (See Clause 7.2 of BS 7121-2-5:2012);

- post-delivery check records (See Clause 7.3 of BS 7212-2-5:2012).

The effective maintenance of a TSTC is an essential part of safe operation. As with all lifting machines the TSTC wears and deteriorates over time and the maintenance process, including checks and inspections, both monitors, prevents and rectifies this deterioration. It is important that the personnel asked to carry out these tasks have the necessary machine-specific training, experience and competence in both periodic and breakdown maintenance.

Both the user and owner of the tower crane have a responsibility to ensure that the tower crane is maintained in a safe working condition. In practice, the maintenance is normally undertaken by the tower crane owner.

Maintenance and Inspection should be carried out in accordance with the guidance given in the:

- CPA Best Practice Guide - Maintenance, Inspection and Thorough Examination of Tower Cranes http://www.cpa.uk.net/tower-crane-interest-group-tcig-publications/ ;
- the tower crane owner's instructions;
- the manufacturer's recommendations.

Pre-use checks shall be carried out by the crane operator at the start of each shift to ensure that the crane has not suffered any damage or failure and is safe to be used. In-service inspections are to be carried out by the crane operator, generally at weekly intervals, and records kept of these inspections.

A properly planned maintenance system is to be established and used. Competent people should undertake this maintenance at intervals specified by the manufacturer and records kept of the work completed including any parts that have been replaced. In general, the original manufacturers parts should be used. Where parts are sourced from suppliers other than the original manufacturer, a competent engineer should assess that the parts selected meet the original manufacturers specification and are fit for purpose. Any parts replaced should be installed in accordance with the manufacturer's instructions.

Further thorough examinations are to be carried out by a competent person at specified intervals, after major alterations or repair, or after the occurrence of exceptional circumstances which are liable to jeopardise the safety of the crane.

It is essential that the crane owner is informed of any breakdowns and faults, together with exceptional events such as jib clashes, overloading and shock loads so that the appropriate action can be taken. If there is a defect that affects the safe operation of the tower crane it must be reported to the owner and repaired immediately. If it does not affect the immediate safe operation of the tower crane, the defect should be reported as required by the tower crane owner's procedures.

Thorough Examination

All lifting equipment, including TSTCs, must be thoroughly examined by a competent person in the following situations:

- After erection on a new site and before it is taken into use;
- When any alteration is made to the crane's structure or configuration;
- At regular intervals (a period not exceeding 12 months if persons are not lifted, or 6 months if persons are lifted);
- After any major alteration or damage (event).

Thorough Examination should be carried out in accordance with the guidance given in the CPA Best Practice Guide - Maintenance, Inspection and Thorough Examination of Tower Cranes http://www.cpa.uk.net/tower-crane-interest-group-tcig-publications/ .

Reports of thorough examination should contain the details required by Schedule 1 of LOLER including details when testing was last carried out on the tower crane, (this may include: non-destructive testing, overload testing, testing of the rated capacity indicator with loads).

Thorough examinations should be carried out by persons who are sufficiently independent and impartial, and are separate from the erection team.

Lifting accessories shall be thoroughly examined at intervals not exceeding six months.

The Project Manager shall ensure that Thorough Examination records for the crane and lifting appliances are kept in Section 15 of the Site Health and Safety File.

Tower crane rescue

The Project Manager shall ensure that there is a suitable plan in place prior to the erection or use of a tower crane for carrying out rescue from a height of persons on a tower crane.

The plan shall be developed in accordance with the guidance given in CPA TIN 013 Rescue of Personnel From Height on Tower Cranes and must be written down.

The Project Manager shall ensure that a copy of the rescue plan is kept in Section 15 of the Site Health and Safety File.

6.17. Tele-handlers

Best practice guidance on the safe use of telehandlers is given in 'Safe Use of Telehandlers in Construction' published by the Strategic Forum for Construction Plant Safety Group and available on the Construction Plant-hire Associations website http://www.cpa.uk.net/sfpsg/ .

The Strategic Forum for Construction Plant Safety Group have also published a Good Practice Guide for Lifting and Travelling with Suspended Loads using Telehandlers with is also available on the CPA website.

The standards set out in this document will be those enforced on CR Construction (U.K.) Company Limited sites.

- they have seen, checked and filed a copy of the record of thorough test and examination for the tele-handler;
- a risk assessment has been undertaken by an Authorised Person with the necessary skills knowledge and experience using Lifting Plan - Standard;
- the telehandler operator has provided proof of competence, which should include proof of training (CPCS card or similar), proof of familiarisation on the telehandler to be used and adequate experience of the task to be undertaken; and
- the telehandler operator has read and signed the risk assessment to confirm they understand and will comply with the controls set out in the risk assessment.

Where a telehandler is to be used as a crane for lifting suspended loads, additional planning shall be undertaken by a person competent to undertake the task and the operators competence to undertake such tasks must be verified. Telehandler Lifting Plan – Suspended Loads should be used to record and communicate the lifting plan.

Telehandlers shall be inspected daily and Telehandler Daily Inspection Record used to record the inspection.

Copies of all Lifting Plans and Tele-handler Examination and Inspection Records can be found in Site H&S File - Section 18.

6.18. Work equipment

All work equipment for use on CR Construction (U.K.) Company Limited sites will be fit for use and must be examined, inspected and maintained in accordance with the relevant statutory requirements and manufacturer's recommendations.

Defective work equipment shall be taken out of action and either disposed of or clearly labelled and not used until a suitable repair has been undertaken.

Contractors Work Equipment

Contractors shall provide the relevant Site Manager(s) s:

- with, where relevant, certificates of examination and/or inspection and evidence of operator training prior to putting the plant, machinery or equipment into use on site for the first time;
- every week, with a register detailing all work equipment they have on site that confirms examination, test or inspection in accordance with the relevant statutory requirements and manufactures recommendations.

The Site Manager(s) shall ensure that all examination certificates are current, and all operators have with them adequate certificates of training, i.e. CPCS / CTA for the plant they intend to operate.

Copies of Contractors registers and all certificates will be taken by the Project Manager and stored in Subcontractor & Suppliers – H&S Folder, in the file or section relating to the contractor who is using the equipment. Operator training certificates will be appended to the operator's induction record.

The Site Manager(s) has the authority to prevent/stop an operator from using plant on site if, in their opinion, the item of plant is not being operated safely.

CR Construction (U.K.) Company Limited Work Equipment

The Site Manager(s) shall keep a record of all work equipment owned or hired by the Company for use on the site along with details and frequency of any inspection, testing or maintenance required. Where inspection, testing or maintenance is required, the Site Manager(s) shall ensure that this is undertaken or returned to the hire company for them to undertake.

Records shall be held in a Record of Inspection Provision & Use of Work Equipment Book [Construction Industry Publications ISBN: 9781852638917 http://www.cip-books.com/] or using Form C060 Work Equipment Register.

Copies of CR Construction (U.K.) Company Limited work equipment registers and all certificates will be stored in the Site H&S File.

Portable Appliances

Portable electrical appliances will be checked, inspected and tested to the standards set out in HSG107 Maintaining portable electrical equipment and repeated in the table below.

The Site Manager(s) shall ensure that all contractors provide a record of all checks, inspections and tests, and will maintain a copy in the Site H&S File, in the file or section relating to the contractor who is using the equipment.

Equipment / Location	User checks	Formal visual inspection	Combined inspection and test
110V	Weekly	Monthly	Before 1st use on site and then 3 monthly
230V	Daily	Weekly	Before 1st use on site and then monthly
Fixed RCDs	Daily	Weekly	Before 1st use on site and then 3 monthly (portable RCDs monthly
Site Office	Monthly	6 Monthly	Before 1st use on site and then yearly

PAT Inspection Log can be used to record checks, inspections and tests of CR Construction (U.K.) Company Limited owned or hired equipment. Copies of completed forms shall be stored in the Site H&S File – Subcontractors & Suppliers Health & Safety File

6.19. Work on excavations

Permit to Dig

A Permit to Dig is required before undertaking any excavation. Permits shall be issued by the Site Manager(s) using Fieldview Permit to Dig. The Site Manager(s) shall not issue a Permit to Dig until he is satisfied that all relevant requirements of HSG47 have been complied with and suitable RAMS have been produced for the operation.

Closed Permits shall be stored in the Site H&S File and on Fieldview where applicable.

Temporary Support

Before digging any trenches, pits, tunnels, or other excavations, a decision shall be made about what temporary support will be required and what precautions that are going to be taken against:

- collapse of the sides;
- people and vehicles falling into the excavation;
- materials falling onto people working in the excavation;
- undermining nearby structures;
- underground and overhead services; and
- the inflow of ground and surface water.

No temporary works shall commence until the temporary works coordinator is satisfied that:

- the temporary works have been appropriately designed by a competent designer;
- the temporary works design has been checked by a competent person;
- there a suitable risk assessment and method statement in place for the construction of the temporary works;
- a suitable inspection regime has been agreed; and
- all equipment and precautions needed (such as trench sheets, props, baulks etc) are available on site.

A copy of the geotechnical survey is included in the Site H&S File and is available on Viewpoint.

Inspections and reports

Construction work shall not be carried out in an excavation where any supports or battering have been provided, unless the excavation and any work equipment and materials which affect its safety have been inspected by a competent person:

- at the start of the shift in which the work is to be carried out,
- after any event likely to have affected the strength or stability of the excavation, and
- after any material unintentionally falls or is dislodged; and

Inspections of excavations shall be recorded by the subcontractor conducting the excavation using their own form or a Reports of Inspection for Excavation Book [Construction Industry Publications ISBN : 9781852639624 http://www.cip-books.com/] or Form C073.

Copies of all completed excavation inspection reports shall be stored in the Site H&S File.

6.20. Storage of materials

A drawing detailing traffic routes, pedestrian segregation, ppe, storage and fire safety arrangements will be maintained on the CR Construction (U.K.) Company Limited Site Traffic and Environmental Plan on the wall of the site office.

The Site Traffic and Environmental Plan must be reviewed and updated by the Site Manager(s) (s) monthly and before making any changes to the arrangements show on the plan.

Unless authorized by the Site Manager(s) (s) materials shall only be stored in dedicated storage areas.

Materials not already programmed into the works, or delivery schedule, will not be allowed onto site without the Site Manager(s) s(s) and Logistics Management permission.

6.21. Confined Spaces

All manholes into which an adult or child may enter shall be considered a confined space and shall be adequately secured. Security will either involve the early fixing of the manhole cover or the use of a road plate that cannot be easily removed or dislodged.

Under the Confined Spaces Regulations 1997, a 'confined space' can be either:

- a place which is substantially, though not always entirely, enclosed; or
- a place where there is a reasonably foreseeable risk of serious injury from hazardous substances or conditions within the space or nearby.

Some confined spaces are easy to identify, such as closed tanks, vessels, ducts and sewers. Other are less obvious, such as basement rooms, toilets, building voids, vats, deep excavations and open-topped tanks. A confined space may not necessarily be enclosed on all sides or may only become a confined space because of a change in the conditions inside.

The Site Manager(s) shall ensure that all potential confined spaces are identified, clearly signed and site personnel warned of their locations.

Before entering a confined space, a full and detailed risk assessment shall be carried out by a competent person and all relevant control measures implemented.

No work shall be carried out in a confined space without a permit to work issued by a competent person. Permits to work shall be issued using Fieldview Confined Space Permit. Closed permits shall be stored in the Site H&S File.

A rescue plan will be developed and implemented for any confined space working and appropriate rescue equipment made available.

Emergency arrangements shall be planned, recorded, communicated and implemented before any person enters a confined space. Emergency measures shall include a safe means of rescue from the confined space.

6.22. Control and disposal of waste

Where the site has enough space and it is practicable to do so, waste segregation will take place.

On all sites, plasterboard waste will be segregated.

Waste shall only be removed from site by licenced waste carriers.

When any waste is removed the Site Manager(s) (s) shall keep a record of:

- the identity of the waste carrier removing the waste;
- the waste carrier’s registration number of the carrier;
- copy of, or reference to, the written description of the waste required by section 34 of the Environmental Protection Act 1990; and
- the site that the waste is being taken to and whether the operator of that site holds a permit under the Environmental Permitting (England and Wales) Regulations 2007 or is registered under those Regulations as a waste operation exempt from the need for such

a permit.

6.23. Other significant safety risks

None identified.

7. ARRANGEMENTS FOR CONTROLLING SIGNIFICANT HEALTH RISKS

This section covers the arrangements for the control of significant health risks. Prior to carrying out works on The NT02 Project the supply chain partners of CR Construction (U.K.) Company Limited shall provide the details to CR Construction (U.K.) Company Limited their arrangements and procedures for carrying out health and safety surveillance should this be required. The requirement for health surveillance will follow the guidance as laid out by the HSE. Typically Risk Assessment will be carried out to manage the risk. CR Construction (U.K.) Company ltd shall ensure its supply chain partners risk assess, consult with workers, act on the results of health surveillance and keep records accordingly. CR Construction (U.K.) Company Ltd will spot check and audit the supply chain partners to monitor compliance. Health surveillance may be required dependent on the activity being undertaken. CR Construction (U.K.) Company will co-ordinate health surveillance in line with the construction programme and the activities being undertaken.

7.1. Asbestos

Details of all available asbestos surveys are recorded in Section 1.9 and 1.10 of this plan. The Asbestos Management Plan can be found on the server and a hard copy on site.

Copies of referenced information can be found in the Site H&S File.

During the works

Should during the course of the works any material be identified that is suspected to contain asbestos and is not specifically detailed in the asbestos survey report, work that may present a risk of exposure to asbestos must stop; those who may be affected must be evacuated from the area; the Contract Administrator and the Principal Designer notified, and the material tested by a competent organisation.

Where the material suspected to contain asbestos is damaged or may present a risk of exposure to asbestos the affected area shall be evacuated and, where necessary, sealed. Work shall not start in any area where materials suspected or known to contain asbestos may be disturbed or there is a risk of exposure to asbestos until appropriate tests have been carried out and the material in question has either been declared not to be asbestos, has been adequately protected or it has been removed by a competent and where appropriated licensed contractor.

Removal of Asbestos

Any asbestos removal shall be performed in compliance with the Control of Asbestos Regulations 2012 and associated Approved Codes of Practice. When required, the Principal Contractor shall be responsible for ensuring that the asbestos removal contractor notifies the local officer of the Health and Safety Executive prior to any removal of asbestos.

Accidental Exposure

In the event of unforeseen or accidental exposure of asbestos material, the Principal Contractor shall immediately cover up and seal airtight the exposure with polythene sheeting or the like, remove all workpeople from the area of exposure, and inform the Contract Administrator and Principal Designer.

Communication of Information

The results of any surveys or tests shall be reported to the Contract Administrator and a copy of any survey and test reports provided to be Principal Designer for inclusion in the health and safety file.

7.2. Dealing with contaminated land

CR Construction (U.K.) Company Limited have inherited the site from BAM Nuttall and have taken receipt of the as built enabling works information containing the works that have been completed by BAM Nuttall. In relation to contaminated land, no traces of contamination have been found on the site and the information as issued by BAM Nuttall shows the import material has no traces of contamination. A remediation strategy was agreed for the site between BAM Nuttall and Manchester City Council (MCC) planning department and the pre-commencement condition has been signed off on the basis CR Construction (U.K.) Company Limited will follow the agreed remediation strategy as identified in section 1.2 of this Construction Phase Plan. CR Construction (U.K.) Company Ltd will follow this strategy.

7.3. Hazardous and Dangerous Substances

Contractors will notify the Project Manager, in advance, of any hazardous or dangerous substances they intend to bring onto site. A written assessment of the hazards and subsequent risks associated with the substances, and the controls needed in order to eliminate or reduce to an acceptable level, those risks, must be provided by the Site Manager(s) . Any such assessments will be of a standard to comply with the requirement of the Control of Substances Hazardous to Health Regulations (COSHH)

All materials purchased and delivered to any CR Construction (U.K.) Company Limited site must arrive with the appropriate “Safety Data Sheet”.

Site Manager(s) s are responsible for ensuring that suppliers/manufacturers Safety Data Sheets are obtained if they are not received with the delivery**.**

The Site Manager(s) shall ensure that contractors produce suitable assessments of hazardous substances to be used during their operations on site. Hazardous and Dangerous Substances Assessments shall be carried out using Form CRC-SHE-019 Hazardous / Dangerous Substances Assessment Form.

Copies of all completed risk assessments shall be stored in the Site H&S File, in the file or folder of the contractor who will be using the substance.

7.4. Control of Dust

Construction dust can seriously damage workers health and some types can eventually even kill. Regularly breathing these dusts over a long time can therefore cause life-changing lung diseases.

Construction dust is a general term used to describe different dusts that you may find on a construction site. There are three main types:

- silica dust – created when working on silica-containing materials like concrete, mortar and sandstone (also known as respirable crystalline silica or RCS);
- wood dust – created when working on softwood, hardwood and wood-based products like MDF and plywood;
- lower toxicity dusts – created when working on materials containing very little or no silica. The most common include gypsum (eg in plasterboard), limestone, marble and dolomite.

Dust control will be undertaken to achieve and comply with the Environment Agency Air Quality (AQ) assessment and the measures identified in the AQ assessment will be implemented. These measures are:

Firstly, arrangements will be made if possible to avoid the need to create dust. This will be achieved through pre-cutting off site or arranging material deliveries cut to length.

To supress dust on site the following arrangements will be implemented:

Regular road sweeping on Dantzic Street and the haul road within site boundaries

Hardstanding areas (roadways and offload points) to be implemented for deliveries. Concrete to be used for the hardstanding areas.

Concrete walkway areas to be established for the pedestrian routes.

Dampening down of the site with water suppression in particular dry spells

Use of dust extraction cutting tools to avoid dust particles escaping to the atmosphere.

To support the compliance with the AQ assessment dust monitoring will be undertaken.

Furthermore, dust control measures will be implemented in line with the guidance given in:

- CIS 36 Construction Dust http://www.hse.gov.uk/pubns/cis36.pdf; and
- CIS 69 Controlling construction dust with on-tool extraction http://www.hse.gov.uk/pubns/cis69.pdf

All operations where there is a risk of exposure to construction dust shall be assessed and, where practicable, avoided.

Where the operation cannot be avoided, controls must be implemented that stop or reduce the dust.

Controlling the dust shall be undertaken either by suppression (usually with water) or extraction (the use of vacuums, on tool extraction etc.)

In addition to the controls described above, operatives at risk of exposure shall wear face fitted respiratory protection equipment with a FFP 3 filter.

The Site Manager(s) shall inspect and maintain a copy of face fit certificates for all operatives on site who need to wear RPE in the Site Subcontractors & Suppliers Folder, Health & Safety Folder, in the file of folder of the contractor who will be using the substance. To be uploaded to the Safety Weekly Packs by Subcontractors.

Fugitive dust emissions will be controlled with dampening down during dry spells. The air quality assessment submitted with the original application detailed mitigation measures to control dust escape during the construction phase. These measures will be implemented and complied with throughout the construction works.

The required controls for common high-risk tasks are given below.

Cutting concrete kerbs, blocks and paving with a cut-off saw

You should limit the number of cuts during design/layout, use lower energy equipment like block splitters and get material cut off site and delivered.

Cut off saws will be used strictly in accordance with the guidance given in CIS 54 Dust control on cut-off saws used for stone or concrete cutting. http://www.hse.gov.uk/pubns/cis54.pdf

You must control the dust by using water suppression and face fitted RPE with a FFP3 Filter

Chasing concrete and raking mortar

You should limit the need for chasing at the design/layout stage or use a work method that limits or does not need chasing, like over-covering cables.

You must control the dust with on-tool extraction using an H or M Class extraction unit and operatives must wear face fitted RPE with a FFP3 Filter. You must consider using powered RPE for longer duration work.

Cutting roofing tiles with a cut-off saw

You should hand cut natural/fibre cement slates and other tiles where possible; use ½ and 1½ tiles, correctly designed and set out to avoid the need for cutting; minimise valleys and avoid using dry valleys.

You must control the dust with water suppression, a dedicated cutting area with scaffold board protection and operatives must wear face fitted RPE with a FFP3 Filter.

Scabbling or grinding with hand-held tools

You should specifying architectural finishes that do not need scabbling. When scabbling or grinding is unavoidable you should use (ultra) high-pressure water jetting, chemical retarders and pressure washing or cast in proprietary joint formers, e.g. mesh formwork.

You must control the dust with, where possible, the use of on-tool extraction using an H or M Class extraction unit. Operatives must wear face fitted with a RPE with a FFP3 Filter.

Short-duration drilling totalling 15–30 minutes with hand-held rotary power tools

You should limit the number of holes during design and planning and use direct fastening or screws.

You must control the dust with, where possible the use of equipment that stops dust getting into the air. The larger the holes, the better this needs to be. Options range from:

- drilling through a dust ‘collector’ or using cordless extraction attached to the drill (for smaller drill bits) or
- on-tool extraction using an H or M Class extraction unit

Otherwise operatives must wear face fitted RPE with a FFP3 Filter.

Drilling holes with hand- held rotary power tools as a ‘main activity’

You should limit the number of holes during design and planning and use direct fastening or screws.

You must control the dust with, where possible on-tool extraction using an H or M Class extraction unit and operatives must wear face fitted RPE FFP3 Filter.

Dry coring

You should limit the number of holes during design and planning.

You must control the dust with on-tool extraction using an H or M Class extraction unit. For longer duration work (i.e. over 15–30 minutes accumulated time over the day), operatives will also need to wear Face fitted RPE with a FFP3 Filter.

Wet coring

You should limit the number of holes during design and planning.

You must control the dust with water suppression. For long periods of wet coring in enclosed spaces, operatives will also need Face fitted RPE with a FFP3 Filter.

Using a hand-held breaker in enclosed spaces with limited ventilation

You should limit the amount of breaking during design and planning stage and where practicable use bursting, crushing, cutting, sawing or other techniques, remote controlled demolition or hydrodemolition.

You must control the dust with on-tool extraction using an H or M Class extraction unit and operatives will need Face fitted RPE with a FFP3 Filter.

Areas must be manned, barriered or propped to prevent the core harming site operatives.

Soft strip demolition

You should carefully plan the work to limit the number of people that need to be in the work area.

You must control the dust by screening off areas to prevent dust spreading, using water suppression or on-tool extraction for those tasks where it is possible. Operatives must wear face fitted RPE with an FFP3 Filter. You should consider powered RPE for longer duration work. Enclosed spaces may also need general mechanical ventilation to remove dusty air.

Removing small rubble, dust and debris

You should limit waste materials during design and planning. When planning operations, you must consider where waste material is created and how frequently it needs removing.

You must control the dust by using use the correct dust controls when making rubble/debris. Only damp down and use a brush, shovel and bucket for minor/small 'one-off' amounts. For regular removal and site cleaning you must use:

- water spray for damping down;
- a rake, shovel and bucket / wheelbarrow to remove larger pieces;

skips where needed;

- vacuum attachments fitted to an H or M Class extraction unit

Operatives must wear face fitted RPE with a FFP3 Filter.

Cutting wood with power tools

You should, where possible, use a less toxic wood and order pre-cut materials.

You must control the dust by using a dedicated cutting areas to minimise spread and on-tool extraction using an H or M Class extraction unit.

For longer duration work (ie over 15–30 minutes accumulated time over the day), operatives will also need RPE suitable for the wood dust – particularly when working in enclosed spaces (Face fitted RPE with an FFP3 Filter).

Sanding wood with power tools

You should, where possible, use a less toxic wood and order 'pre-finished' materials

You must control the dust by using a dedicated cutting areas to minimise spread and on-tool extraction using an H or M Class extraction unit and operatives must wear face fitted RPE with an FFP3 Filter.

Sanding plasterboard jointing

You should, where possible, use other finishes and systems.

You must control the dust by using on-tool extraction using an H, M, or L Class extraction unit.

The site-specific construction dust mitigation strategy for NT02 will be undertaken in accordance with section 11.3 of the Air Quality and Dust Assessment contained within the appendices to this document.

Table 1 Controls for common high-risk tasks

Task	Eliminate or limit the dust by:	Control the dust by using:
Cutting concrete kerbs, blocks and paving with a cut-off saw	■ Limiting the number of cuts during design/layout ■ Using lower energy equipment like block splitters ■ Getting material cut off site and delivered	■ Water suppression and ■ RPE* with an APF of 20
Chasing concrete and raking mortar	■ Limiting the need for chasing at the design/layout stage ■ Using a work method that limits/does not need chasing, like over-covering cables	■ On-tool extraction using an H or M Class extraction unit and ■ RPE* with an APF of 20 – consider powered RPE for longer duration work
Cutting roofing tiles with a cut-off saw	■ Hand cutting natural/fibre cement slates and other tiles where possible ■ Using ½ and 1½ tiles ■ Correct setting out/design ■ Minimising valleys/using dry valleys	■ Water suppression and ■ A dedicated cutting area with scaffold board protection and ■ RPE* with an APF of 20
Scabbling or grinding with hand-held tools	■ Specifying architectural finishes that do not need scabbling ■ Using (ultra) high-pressure water jetting ■ Using chemical retarders and pressure washing ■ Casting in proprietary joint formers, eg mesh formwork	■ Where possible use on-tool extraction using an H or M Class extraction unit and ■ RPE* with an APF of 20

Issue	Considerations	Hazards Identified	Controls planned
Working Hours / Resources	Stress Night work* *Risk Assessment Required.	Misjudgement Pressures of work	Reduce hours of work Increase resources
Dust	Asbestos, HAV, Noise, Dust	Asbestos, HAV, Noise, Dust, musculoskeletal	See sub-contractor risk Assessment
Substructure	Pile cropping - HAV, Noise, Vibration, Dust	HAV, Noise, Dust	See sub-contractor risk Assessment
Ground works	Heavy Components, noise, dust, skin problems	HAV, Noise, Dust, Skin Diseases, Musculoskeletal	See sub-contractor risk Assessment
Masonry or Cladding	Heavy components, noise, dust, skin problems	HAV, Musculoskeletal, Noise, Skin Diseases, Dust	See sub-contractor risk assessment
Building Frame	Heavy components, skin problems, HAV	HAV, Musculoskeletal, Noise, Skin Diseases, Dust	See sub-contractor risk assessment
Temporary Works	Heavy components, HAV, dust, skin problems	Musculoskeletal, Noise, HAV, Skin Diseases	See sub-contractor risk Assessment
Roofing	Heavy components, HAV, skin and respiratory problems	HAV, Musculoskeletal, Noise, Skin Diseases, Dust	See sub-contractor risk assessment

Insulation / Air Tightness	Dust, skin problems	Dust, Skin Diseases, Musculoskeletal	See sub-contractor risk Assessment
Internal Wall Finishes	Dust, skin problems, respiratory problems	Skin Irritation, Dust, Musculoskeletal	See sub-contractor risk Assessment
Internal Floor Finishes	Dust, HAV, skin & respiratory problems	Musculoskeletal, Skin Diseases	See sub-contractor risk Assessment

Activity	Possible Hazard	Who May Be Harmed	Risk (L,M,H)	Action required to reduce risk to an acceptable level	Method Statement Required Y/N
Specific Issues / Hazards identified by designers which impact upon the site and/or proposed work activities. (Details of issues / hazards may be detailed within the designer's risk assessments filed in appendix or hazard boxes on construction issue drawings)	Design information and designers risk assessment will be obtained and assessed with new drawings issued	All	L	Refer to trade RAMS	Y
Protection of visitors and personnel (including staff) i.e. Site Manager, Assistant Site Manager, Site Engineers, Clerk of Works, General Operatives, Gate Attendant, Banksman, Hoist Operator and Quantity Surveyors	Impact Crushing Slips / Trips Collision Personal Injury Falls from height	All	M	Refer to site RAMS	Y
Site establishment Setting up temp accommodation	Impact Crushing Obstruction Access Loss of Load	All	M	Refer to site RAMS	Y
Fencing / Security	Fence Panels Falling Manual Handling Striking Existing Services	All	M	Refer to site RAMS	Y
Access / Egress to / from Site	Collision Impact Crushing Obstruction Access Routes Striking or Arcing OH Power	All	M	Refer to site RAMS	Y

Activity	Possible Hazard	Who May Be Harmed	Risk (L,M,H)	Action required to reduce risk to an acceptable level	Method Statement Required Y/N
Roadworks / Traffic Management	As Above	All	M	Refer to site RAMS	Y
Existing Underground or Overhead Services	Fire Electric Shock Explosion Disruption to existing buildings	All	M	Refer to site RAMS	Y
Power / Electricity	Electric Shock Burns Fire	All		Refer to site RAMS	Y
Plant and Equipment	Impact Crushing Collision Electric Shock	All	M	Refer to site RAMS	Y
Demolition	Unplanned Collapse of Structure Fall of Operative Fall of Material Dust Noise Vibration	All	M	Refer to site RAMS	Y
Groundworks Excavation Drainage Foundations	Impact with Plant Falls / Slips / Trips Service Strike	All	M	Refer to site RAMS	Y
Piling	Impact with Plant Falls / Slips Trips Service Strike	All	M	Refer to site RAMS	Y
Structural Steel	Loss of load Fall of operative Fall of material	All	M	Refer to site RAMS	Y
Insitu Concrete Frame	Loss of load Fall of operative Fall of material Collapse	All	M	Refer to site RAMS	Y

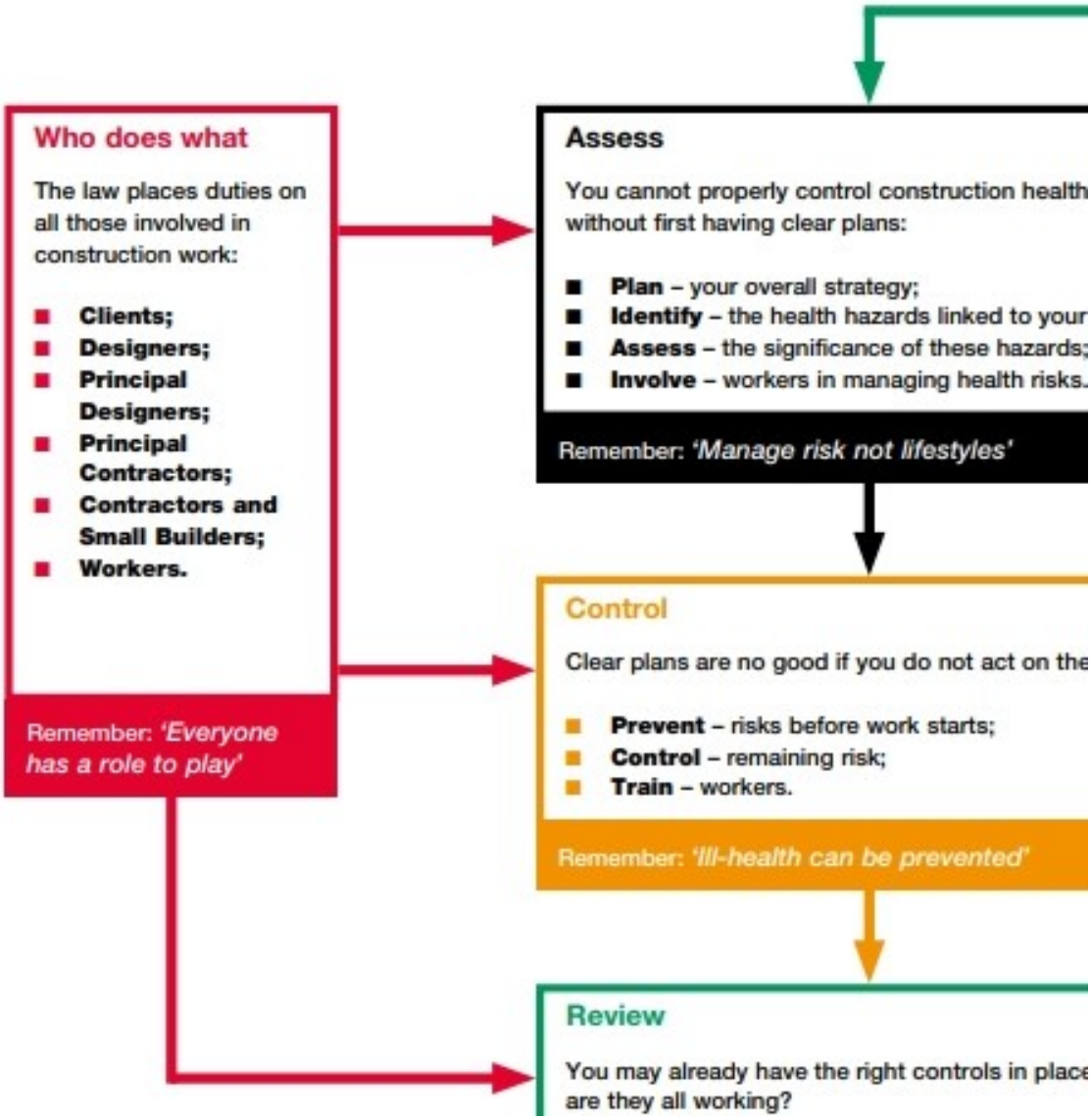
Activity	Possible Hazard	Who May Be Harmed	Risk (L,M,H)	Action required to reduce risk to an acceptable level	Method Statement Required Y/N
	Burst Shutters				
Installation of Floor Sheets / Planks		All	M	Refer to site RAMS	Y
Work at Height Roof work Brickwork Cladding Curtain Walling Other (add details)	Fall of operatives Falling objects Loading out Access Collapsing or soft Ground	All	M	Refer to site RAMS	Y
Use of step ladders	Fall of operative Falling objects Ladder instability / movement	All	M	Refer to site RAMS	Y
Use of mobile towers	Fall of operative Falling objects Collapsing or soft Ground	All	M	Refer to site RAMS	Y
Scaffolding	Fall of Operative Fall of Material Collapse of Scaffold	Scaffolders Operatives MOP	M	Refer to site RAMS	Y
Confined Spaces			M	Refer to site RAMS	Y
Materials Handling	Fall of Materials Overturning of plant/cranes	All	M	Refer to site RAMS	Y
Materials storage and control	Falls of materials Obstruction of access routes Unauthorised access / use	All	M	Refer to site RAMS	Y
Manual Handling	Musculoskeletal injury	All	M	Refer to site RAMS	Y
Ground Conditions	Soft ground, sloping ground, water, overturning of equipment, ground washout, undermining	All	M	Refer to site RAMS	Y
Vibration	Hand Arm Vibration	All	M	Refer to site RAMS	Y

Activity	Possible Hazard	Who May Be Harmed	Risk (L,M,H)	Action required to reduce risk to an acceptable level	Method Statement Required Y/N
Dust	Occupational Health, inhalation, contamination	All	M	Refer to site RAMS	Y
Use of hazardous materials	Dermatitis, Respiratory problems, Eye Damage	All	M	Refer to site RAMS	Y
Work Involving Particular Risks*		All	M	Refer to site RAMS	Y

HSE

Managing Construction Health Risks

Managing health risks is no different to managing safety risks. This diag the basic principles that you need to know.



7.5. Control of Fumes

Work that produces noxious, harmful, flammable or explosive fumes shall be assessed before any work is carried out, and the controls identified are to be communicated to those involved, resourced, and implemented.

Work that produces noxious, harmful, flammable or explosive fumes shall be undertaken:

- using either an alternative method that does not produce fumes, or
- off site in controlled conditions; or
- with suitable ventilation and/or fumes extraction facilities provided; and
- by operatives wearing appropriate respiratory protection equipment

7.6. Soil Drains and Wastes

When working on drainage systems, operatives are at significant risk of contact with infected body fluids. There is therefore a significant risk of infection. Where there is a risk of operatives being splashed by the contents of the foul waste system they must:

- Cover all cuts and abrasions with a waterproof occlusive plaster or dressing;
- Always wash hands and any other part of the body that may be contaminated with soap and water after completing work;
- If accidental exposure to an infection is suspected, contact their GP;
- Wear protective eyewear if splashing is likely;
- Wear fluid impermeable face mask;
- Wear fluid impermeable protective gauntlet;
- Wear disposable protective overalls if splashing is likely;
- Wash all contaminated clothing before next work shift;
- Be immunised against Hepatitis B and Tuberculosis by their GP.

7.7. Reducing vibration

All operations where there is a risk of exposure to vibration shall be assessed and, where practicable, eliminated at source.

Where it is not reasonably practicable to eliminate risk at source and an exposure action value is likely to be reached or exceeded, exposure shall be reduced to as low a level as is reasonably practicable by establishing and implementing a programme of organisational and technical measures appropriate to the activity including:

- look for ways of working that avoid or reduce the need to hold vibrating equipment or work-pieces;
- avoiding types of equipment with high vibration when there are suitable lower vibration alternatives;
- keeping an inventory of equipment and its vibration emission;
- maintaining equipment in accordance with the manufacturer’s instructions;
- planning work schedules to minimise vibration exposures and make sure exposures are below the Exposure Limit Value [ELV];
- organising work to avoid uncomfortable postures and the need for high manual effort to grip, push or pull equipment;
- helping employees maintain good blood circulation, for example, by providing clothing to help them keep warm and dry.

The exposure action and limit values are a daily EAV of:

- 2.5 m/s2 A(8) that represents a clear risk requiring management; and
- 5 m/s2 A(8) that represents a high risk above which employees should not be exposed.

Hand Arm Vibration (HAV)

Hand Arm Vibration assessments must be for the tool being used and should be undertaken using the HSE's Hand-arm vibration exposure calculator which is free to download at http://www.hse.gov.uk/vibration/hav/calculator.htm .

Where the task involves HAV exposure that may exceed an exposure limit, exposures (trigger times) must be recorded using form CRC-SHE-034 HAV Exposure Record or a similar form provided by the contractor. Copies of all completed exposure records shall be stored in the Site H&S File – Section 5.0, in the file of folder of the contractor who will be using the substance.

Pile Head Breaking

According to HSE enforcement guidance "Pile cap removal using hand operated breakers is not acceptable." http://www.hse.gov.uk/foi/internalops/og/og-00050-appendix-3.pdf Alternatives solutions e.g. pile head removal using bursters/crushers, Elliot method, Recipieux method or use hydraulic pile croppers and design pile spacing and pile re-bar for mechanised cropping must be used. If a limited amount of dressing of the pile cap with hand-held breakers may still be required, it is acceptable if managed in accordance with the HAV guidance set out above.

7.8. Reducing Noise

Environmental Noise Control

The works shall, as far is reasonably practicable, be conducted with the minimum of noise.

Where possible, work methods will be employed that will minimise disturbance to neighbouring properties and the building's users. Where noisy work cannot be avoided, all necessary steps will be taken to limit the effect of the noise on others.

This construction phase plan is evolving as the project progresses. The project is currently in the superstructure phase.

Currently the noisiest activity on the site is cutting activity with Stihl saws. Any cutting activity will be controlled by establishing remote cutting stations with the use of acoustic screens if required. The cutting of materials using Stihl Saws has the potential to be a cause for noise nuisance on the site. Cutting activity will be carried out away where practicable from the neighbours to the project. CR(U.K.) will monitor the site noise levels to ensure the site noise level stays within the agreed parameters set by MCC. If noise levels are too high, acoustic screens will be implemented when cutting using Stihl saws.

The project is not likely to cause vibration nuisance. Piling works are complete and the piling technique used was continuous flight auger (CFA) piling. No driven piles were constructed. Any machinery tracking on the site stays within the confines of the site and does not track on the surrounding carriageways. The concrete cores and concrete slabs are currently under construction using slip form techniques which are inherently silent and vibration free.

Unless prior consent has been given by the Local Authority under Section 61 of the Control of Pollution Act 1974 work, works that will produce noise that can be heard outside the site boundary, will be limited to the site working hours. The working hours for the project are, Monday to Friday 07:30 to 18:00, Saturday 08:30 to 14:00 and no working Sunday and Bank Holidays.

We will ensure that we minimise noise as far as possible by implementing the following measures:

- Vehicles and mechanical plant will be maintained in a good and effective working order and operated in a manner to minimise noise emissions. The contractor will ensure that all plant complies with the relevant statutory requirements.
- Compressor, generator and engine compartment doors will be kept closed and plant turned off when not in use.
- All pneumatic tools will be fitted with silencers/mufflers.
- Care would be taken when unloading vehicles to avoid un-necessary noise.
- The use of particularly noise plant will be limited, i.e., avoiding use of particularly noisy plant early in the morning.
- Restrict the number of plant items in use at any one time.
- Plant maintenance operations will be undertaken at distance from noise-sensitive receptors.
- Reduce the speed of vehicle movements.
- Ensure that operations are designed to be undertaken with any directional noise emissions pointing away from noise-sensitive receptors.

- When replacing older plant, ensure that the quietest plant available is considered.
- Drop heights will be minimised when loading vehicles with rubble.
- Vehicles will be prohibited from waiting within the site with their engines running or alternatively, located in waiting areas away from sensitive receptors.
- Local hoarding, screens or barriers will be erected to shield particularly noisy activities.
- Temporary noise screens will be used to reduce noise from particularly noisy activities and the height of perimeter hoarding will be extended where this would assist in reducing noise disturbance at sensitive receptors; and
- Hours of operation should be strictly enforced and any deviations other than those previously identified will be with the consent of the local authority.
- Signage – Excessive noise signs will be posted warning of the activity and the requirement of mandatory hearing protection.

- We will ensure that all our works are monitored to ensure noise levels are not exceeded (see Appendix 11.1 for maximum noise levels for plant, equipment and the current construction activities). The schedule will be developed and updated as the construction programme progresses to reflect activities on site. Full records will be kept of all monitoring and will be available for review if required.

- If levels are exceeded during any part of the works, activities will cease, and the incident will be investigated. Work methods and protection measures can then be adapted to try and ensure that an exceeded level does not happen again.

CR Construction (U.K.) Ltd. will be working closely with our specialist subcontractors to continually monitor the works as they progress.

Construction Noise and Vibration Management

We have outlined below the measures to control and limit noise emissions and vibration levels, at residential and commercial properties and other sensitive receptors in the vicinity of the NT02 Project.

General Requirements – Noise

Best Practicable Means (BPM) of noise control will be applied during construction works to minimise noise (including vibration) at neighbouring properties and other sensitive receptors arising from construction activities.

The general principles of noise management are given below:

Control at source

- Equipment – noise emissions limits for equipment brought to site.
- Equipment – method of directly controlling noise e.g., by retrofitting controls to plant and machinery.

- Equipment – indirect method of controlling noise e.g., acoustic screens.
- Equipment – indirect method of controlling noise e.g., benefits and practicality of using alternative construction methodology to achieve the objective e.g. vibratory piling techniques or hydro-demolition as opposed to more conventional but noisier techniques; selection of quieter tools/machines; application of quieter processes.

Control across site by

- Administrative and legislative control
- Control of working hours The working hours for the project are, Monday to Friday 07:30 to 18:00, Saturday 08:30 to 14:00 and no working Sunday and Bank Holidays.
- Control of delivery areas and times
- Careful choice of compound location
- Physically screening site
- Control of noise via Contract specification of limits

Noise Monitoring, to check compliance with noise level limits, cessation of works until alternative method is found. Many of the activities which generate noise can be mitigated to some degree by careful operation of machinery and use of tools. This may best be addressed by toolbox talks and site inductions.

Best Practicable Means

BPM are defined in Section 72 of the Control of Pollution Act 1974 and Section 79 of the Environmental Protection Act 1990 as those measures which are:

"Reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to financial implications".

The Environment Agency will require its contractors to BPM as identified above, including:

- Noise and vibration control at source: for example, the selection of quiet and low vibration equipment, review of construction methodology to consider quieter methods, location of equipment on site, control of working hours, the provision of acoustic enclosures and the use of less intrusive audible warnings such as broadband vehicle reversing alarms;

- Screening: for example, local screening of equipment or perimeter hoarding; and The recommendations of BS5228: 2009+A1:2014 'Code of practice for Noise and Vibration Control on Construction and Open Sites', will be implemented, together with the specific requirements of this management plan.

Consultation

The maintenance of good community relations is vital. Experience shows that construction noise has the potential to cause disturbance but can be tolerated if prior warning and explanation has been given to residents.

In particular advice regarding the nature of construction works, the duration of the works and mitigation measures to be implemented can help to reduce people's reaction to noise.

CR Construction (U.K.) Ltd. will consult with local residents/communities regarding works and give them details of a responsible appointed person on site who will be able to deal with queries.

- Construction working hours will be carefully managed. All works will take place between normal working hours. The working hours for the project are, Monday to Friday 07:30 to 18:00, Saturday 08:30 to 14:00 and no working Sunday and Bank Holidays.

- A scheme of noise and vibration monitoring will be undertaken and assessed periodically during construction. Monitoring demonstrates that noise levels are being sufficiently controlled in order to protect contractors and residents from adverse noise and vibration levels.

- A pre-commencement external structural assessment of the properties closest to the construction areas where vibration is likely will be required.

- Details of a Complaints Procedure and Contacts to be communicated to local residents and businesses.

Noise and Vibration Control Measures

In addition to specific requirements of the Local Authority, CR Construction (U.K.) Ltd. will adopt the following more specific measures:

Control Measures

Without prejudice to the other requirements of this section, CR Construction (U.K.) Ltd. shall comply with the recommendations set out in BS5228:2009 and in particular with the following requirements:

- Vehicles and mechanical plant will be maintained in a good and effective working order and operated in a manner to minimise noise emissions. The contractor will ensure that all plant complies with the relevant statutory requirements; HGV and site vehicles will be equipped with broadband, non-tonal reversing alarms.

- Compressor, generator and engine compartment doors will be kept closed and plant turned off when not in use.

- All pneumatic tools will be fitted with silencers/mufflers.

- Care would be taken when unloading vehicles to avoid un-necessary noise.

- The use of particularly noise plant will be limited, i.e., avoiding use of particularly noisy plant early in the morning;

- Restrict the number of plant items in use at any one time.

- Plant maintenance operations will be undertaken at distance from noise-sensitive receptors.

- Reduce the speed of vehicle movements.

- Ensure that operations are designed to be undertaken with any directional noise emissions pointing away from noise-sensitive receptors.

- When replacing older plant, ensure that the quietest plant available is considered.

- Drop heights will be minimised when loading vehicles with rubble.

- Vehicles should be prohibited from waiting within the site with their engines running or alternatively, located in waiting areas away from sensitive receptors.

- Local hoarding, screens or barriers should be erected to shield particularly noisy activities.

- Piling will be carried out with the method that minimises both noise and the transmission of vibration to sensitive receptors.

- Temporary noise screens will be used to reduce noise from particularly noisy activities and the height of perimeter hoarding will be extended where this would assist in reducing noise disturbance at sensitive receptors; and

- Hours of operation will be strictly enforced and any deviations other than those previously identified will be with the consent of the local authority.

Vibration Monitoring

CR Construction (U.K.) Ltd. will undertake a screening assessment of the proposed work programme which will be undertaken to establish if any significant vibration generating activities are scheduled to occur (e.g., piling, vibrio compaction etc.). Should significant vibration generating activities be identified a detailed assessment will be undertaken to predict vibration levels at all sensitive receptors from the construction and demolition in accordance with the calculation methodology set out in BS5228-2:2009 Annex E comprising the following:

- A detailed construction method statement identifying the rationale for work, proposed working hours and a breakdown of construction methodology.
- Site location maps and worksite layout plans detailing the geographical locations of all equipment for each stage of the works.
- A construction equipment schedule showing the number, type and make of equipment used for each stage of the construction.
- Details of proposed on-site mitigation measures.

- Schedules detailing predicted vibration levels at the sensitive receptors.
- 1 mm/s Peak Particle Velocity (PPV) for occupied residential and educational buildings.
- 3 mm/s PPV for occupied commercial premises where the activities are not of a special vibration sensitive nature or for potentially vulnerable unoccupied buildings
- 5 mm/s PPV for other unoccupied buildings
- A vibration logger will be undertaken on a daily basis during all high risk activities.
- All operations will be undertaken in accordance with section 11.83 of the air quality assessment.

Notifications

Occupiers of adjacent properties will be informed by CR Construction (U.K.) Ltd. up to 2 weeks in advance of the works taking place, including the duration and likely noise and vibration effects. In the case of work required in response to an emergency, the Environment Agency and local residents will be advised as soon as reasonably practicable that emergency work is taking place. Potentially affected residents will also be notified of the helpline number for the contractor.

A regular programme of noise and vibration monitoring shall be implemented a Best Practicable Means (BPM) of noise control are outlined and will be applied by CR Construction (U.K.) Ltd. during construction works to minimise noise (including vibration) at neighbouring residential properties and other sensitive receptors arising from construction activities.

Specific mitigation measures will be implemented by CR Construction (U.K.) Ltd. during those construction activities identified as having the highest potential to cause disturbance from either noise and or vibration.

Phase	Activity	Equipment	Sound Power dBA	Monitoring Frequency
Substructure	**Substructure**	360 Excavator 20T	99	Daily
		2T Dumper Truck	105	Daily
		CFA Piling Rig	108	Daily
		Compressor	102	Daily
		Concrete Pump	103	Daily
		Mixer Truck	108	Daily
		Handheld Air tools	115	Daily
		Circular Saw	115	Daily
		Poker Vibrators	105	Daily
		Vibrating Plate	108	Daily
		Vibrating Roller Medium	106	Daily
Superstructure	**Superstructure**	360 Excavator 20T	99	Daily
		2T Dumper Truck	105	Daily
		CFA Piling Rig	108	Daily
		Compressor	102	Daily

		Concrete Pump	103	Daily
		Mixer Truck	108	Daily
		Handheld Air tools	115	Daily
		Circular Saw	115	Daily
		Poker Vibrators	105	Daily
		Vibrating Plate	108	Daily

Maximum Noise Levels at the Site Boundary

- Daytime 75 dB (LpAeq) 16, or above the existing ambient if this is higher.
- Evening 65 dB (LpAeq) 17, or above the existing ambient if this is higher.
- Night 55 dB (LpAeq) 18, or above the existing ambient if this is higher.

Maximum Noise Levels of Plant and Equipment

Hearing Protection

The Site Manager(s) s(s) shall ensure:

- when either they or a contractor are planning an operation which is liable to expose any person to noise at or above a lower exposure action value that a suitable and sufficient assessment of the risks is undertaken by a competent person to determine the measures which need to be taken to meet the requirements of the Regulations;
- that when risk is assessed, attention is paid to other contractors and members of the public who may also be affected by the noise.
- that action is taken to reduce the noise exposure that produces those risks;
- that those affected are provided with and wear hearing protection where noise exposure cannot be reduced enough by using other methods;
- that the legal limits on noise exposure are not exceeded;
- that those undertaking the work are provided with information, instruction and training on noise risks and control;
- where any person entering an area on site is likely to be exposed to noise at or above an upper exposure action value that:
    - the area has a designated Hearing Protection Zone;
    - the area is demarcated and identified by means of a sign specified for the purpose of indicating that ear protection must be worn;
    - access to the area is restricted where this is practicable and the risk from exposure justifies it;
    - so far as is reasonably practicable that no person enters the Hearing Protection Zone unless they are wearing personal hearing protectors.

7.9. Manual handling

All manual handling operations that carry a risk of injury to the participants shall, wherever reasonably practicable, be avoided by:

- removing the need for the operation to be carried out;
- automating or mechanising the operation.

Where Manual Handling operations cannot be avoided, they shall be assessed by the Site Manager(s).

Manual Handling Assessments shall be carried out using.

No person working for, or on behalf of CR Construction (U.K.) Company Limited shall carry out Manual Handling Operations that involve a risk of being injured, unless:

- they are competent and able to carry out the work;
- they have received Manual Handling Training from a person competent to give such training;
- the works have been subject to a Manual Handling Assessment, and a safe system of work documented and implemented that reduces the risk of injury to an absolute minimum;
- they have received information on the load to be carried.

Copies of all completed manual handling assessments shall be stored in the Site H&S File, in the file or folder of the contractor who will be using the substance.

7.10. Exposure to UV radiation (from the sun)

During summer months, the site induction shall include sun protection advice.

In addition, tool-box talks will be provided on the risk from UV radiation (from the sun) and the action that can be taken to reduce the risk.

Training shall encourage workers to:

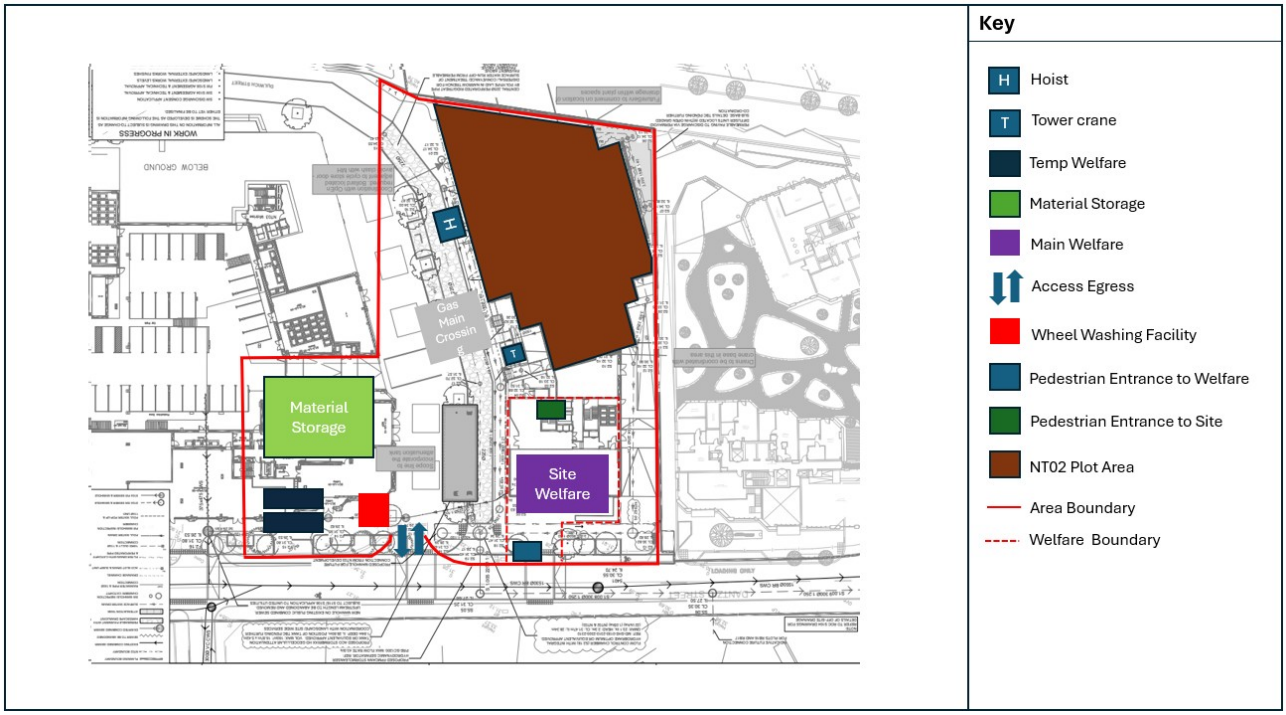
- keep covered up during the summer months - especially at lunch time when the sun is at its hottest. (They can cover up with a long-sleeved shirt, and a hat with a brim or flap that protects the ears and neck.)
- use sunscreen of at least SPF (Sun Protection Factor) 15 on any part of the body they can’t cover up and to apply it as directed on the product.
- take their breaks in the shade, if possible, rather than staying out in the sun.
- drink plenty of water to avoid dehydration.
- check their skin regularly for unusual spots or moles that change size, shape or colour and to seek medical advice promptly if they find anything that causes them concern.

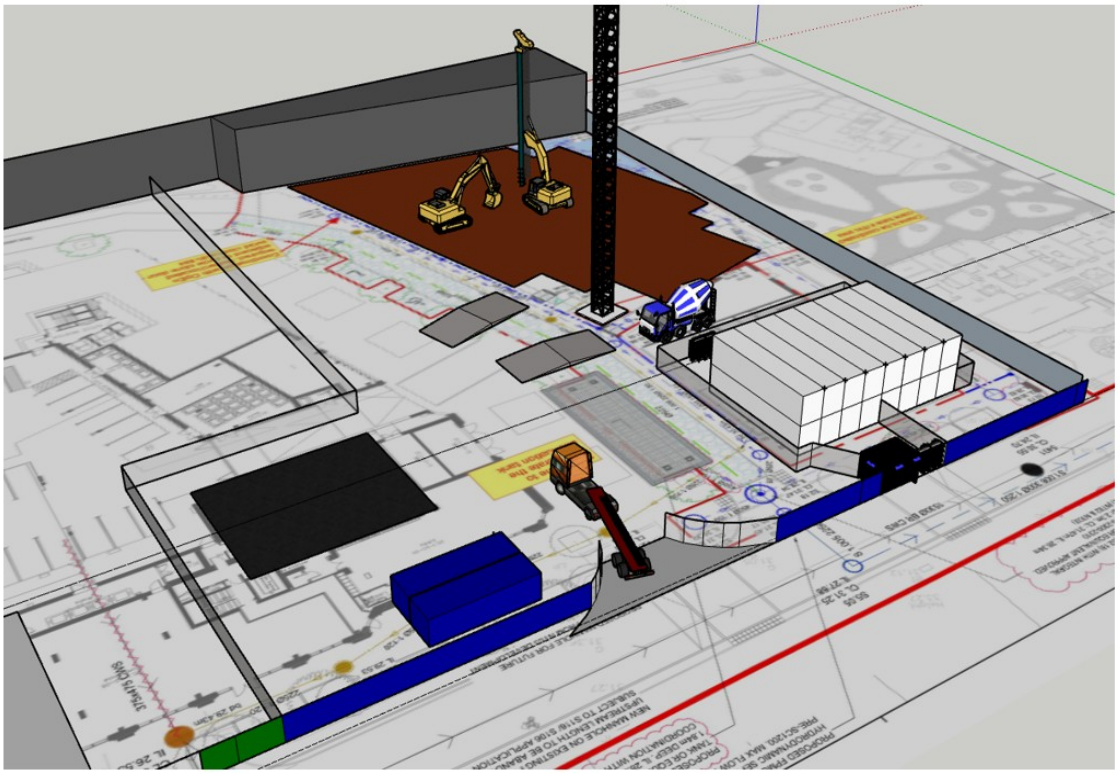
8. APPENDIX

8.1 Site Logistics Plan

8.2 CR(UK) Project organogram.

8.1 - Logistics plan





8.2 Organogram

