



SARAO
South African Radio
Astronomy Observatory

SARAO ARTISAN TRAINING CENTRE HEALTH AND SAFETY SPECIFICATIONS

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ABBREVIATIONS

ITEM

AIA

ATC

COC

COIDA

CR

DCP

DMR

DOL

DSTI

GSR

H & S REP

HCS

MSDS

NEMA

OEL

PTO

RPL

SANS

SARAO

SHEQ

SOP

VUP

DESCRIPTION

Approved inspection authority

Artisan Training Centre

Certificate of compliance

Compensation for Occupational Injuries and Diseases Act

Construction Regulation

Dry chemical powder

Driven machiney regulation

Department of Labour

Daily safety task instruction

General safety regulation

Health and safety representatives

Hazardous Chemical Substances

Material Safety Data Sheet

National environmental management act

Occupational exposure limits

Planned task observation.

Recognition of Prior Learning

South Africa national standard

South African Radio Astronomy Observatory

Safety, Health, Environmental and Quality

Standard Operating Procedure

Vessels under pressure

1 INTRODUCTION AND BACKGROUND

In terms of Construction Regulation 5(1) (b) of the Occupational Health and Safety Act, No.85 of 1993 the Client, is required to compile a Health & Safety Specification for any intended project and provide such specification to any prospective contractor who, on appointment shall submit a Health and Safety Plan which shall address the requirements of this specification.

This specification's objective is to ensure that any contractor entering a Contract with SARAO Artisan Training centre at Carnarvon achieves an acceptable level of OH&S performance. This document forms an integral part of the Contract. All Contractors and Service Providers are required to read, understand, and take note of the requirements within this specification and ensure that they provide the required budget for stipulated Health and Safety requirements.

Contractor managers and supervisors at all levels will be required to demonstrate their commitment and support by undertaking a risk management approach to all Health and Safety issues. They will need to consistently take immediate and firm action for violations of safety rules and actively participate in day to-day activities with the objective of preventing harm to people and equipment.

This document does not absolve the client from complying with minimum legal requirements and the client remains responsible for the Health & Safety of his employees and those of his Mandataries. Client or his appointed Agent, reserves the right to audit, monitor and where necessary regulate the site work activities of any principal contractor or principal appointed sub-contractor as per Construction Regulation 5(1) k and 7(1) c (v).

1.1 OMISSIONS FROM THIS SHE SPECIFICATION

By compiling this Safety, Health and Environmental Specification, the Client has endeavoured to address the most critical aspects relating to Safety, Health, and Environmental issues in order to assist the contractor in adequately providing for the health and safety of employees on site.

Each contractor will be expected to prepare a project specific Health and Safety management plan and baseline risk assessment based for their scope of work, to determine the specific requirements from this specification that would apply to their construction activities.

1.2 APPLICABLE AND REFERENCED DOCUMENTS

The Contractor shall in respect of all matters arising in the fulfilment of this Health and Safety Specification complies at his own expense with all laws, regulations, by-laws, and requirements of local and or other authorities that may be applicable to the Contract Works. In this regard, special reference is made to the following safety, health, and labour legislation, which does not constitute an exhaustive list:

- Occupational Health and Safety Act, Act No 85 of 1993
- Compensation for Occupational Injuries and Diseases Act, Act No 130 of 1993
- Hazardous Substances Act, Act No 85 of 1973

- Disaster Management Act 2002 & relevant Gazette items with regards to COVID-19
- The Consolidated Direction for Occupational Health and Safety Management in certain Workplaces
- Project and Construction Professions Act, Act 48 of 2000
- National Road Traffic Act, Act No 93 of 1996
- Prevention of Environmental Pollution Ordinance 21 of 1981
- Water Services Act, Act No 108 of 1997
- NEM Act No.107 of 1993

Or any other Act passed in substitution of the abovementioned

2 Occupational Health and Safety Management System Elements

2.1 SCOPE AND DESCRIPTION OF PROJECT

Project Information		
Client	SARAO	
Project Brief	SARAO Artisan Training centre at Carnarvon	
Project Location	Northern Cape	
Construction Overlay	SARAO Artisan Training centre at Carnarvon	
Project Duration		
Professional Team	Project Managers: Quantity Surveyors: Architects: Civil Engineers: Structural Engineers: Electrical & Electronics Engineers Mechanical Engineers: Fire Engineers Acoustics Engineer Social / Development Facilitator Construction Health and Safety Agent:	Thabelo Maswime
General Info	The project scope of work entails but not limited to the following: Stakeholders Consultations. User Requirements Gathering. Review of previous investigation reports and drawings. Design and Methodologies for the interventions to the existing facilities to reach full fire compliance. Detailed phasing of the project. Client Approval of Scope to be implemented. Support for Procurement of a suitable Contractor Construction Supervision. Handover to Client and End User Close-Out of Project.	

2.1.1 Interpretations

2.1.1.1 Application

This specification document is a legal compliance document drawn up in terms of the OHS Act and is therefore binding. All Contractors entering a Contract with Client shall, as a minimum, comply with the Occupational Health & Safety Act and Regulations (Act 85 of 1993). A current, up-to-date copy of the OHS Act and Construction Regulations must be always available on site.

- Compensation for Occupational Injuries & Diseases Act (Act 130 of 1993).

The Principal Contractor will be required to submit a letter of Registration and "good standing" from the Compensation Insurer before being awarded the Contract.

- All Contractors shall comply with the "Integration Labour Law Act" and regulations
- All relevant Municipal bylaws and National Building Regulations.
- The Immigrations Act 2002 as amended and shall further ensure that no illegal aliens are employed on the construction site.

2.1.1.2 New Construction Regulations 2014

New construction Regulations 2014 have been promulgated on 7 August 2014.

3 SCOPE OF WORK

The ATC scope of work is as follows but not limited to:

Site Clearance and Establishment

Stabilization

Demolition

Underground essential services

Exposing and relocating existing services

Clearing and grubbing

Concrete, formwork, and reinforcement

Masonry

Waterproofing

Roof coverings etc.

Ceiling, etc.

Floor coverings, wall linings and floor tiling

Ironmongery

Brickwork

Plastering

Electrical

Tiling

Plumbing and drainage

Glazing

Confined Spaces

Paintwork

External works & Paving

Not limited to the above

4 DUTIES OF THE DESIGNER

- 1) The designer of a structure must—
 - a) ensure that the applicable safety standards incorporated into these Regulations under section 44 of the Act are complied with in the design.
 - b) take into consideration the health and safety specification submitted by the client.
 - c) before the contract is put out to tender, make available in a report to the client:
 - o all relevant health and safety information about the design of the relevant structure that may affect the pricing of the construction work.
 - o the geotechnical-science aspects, where appropriate; and o the loading that the structure is designed to withstand.
 - d) inform the client in writing of any known or anticipated dangers or hazards relating to the construction work and make available all relevant information required for the safe execution of the work upon being designed or when the design is subsequently altered.
 - e) refrain from including anything in the design of the structure necessitating the use of dangerous procedures or materials hazardous to the health and safety of persons, which can be avoided by modifying the design or by substituting materials.
 - f) consider the hazards relating to any subsequent maintenance of the relevant structure and must make provision in the design for that work to be performed to minimize the risk.
 - g) when mandated by the client to do so, carry out the necessary inspections at appropriate stages to verify that the construction of the relevant structure is carried out in accordance with his design: Provided that if the designer is not so mandated, the client's appointed agent in this regard is responsible to carry out such inspections.
 - h) when mandated as contemplated in paragraph (g), stop any contractor from executing any construction work which is not in accordance with the relevant design's health and safety aspects:
 - i) Provided that if the designer is not so mandated, the client's appointed agent in that regard must stop that contractor from executing that construction work.
 - j) when mandated as contemplated in paragraph (g), in his or her final inspection of the completed structure in accordance with the National Building Regulations, include the health and safety aspects of the structure as far as reasonably practicable, declare the structure safe for use, and issue a completion certificate to the client and a copy thereof to the contractor; and

- k) during the design stage, take cognisance of ergonomic design principles to minimize ergonomic related hazards in all phases of the life cycle of a structure.
- 2) The designer of temporary works must ensure that—
 - a) all temporary works are adequately designed so that it will be capable of supporting all anticipated vertical and lateral loads that may be applied.
 - b) the designs of temporary works are done with close reference to the structural design drawings issued by the contractor, and in the event of any uncertainty consult the contractor.
 - c) all drawings and calculations pertaining to the design of temporary works are kept at the office of the temporary works designer and are made available on request by an inspector; and
 - d) the loads caused by the temporary works and any imposed loads are clearly indicated in the design.

5 PRINCIPAL CONTRACTOR

Principal Contractor (PC) means a contracting organization appointed by SARAO to be in control and manage the entire, or part of the project. As per CR5(4) where more than one (1) Principal Contractor is appointed, the client must take reasonable steps to ensure co-operation between all principal contractors and contractors to ensure compliance with their Regulations.

The Principal Contractor carries prime accountability & responsibility for the health and safety of his/her employees & his/her sub-contractors within his/her working area, as contemplated by Section 37(2) of the OHS Act. None of the additional safety requirements specified by the Client/Agent reduces the Principal Contractor's accountability and responsibility for the health and safety of his employees and sub-contractor employees within his working area. The Principal Contractor remains an employer and consequently responsible for the implementation and management of all requirements as per the applicable legislation. Every employer shall conduct his undertaking in such a manner as to ensure, as far as reasonably practicable, that persons other than those in his employment who may be directly affected by his activities are not thereby exposed to hazards to their health or safety.

5.1 PRINCIPAL CONTRACTOR AND CONTRACTOR SUPERVISION

5.1.1 A principal contractor must-

- a) Provide and demonstrate to the client a suitable, sufficiently documented, and coherent site-specific health and safety plan, based on the client's documented health and safety specifications contemplated in regulation 5(1)(b), which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the principal contractor as work progresses.
 - -open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, which must be made available on request to an inspector, the client, the client's agent, or a contractor; and
 - -on appointing any other contractor, to ensure compliance with the provisions of the Act—
- b) Provide contractors who are tendering to perform construction work for the principal contractor, with the relevant sections of the health and safety specifications contemplated in regulation 5(1)(b) pertaining to the construction work which has to be performed.
- c) Ensure that potential contractors submitting tenders have made sufficient provision for health and safety measures during the construction process.
- d) Ensure that no contractor is appointed to perform construction work unless the principal contractor is reasonably satisfied that the contractor that he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely.
- e) Ensure prior to work commencing on the site that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993.

- f) Appoint each contractor in writing for the part of the project on the construction site.
- g) Take reasonable steps to ensure that each contractor's health and safety plan contemplated in sub regulation (2)(a) is implemented and maintained on the construction site.
- h) Ensure that the periodic site audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days.
- i) Stop any contractor from executing construction work which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons.
- j) Where changes are brought about to the design and construction, make available sufficient health and safety information and appropriate resources to the contractor to execute the work safely; and
- k) Discuss and negotiate with the contractor the contents of the health and safety plan contemplated in sub regulation (2)(a) and must thereafter finally approve that plan for implementation.
 - ensure that a copy of his or her health and safety plan contemplated in paragraph (a), as well as the contractor's health and safety plan contemplated in sub regulation (2)(a), is available on request to an employee, an inspector, a contractor, the client, or the client's agent.
 - hand over a consolidated health and safety file to the client upon completion of the construction work and must, in addition to the documentation referred to in sub regulation (2)(b), include a record of all drawings, designs, materials used and other similar information concerning the completed structure.
 - in addition to the documentation required in the health and safety file in terms of paragraph (c)(v) and sub regulation (2)(b), include and make available a comprehensive and updated list of all the contractors on site accountable to the principal contractor, the agreements between the parties and the type of work being done; and
 - ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

5.1.2 A contractor must prior to performing any construction work:

- a. Provide and demonstrate to the principal contractor a suitable and sufficiently documented health and safety plan, based on the relevant sections of the client's health and safety specification contemplated in regulation 5(1)(b) and provided by the principal contractor in terms of sub regulation (1)(a), which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the contractor as work progresses;
- b) open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, and which must be made available on request to an inspector, the client, the client's agent, or the principal contractor.
 - before appointing another contractor to perform construction work be reasonably satisfied that the contractor that he or she intends to appoint has the necessary competencies and resources to perform the construction work safely.
 - co-operate with the principal contractor as far as is necessary to enable each of them to comply with the provisions of the Act; and

- as far as is reasonably practicable, promptly provide the principal contractor with any information which might affect the health and safety of any person at work carrying out construction work on the site, any person who might be affected by the work of such a person at work, or which might justify a review of the health and safety plan.
- Where a contractor appoints another contractor to perform construction work, the duties determined in sub regulation (1)(b) to (g) that apply to the principal contractor apply to the contractor as if he or she were the principal contractor.
- A principal contractor must take reasonable steps to ensure co-operation between all contractors.
- appointed by the principal contractor to enable each of those contractors to comply with these Regulations.
- No contractor may allow or permit any employee or person to enter any site unless that employee or person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.
- A contractor must ensure that all visitors to a construction site undergo health and safety induction training pertaining to the hazards prevalent on the site and must ensure that such visitors have the necessary personal protective equipment.
- A contractor must at all times keep on his or her construction site records of the health and safety induction training contemplated in sub regulation (6) and such records must be made available on request to an inspector, the client, the client's agent, or the principal contractor.
- A contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

5.2 MANAGEMENT AND SUPERVISION

- 1) A principal contractor must in writing appoint one full-time competent person as the construction manager with the duty of managing all the construction work on a single site, including the duty of ensuring occupational health and safety compliance, and in the absence of the construction manager an alternate must be appointed by the principal contractor.
- 2) A principal contractor must upon having considered the size of the project, in writing appoint one or more assistant construction managers for different sections thereof: Provided that the designation of any such person does not relieve the construction manager of any personal accountability for failing in his or her management duties in terms of this regulation.
- 3) Where the construction manager has not appointed assistant construction managers as contemplated in sub regulation (2), or, in the opinion of an inspector, a sufficient number of such assistant construction managers have not been appointed, that inspector must direct the construction manager in writing to appoint the number of assistant construction managers indicated by the inspector, and those assistant construction managers must be regarded as having been appointed under sub regulation (2).

- 4) No construction manager appointed under sub regulation (1) may manage any construction work on or in any construction site other than the site in respect of which he or she has been appointed.
- 5) A contractor must, after consultation with the client and having considered the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the site, appoint a full-time or part-time construction health and safety officer in writing to assist in the control of all health and safety related aspects on the site: Provided that, where the question arises as to whether a construction health and safety officer is necessary, the decision of an inspector is decisive.
- 6) No contractor may appoint a construction health and safety officer to assist in the control of health and safety related aspects on the site unless he or she is reasonably satisfied that the construction health and safety officer that he or she intends to appoint is registered with a statutory body approved by the Chief Inspector and has necessary competencies and resources to assist the contractor.
- 7) A construction manager must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site.
- 8) A contractor must, upon having considered the size of the project, in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor contemplated in sub regulation (7), and every such employee has, to the extent clearly defined by the contractor in the letter of appointment, the same duties as the construction supervisor: Provided that the designation of any such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties in terms of this regulation.
- 9) Where the contractor has not appointed an employee as contemplated in sub regulation (8), or, in the opinion of an inspector, enough of such employees have not been appointed, that inspector must instruct the employer to appoint the number of employees indicated by the inspector, and those employees must be regarded as having been appointed under sub regulation (8).
- 10) No construction supervisor appointed under sub regulation (7) may supervise any construction work on or in any construction site other than the site in respect of which he or she has been appointed: Provided that if enough competent employees have been appropriately designated under sub regulation (7) on all the relevant construction sites, the appointed construction supervisor may supervise more than one site.

5.3 PRINCIPAL CONTRACTOR AND CONTRACTOR HSE PRACTITIONER

The appointment of a **FULL-TIME SACPCMP REGISTERED** Health and Safety Officer will be required for the duration of the contracted work. It is incumbent on the Principal Contractor during the tender process to evaluate the scope and nature of risk related to the work to objectively determine the need for

such an appointment. (The client reserves the right to insist on the appointment of a Health and Safety Officer where it deems the exposure to be of such a nature that a dedicated Health and Safety Officer is required).

The Contractors Health and Safety Officer shall assist and support the Contractors Construction Manager to ensure that the contractors Health and Safety responsibilities are fulfilled and compliance to the Health and Safety specifications and Health and Safety plan are met.

5.4 PRINCIPAL CONTRACTOR AND CONTRACTOR EMPLOYEES

The Principal Contractor is responsible for adequately informing his employees and contractors of all relevant information about the Client issued Health and Safety specifications and the Principal Contractors Health and Safety plan.

Employees are responsible for their own health and safety and that of their co-workers in their area. They must be made aware of their responsibilities during induction and awareness sessions some of which are:

- Familiarising themselves with their workplaces and health and safety procedures.
- Working in a manner that does not endanger them or cause harm to others.
- Keeping their work area tidy.
- Reporting all incidents/accidents and near misses.
- Protecting fellow workers from injury.
- Reporting unsafe acts and unsafe conditions.
- Reporting any situation that may become dangerous.
- Carrying out lawful orders and obeying health and safety rules.
- Ensuring as far as possible no negative interaction with the public.

All persons are required to undergo induction as per Principal Contractors Induction Program before commencement of the contracted work. The client will provide induction to all professional team members as well as principal contractor management pertaining to the management of safety on the site.

The Principal Contractor remains responsible for the overall management of the site and must ensure the health and safety of all workers, operational staff and visitors are not endangered in any way.

The Principal Contractor shall ensure that adequate and safe designated walkways, driveways, parking, and warning signages are prominently displayed on all relevant areas.

All areas occupied by construction activities, shall require additional signage to be displayed, walkways to be maintained and barricading to be erected as required.

It must be highlighted to all employees, that anyone who becomes aware of any person disregarding a safety notice, instruction or regulation shall immediately report this to the person concerned.

If the person persists, stop the person from working and report the matter to the Project Manager and the Principal Contractor Supervisor immediately.

Clear identification of contractors is required to be visibly affixed to workers as per Principal Contractors Induction Program.

No person shall damage, alter, remove, render ineffective, or interfere with anything that has been provided for in the interest of health and safety of persons on site.

No person under the influence of alcohol, drugs, or medication (in state of intoxication) or any other condition that may render him incapable of controlling himself or of other persons under his charge shall be allowed to enter the site.

All safety and warning signs must be always obeyed.

Entering or leaving the Site may only be done via the official designated walkways, do not take short cuts. Follow designated walkways to and from your workplace. Walk, do not run, and be alert for motor vehicle traffic and mobile equipment.

All employees must adhere to the HSE and other site-specific rules which may be issued by the client or his designated agent.

If any of the Principal Contractor's employees or his sub-contractor employees have transgressed any of the requirements of the HSE Specification; HSE plan or site rules, then the employee may be removed from site and his/her site access revoked. The Principal Contractor must follow a process of disciplinary action which shall include re-training/inducting the employee (at the cost of the Principal Contractor) and provide proof thereof to the Client's site/Project Manager and only upon the satisfaction of the Client's Site/Project Manager will the employee be allowed back on site.

6 MINIMUM ADMINISTRATIVE REQUIREMENTS

6.1 NOTIFICATION OF CONSTRUCTION

The project requires a Notification of Construction Work as per CR4 Annexure 2.

6.2 HEALTH AND SAFETY ON SITE (CR 8 AND SECTION 16)

The principal contractor shall ensure all their appointees are made aware of their accountabilities and responsibilities in terms of their appointments and advise and assist these appointees in their execution of their duties.

The Principal Contractor and all Contractors must make supervisory appointments as well as other relevant appointments in writing (as stipulated by the OHSA and Construction Regulations 2014). See attached Annexure 'A' for more detail and relevant appointments. Copies of the appointments shall be kept on site in the HSE File.

6.3 COMPETENCE OF THE PRINCIPAL CONTRACTOR'S / CONTRACTORS' APPOINTED COMPETENT PERSONS

All personnel engaged to carry out work on the project must have the necessary skills and knowledge and be competent to perform the tasks for which they have been employed.

Contractors will be required to furnish proof by way of licenses, permits, certificates or by recognition of prior learning (RPL) or by written certification by a qualified assessor of their skills, competencies, and knowledge of their work tasks. Proof of verification and proof of authenticity for each presented qualification, the service provider for the qualification and the assessor will be furnished.

Every Contractor shall compile a training and competency matrix to indicate competency requirements for each job category which shall also be aligned with specific project requirements. No employee not yet competent will be allowed to work. This training matrix shall at least contain the following information:

- Job categories
- Training and competency associated and required per job category.

The Principal Contractor's and all Contractors' competent persons for the various risk management portfolios must fulfil the criteria as stipulated under the definition of 'Competent' in accordance with the Construction Regulations (2014).

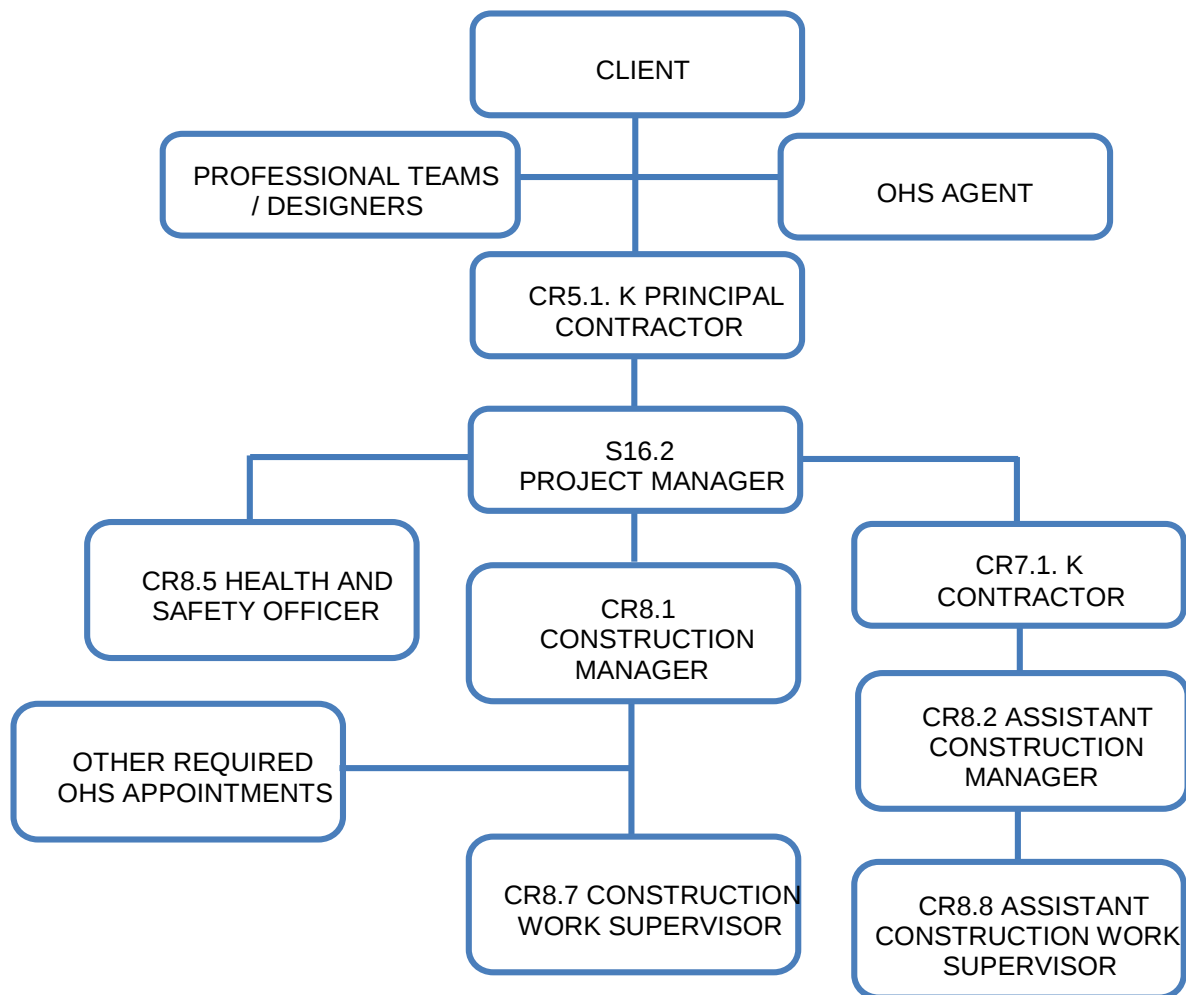
6.4 COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT 130 OF 1993 (COIDA)

The Principal Contractor and Contractors must also hold proof of workman's compensation assurance registration in the form of a letter of good standing and forward a copy to the Principal Contractor before they begin work on site. A copy should also be available on site. ***No work will be permitted on the project unless these documents are in place.***

6.5 HEALTH AND SAFETY ORGANOGRAM

The Principal Contractor must prepare an organogram, outlining the site health & safety management structure and appoint competent persons. In cases where appointments have not been made, the organogram shall reflect the intended positions. The organogram must be updated when there are changes in the Site Management Structure and dated accordingly. All HSE appointments are to be indicated on the organogram, clearly identifying the individual as well as providing contact details.

The following organogram outlines the appointment structure to be adhered to with regards to management and supervision staff on the construction site:



6.6 PRELIMINARY HAZARD IDENTIFICATION AND RISK ASSESSMENTS (CR 9)

Every Contractor performing Construction work shall, before the commencement of any Construction work or work associated with the aforesaid Construction work and during such work, cause a Risk Assessment to be performed by a competent person, appointed in writing, and the Risk Assessment shall form part of the Health and Safety Plan and be implemented and maintained as contemplated in the Construction regulations 9(1).

The Contractor is responsible and accountable for ensuring that effective procedures and assessment systems are in place to control hazards and so mitigate risks to as low a level as is acceptable and to meet all the HS management requirements under their contract.

The following risk management process is to be adopted on the project:

- 1) A contractor must, before the commencement of any construction work and during such construction work, have risk assessments performed by a competent person appointed in writing, which risk assessments form part of the health and safety plan to be applied on the site, and must include: -
 - the identification of the risks and hazards to which persons may be exposed to.
 - an analysis and evaluation of the risks and hazards identified based on a documented method.
 - a documented plan and applicable safe work procedures to mitigate, reduce or control the risks and hazards that have been identified.
 - a monitoring plan; and
 - a review plans.
- 2) A contractor must ensure that as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated, and addressed in a risk assessment.
- 3) A contractor must ensure that all employees under his or her control are informed, instructed, and trained by a competent person regarding any hazard and the related work procedures and or control measures before any work commences, and thereafter at the times determined in the risk assessment monitoring and review plan of the relevant site.
- 4) A principal contractor must ensure that all contractors are informed regarding any hazard that is stipulated in the risk assessment before any work commences, and thereafter at the times that may be determined in the risk assessment monitoring and review plan of the relevant site.
- 5) A contractor must consult with the health and safety committee or, if no health and safety committee exist, with a representative trade union or representative group of employees, on the monitoring and review of the risk assessments of the relevant site.
- 6) A contractor must ensure that copies of the risk assessments of the relevant site are available on site for inspection by an inspector, the client, the client's agent, any contractor, any employee, a representative trade union, a health and safety representative or any member of the health and safety committee.
- 7) A contractor must review the relevant risk assessment: —
 - a) where changes are affected to the design and or construction process that result in a change to the risk profile; or
 - b) due to changes in product used; or
 - c) when an incident has occurred; or
 - d) due to changes in legislation

- 8) The contractor will apply the below process to ensure that exposure to hazards is decreased to a level that is deemed, “as low as reasonably practicable”:
- Prepare a Baseline Risk Assessment covering the entire scope of work.
 - Prepare Task Specific risk assessments for each task that will be carried out based on the method of work.
 - Prepare safe operating/ work procedures based on the outcome of the risk assessment utilizing the control measures as identified to reduce the risk.
 - Conduct daily task instructions prior to work detailing the methods to be used.
 - Conduct Planned Task Observations to measure the implementation of the safe work procedures amongst the workforces.

6.6.1 Baseline Risk Assessment

The objective of the Baseline Risk Assessment is to look across the entire scope of works for the contractor, find potential major unwanted events, and analyse them; establishing important control measures to reduce the risk; documenting requirements and apply the outcomes to reduce the related risk to as low as reasonably practicable.

The contractor shall study the projects baseline risk assessment and ensure the relevant hazards and controls stipulated therein are incorporated in the baseline risk assessment for the contractor’s scope of works.

The baseline risk assessment must be submitted to the Client or Client Agent prior to site establishment.

6.6.2 The Issue based Risk Assessment shall include, at least:

- The identification of the risks and hazards to which persons may be exposed to
- The analysis and evaluation of the risks and hazards identified.
- A documented plan of safe work procedures to mitigate, reduce or control the risks and hazards that have been identified.
- A monitoring plan to ensure effectiveness.
- A documented review plans.

Based on the Risk Assessments, the Contractor must develop a set of site-specific OH&S rules and operating procedures that will be applied to regulate the OH&S aspects of the construction. (See annexure “B” for SWMS minimum requirements)

The Risk Assessment Team is to consist of the Contractors’ construction manager, specific task supervisor and specialists executing the job as well as the safety officer.

A copy of the risk assessment must be provided to the client for review.

The contractor has consulted with the Health & Safety Committee and in the absence thereof, a representative group of employees, in conducting the risk assessments, monitoring as well as during the review process.

The contractor will ensure that no person or employee may enter the site without undergoing comprehensive induction training (proof of which must be retained by the employee) in respect to the risks and hazards present at the time, and where required, will ensure the appropriate use of the correct PPE. The principal contractor or contractor has ensured that all employees under his control have been informed, instructed, and trained by a competent person in respect to the hazards and risks identified. The process as contemplated above is included in the Health & Safety Plan.

No Generic Risk Assessments will be accepted nor approved.

6.7 DSTI REQUIREMENTS

6.7.1 DSTI with SOPs for Tasks, PTO to Measure Implementation

Day-to-day routine and non-routine tasks must be subject to appropriate risk assessment prior to the commencement of the task.

The daily safe task instruction is the tool to be used for this in conjunction with existing safe operating procedures and the planned task observation process.

Each Contractor's supervisor and foreman must, daily before work commences, inspect his work area, and complete the checklist part of the Daily Safety Task Instruction (DSTI).

COMPLETE THE DSTI REGARDING ROUTINE AND NON-ROUTINE TASKS FOR THE SHIFT, SIMULTANEOUS OPERATIONS UNDERTAKEN BY OTHER CONTRACTORS IN THE SAME AREA, SPECIFIC HAZARDS AND SPECIFIC PRECAUTIONS AND DISCUSS IT WITH THEIR TEAM.

6.8 GENERAL RECORD KEEPING

The Principal Contractor and all Contractors must keep and maintain Health and Safety records to demonstrate compliance with these Specifications, with the OHS Act 85/1993, and with the Construction Regulations (2014). The Principal Contractor must also ensure that all records of incidents/injuries, emergency procedures, training, planned maintenance inspections, monthly contractor audits, etc. are kept in the health & safety file(s) held in the site office.

The Principal Contractor shall maintain a Contractors file that shall contain a copy of the following documents of each contractor:

- ☐ Contractors Details and Scope of Work
- ☐ COID Act Letter of Good standing
- ☐ Occupational Health and Safety Plan
- ☐ Fall Protection Plan
- ☐ Baseline Risk Assessment
- ☐ Emergency Contact Details of Contractors

The Principal Contractor must ensure that every Contractor keeps its own health & safety file, maintains the file, and makes it available on request. The file must include the Clients OHS Specifications and the

Principal Contractors Health & Safety Plan. Each Contractor safety files must be audited by the Principal Contractor at least once every thirty (30) days.

6.9 INJURY / REPORTING AND INVESTIGATION

Incidents and Injuries are to be categorized into the following categories:

- ☐ **NM** - Near Miss
- ☐ **FAC** - First Aid Case
- ☐ **MTC** - Medical Treatment Case
- ☐ **LTI** - Lost Time Injury
- ☐ **FA** - Fatality
- ☐ **UMM** - Uncontrolled Machinery Movement / Sudden Release of
- ☐ **PD** - Property Damage

When reporting injuries to the Client, the above categories must be used.

The Principal Contractor shall ensure all incidents are reported to the Client and the Project Management team immediately. Thereafter an Incident Notification/ Flash report must be sent out within 24 hours by e-mail to Thabelo Maswime for distribution.

The Principal Contractor must investigate all incidents defined as reportable in accordance with Section 24 of the OHS Act and GAR 8, with an Annexure 1 report being completed, stamped by DoEL, and filed. All Contractors must prepare and submit a monthly safety report on the five (5) categories of incidents to the Principal Contractor at least monthly.

The Principal Contractor shall ensure that all accidents and incidents (including near misses) are investigated. Investigations shall be facilitated by a competent and appointed GAR9(2) person and line supervisors shall be expected to actively participate in the investigation.

Contractors must investigate injuries and incidents involving their employees and forward a copy of the Annexure 1 investigation report to the Principal Contractor forthwith.

The Principal Contractor must prepare and submit a safety report to the Client on a monthly basis detailing the following statistics as per **ANNEXURE F**:

- Number of employees on site
- Manhours worked for the month and total man-hours for the project.
- All safety statistics i.e., FA, LTI, MTC, FAC, NM
- Sub-contractor audit results
- Incident summary (following any incidents)

The contractor must submit his incident reporting and investigation protocols for review by the client. All incidents reportable in terms of the provisions of Section 24 of the OHS Act, 1993 must be reported to the local Dept. of Labour in the prescribed manner within 14 days.

Note: No reports will be made to third parties without the Client being notified of such intentions.

Workmen's Compensation claims must be submitted on a WCL1 form for all health related I.O.D. cases and a WCL2 for all physical injuries sustained. A copy of the WCL submission and the First Medical Report must be made available to the Client within seven (7) days of the person being admitted for MTC.

All Contractors must immediately report all incidents where an employee is injured on duty to the extent that he/she:

- dies
- becomes unconscious.
- loses a limb or part of a limb.
- is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed.

Or where:

- a major incident occurred.
- the health or safety of any person was endangered.
- where a dangerous substance was spilled
- the uncontrolled release of any substance under pressure took place.
- machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects.
- machinery ran out of control.

The Contractor must investigate the causes of all work accidents and significant incidents, using recognized investigation methodology and trained investigators in line with client requirements. The Contractor must provide Thabelo Maswime with the results of the investigation and recommendations on how to prevent a recurrence within seven (7) days of the incident occurring. A formal root cause investigation process for all high potential incidents must be used.

The written report must include:

- Date, time, and place of the incident
- Detailed description of the incident, including photos
- Type of injury (if any)
- Medical treatment provided (if any)
- Persons involved and status of the injured person.
- Root causes identified as well as the reasons for failure of controls.
- Detailed corrective action to prevent recurrence.
- Details on how implementation of the identified corrective actions will be measured, checked, and verified to ensure full implementation and update of systems where required.

The Principal Agent acting on behalf of the client retains the right to designate a representative to participate in the investigation at their sole discretion at the contractor's cost.

Note: Failure to report any incident may result in work stoppage and cancellation of the contract at the contractors' cost.

6.10 PERMITS AND WAY LEAVES

Permits may include the following:

- Permit to Work
- Excavations
- Lifting & Rigging
- Hot works
- Confined Space
- Working at Heights
- Way Leaves
- Electrical Lock-Out
- Mechanical Lock-Out

The Principal Contractor must manage and co-ordinate these permit procedures within their own Health and Safety Management System.

- ☐ The Permit Issuer shall be the responsible person appointed by the Principal Contractor.
- ☐ The Permit Receiver shall be the responsible CR8.7 and/or CR8.8 for the construction work.

All Permit Issuers and Receivers shall be trained in the management and application of permits relevant to their description of work.

6.11 PREPARATION OF HEALTH & SAFETY DOCUMENTATION (CR 7)

It is the duty of the Principal Contractor to ensure that all documentation that is required are kept or generated during the construction process and must be consolidated into one set of documents that must be handed over to the Client upon completion of the construction work. This should include instructions from the design team that will be required for the continued safe operation and maintenance of this new structure(s).

The following health and safety deliverables should be reviewed during the tender submission process:

6.12 TABLE 1

REQUIREMENT	TIMING
H&S DELIVERABLES 1	
• The contractor must submit all deliverables as per the attached list of deliverables. These must be submitted individually under separate cover sheets for review and approval by the client's project manager or designate. • The submissions will be commented on and returned to the contractor for updating and re-submission. Access to site will not be granted unless these submissions have been provisionally approved. • On approval of deliverables the contractor may gain access to the works but has a period of 2-weeks in which to have the submissions finally approved for construction. • If this does not occur in the 2-week period, the client reserves the right to suspend all work until such time as the Safety Agent is satisfied with all H&S submissions.	Prior to commencement with construction.

(See Annexure "C" about detailed compliance submissions)

6.13 OFFENCES AND PENALTIES

Penalties may be imposed for on-going non-compliance with the provisions of the Client's health & safety specifications and the Principal Contractor's health & safety plan. Non-compliances noted during safety agent audits and visits will be categorised into three levels based on severity. These will be as follows:

- **Prohibition Notice** - Life threatening situations. This activity must be stopped immediately, and corrective measures taken. No related construction activities may continue until the deviation is closed-out and proof is issued to the Client Representative.
- **Contravention Notice** - Serious injury possible. Will be issued with a time frame for compliance stipulated. Failure to comply within the time frame may result in a financial penalty per noncompliance item per day that the non-compliance persists.
- **Improvement Notice** - Minor or no injury may result. An improvement notice will be issued. The corrective measures stipulated in the report / notice must be taken within the stipulated timeframe.

The methodology used to decide the above levels will be directly linked to the risk assessments of the Principal Contractor and Contractors (i.e., high, medium, and low). In the absence of a risk assessment the decision of the Safety Agent will be final.

NON-CONFORMANCE REPORT

Continuous non-compliance issues will result in a Non-Conformance Report (NCR) being issued. Each NCR will be issued to the Principal Contractor who will be held responsible for the Close-Out of the deviations raised. Failure to Close-Out an NCR will result in a recurring fine being imposed of R 1,000-00 (excl. VAT) every day, to be deducted by the Client from the contractors claim. The fine will be calculated from the date of the NCR being raised, to the time that the NCR is either closed out, or the contractor demobilises from site.

6.14 PRINCIPAL CONTRACTOR / CONTRACTOR - COMPETENCY ASSESSMENT

In order to ensure this, the Principal Contractor must demonstrate to the Client that it has a suitable and sufficiently documented Occupational Health and Safety Plan and that its Contractors have the necessary competencies and resources to perform the construction work safely.

The Principal Contractor and Contractors must therefore submit the following documentation for perusal and verification by the Client and Principal Contractor respectively:

- Management Structure as envisaged at tender (organogram).
- Registration certificate with the Compensation Commissioner or FEM.
- Proof of management training on the Occupational Health & Safety Act and other related training.

- Example copy of previous Safety Committee Meeting Minutes and Incident Investigation report (from a previous project).
- Any previous convictions under the OHS-Act.
- Your Company's previous two years injury claims as reported to your workman's compensation insurer.
- Your company's approach to co-ordination of health & safety – do you employ safety officers, etc.? If not, what alternative arrangements are used?

Note: All CR8(1) & CR8(2) Managers and CR8(7) & CR8(8) Supervisors must have valid Legal Liability and Risk Assessment Training.

The Principal Contractor and all Trade Contractors competent persons for the various risk management portfolios will fulfil the criteria as stipulated under the definition of 'Competent' in accordance with the Construction Regulations 2014. This will be specific to the following appointments. (Refer to Annexure "D" for an outline of legal assignments)

The Principal Contractor shall ensure that all their appointees are made aware of their accountabilities & responsibilities in terms of their appointment, & to advise and assist these appointees in the execution of their duties.

Appointment letters and competency certificates which is signed by the 16.2 and/ or CR 8.1 appointee, which refer to the relevant training certificates and proof of experience of appointees must be submitted with the Health and Safety Plan.

All minimum required training is to be provided by accredited training service providers. Where legislation requires formal certification in lieu of experience then such proof of competency is to be provided by the contractor.

6.15 COSTS FOR OHS -COMPLIANCE (CR 7)

All parties bidding to work on this construction project must ensure that they have made adequate provision for the cost of complying with these specifications as well as with the Occupational Health and Safety Act 85 of 1993 and incorporated Regulations as a minimum requirement in their tender documentation. It must also be taken into consideration that time is money. That implies that sufficient time must be allowed for the implementation of the minimum Health and Safety standards. No additional claims will be entertained at a later stage if a compliance requirement was prescribed in the OHS-Act, 1993 and incorporated regulations or this specifications document. Refer to Annexure "E" of this document for a breakdown of possible safety costs.

6.16 CONTRACTORS' HEALTH & SAFETY PLANS [CONSTRUCTION REGULATIONS 7(1)]

6.16.1 Introduction

Under the Construction Regulations (2014), the Principal Contractor is required to develop the Health and Safety Plan before work commences on site and to keep it up to date throughout the Construction Phase.

The degree of detail required in the Health and Safety Plan for the Construction Phase and the time and effort in preparing it should be in proportion to the nature, size and level of Health and Safety risks involved in the project. Projects involving minimal risks will call for simple, straightforward plans. Large projects or those involving significant risks will need more detail.

All registers and Agreements with Mandatory documents must be signed before commencement on site.
Should any Contractor or Subcontractor not be able to comply with all the necessary site safety documentation, an independent Safety Consultant will be appointed by the Client to assist at their own cost.

6.16.2 What should the Construction Health & Safety Plan cover?

The Construction Health and Safety Plan should set out the arrangement for ensuring the Health and Safety of everyone carrying out the construction work and all others who may be affected by it. The Plan must demonstrate Management's commitment to safety and must include how safety responsibilities are assigned to different roles within the organization.

6.16.3 Key requirements in the Construction Health & Safety Plan?

- Provide a systematic method of managing hazards according to risk priority and must include all mobilization and site set up activities as per the Baseline Risk Assessment.
- Methodology/ scope of works of what work is to be undertaken on site.
- Anticipated risks and hazards and mitigating controls to be implemented to reduce the risk.
- Competency of Employees and proof of training
- Resources/ Equipment to be used on site.

6.17 COMMUNICATION AND MANAGEMENT OF THE WORK

Site Safety meetings by the Principal Contractor will be held monthly. This does not preclude the requirement that each contractor will implement and maintain their own safety meetings where applicable. In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.

- Consultation with the workforce on OH&S matters will be through their Supervisors, OH&S Representatives, the OH&S committee, and their elected Trade Union Representatives, if any.
- The Site manager or his Site Safety Officer will be responsible for the dissemination of all relevant
- OH&S information to the other Contractors e.g., design changes agreed with the Client and the Designer, instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/situations etc.

- A due diligence, one-page report must be completed (and retained on file) by the contractor every week after he has performed a site inspection. This document will be referenced at each formal site safety meeting and should be communicated via e mail with Thabelo Maswime timeously. i.e., with enough notice should Thabelo Maswime wish to attend the meeting.
- The Contractors will be required to conduct Toolbox Talks with their employees on a weekly basis and records of these must be kept on the OH&S File. Employees must acknowledge the receipt of Toolbox Talks which records must, likewise, be kept on the OH&S File.
- The Contract Manager or suitable designate of each appointed contractor will be required to attend all Site OH&S meetings.

7 CLIENT IDENTIFIED HAZARDS AND POTENTIALLY HAZARDOUS SITUATIONS

7.1 CLIENT IDENTIFIED HAZARDS.

The following items have been identified by the Client as potential hazards for this construction work and must be incorporated in the Contractor's site-specific Risk Assessments.

- Working with, around and above other contractors
- Excavation and structural collapses
- Working in and around the bulk excavation
- Working on and from scaffolding and ladders
- Working at Heights and open edges
- Mobile plant and construction equipment
- Portable electrical tools, extension leads and DB's.
- Noise Induced Hearing Loss
- Dust/ Flying debris
- Demolition Work
- Hazardous Chemical Substances
- Manual handling and Ergonomic
- Wind and dust. (Site is in a build-up area)
- Formwork for concrete columns, floors, lift shafts, stair wells, bases, ring beams and other
- Support work for formwork
- Stripping of formwork
- Working with, around and above other Contractors
- Working on and from scaffolding and ladders
- Working at Heights
- Edge Barricading (Deck Edges and openings)
- Mould
- Roof work – structural and roof covering. Placement of roof sheeting.
 - Tower crane erection and dismantling (Where applicable)

- Lifting operations including mobile plant use, lifting tackle and other fixtures
- Pouring concrete by means of tower or mobile crane.
- Electrical installation (temporary and permanent)
- Interface with the public – roads and pavements
- Explosive actuated fastening devices
- Power tools (jackhammers, core drilling, high pressure air and water jets, etc.)
- Operating batch plants
- Slips, trips, and Falls
- Electrocution Unsolicited Business Forum involvement

7.2 UNFORESEEABLE HAZARDS

The Principal Contractor must immediately notify other Contractors as well as the Client, in writing, of any hazardous or potentially hazardous situations that may arise during the performance of construction activities so that the necessary precautions may be taken.

During the project the client or appointed agent may advise of any new exposures relating to change of scope or design. These will be communicated in writing.

8 SITE OPERATIONAL REQUIREMENTS

8.1 CONSTRUCTION HEALTH & SAFETY OFFICER (CR8.5)

The Principal Contractor must appoint a FULL-TIME Construction Health and Safety Officer in writing to assist in the control of all health and safety related aspects on the site: Provided that, where the question arises as to whether a construction health and safety officer is necessary, the decision of an inspector is decisive.

No contractor may appoint a construction health and safety officer to assist in the control of health and safety related aspects on the site unless he or she is reasonably satisfied that the construction health and safety officer that he or she intends to appoint is registered with a statutory body approved by the Chief Inspector and has the necessary competencies and resources to assist the contractor with the following:

- Health & safety audits and inspections including administrative and physical audits of all Contractors' health & safety plans, files and activities, and record findings in the form of audit reports to be kept in the health & safety file.
- Undertake site inspections to ensure health and safety compliance at least once every week.
- Distribute, Receive and Record all checklists and registers completed by appointed persons.
- Maintaining the Principal Contractor's health & safety plan and file.
- Ensure that the contractors on-site adhere to the approved health & safety plans and files.
- Investigate Incidents.

- Attend the Client Audits and assist with closing out deviations noted on audit reports.
- Co-ordinate the function of reviewing the hazard identifications and risk assessments.
- Assisting with Method Statements and checking whether the responsible persons follow the safe work procedures.

NOTE: *All Safety Officers appointed for the project, full-time must be registered and in current good standing with the SACPCMP. Credentials kept on file.*

8.2 HEALTH AND SAFETY REPRESENTATIVE(S) (SECTION 17)

The Principal Contractor and all Contractors must ensure that Health and Safety Representative(s) are appointed under consultation with the employees and trained/informed to carry out their functions. The appointments must be in writing. The Health and Safety Representatives could carry out monthly inspections, keep records and report all findings to the Responsible Person or safety officer forthwith and at monthly health & safety meetings. At least one Health & safety representatives are required by all Employers. (Appoint one for the first 20 employees and an additional one for each group of up to 50 employees on site).

8.3 HEALTH AND SAFETY COMMITTEES (SECTION 19)

Due to the duration of the project, Health and Safety Committee meetings shall only be established upon the request of the Client or Client Agent.

The Principal Contractor must ensure that project health and safety committee meetings are held monthly with minutes kept. Meetings must be chaired by the Principal Contractor's Responsible Person [CR 8 (1)]. All Contractors' Responsible Persons and Health & Safety Representatives must attend the Principal Contractor's monthly health & safety meetings. The Principal Contractor's appointed supervisors must attend health & safety meetings.

The following topics must be tabled at meetings:

- Management Appointments.
- Sub-contractor legal issues.
- Injuries and incidents.
- Hazards and risk assessments (present and foreseen).
- Method statements.
- Planned inspections and registers/record keeping, leading, and lagging indicators etc.

The committee chairperson must sign off minutes.

8.4 HEALTH AND SAFETY TRAINING

8.4.1 Induction Training

Every employee, contractor and visitor must undergo the Principal Contractors Induction Program prior to entering the construction site. It shall be the responsibility of the Principal Contractor to ensure that all person that require entry to site, are booked for inductions as per Induction Management Plan.

The Principal Contractor must ensure that all site personnel undergo a site-specific health & safety induction training session before any worker commences with work. A copy of the induction training

content must be always available on file. The Principal Contractor will be required to induct all contractors' employees. Workers must carry some sort of proof of inductions on their person. i.e., Induction ID Cards. A record of attendance shall be kept in the health & safety file along with ID Copies and Medical Certificates of Fitness on a register with the persons Next of Kin contact details.

8.4.2 Awareness

The Principal Contractor must ensure that, on site, periodic toolbox health & safety talks take place at least once every week. These talks should deal with risks relevant to the construction work at hand. Records of attendance must be kept in the health & safety file. Daily pre-task crew talks and DSTI's are to be conducted by the appointed CR 8.7 supervisors.

8.4.3 Competence

All competent persons must have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control, and carry out. This must be assessed on a regular basis e.g., training, evaluation, and periodic audits by the Client, progress meetings, etc. The Principal Contractor is responsible to ensure that Competent Contractors are appointed to carry out construction work.

8.5 HEALTH & SAFETY AUDITS, MONITORING AND REPORTING

A monthly compliance audit will be done by the Client through their appointed safety agent.

Thabelo Maswime will be conducting the audit to comply with OHS Act and Construction Regulation to ensure that the Contractor has implemented and is maintaining the agreed and approved OH&S Plan.

The Principal Contractor is obligated to conduct monthly audits on all Contractors appointed by him and keep audit reports in its health & safety file. Contractors must audit their sub-contractors and keep records of these audits in their health & safety files, made available on request.

NOTE: *All Sub-contractor audit results are to be submitted to the Client on appointment of a contractor and each month thereafter until completion of the project in a table format as part of the monthly safety report.*

8.6 EMERGENCY PROCEDURES

The Principal Contractor must prepare a detailed site-specific Emergency Procedure/Evacuation Plan prior to commencement of work on site. The procedure/plan must take into consideration the risks and potential incidents posed by work to be carried out on this project as well as the operational risks surrounding the construction works.

The procedure must detail the response plan including the following key elements:

- List of key appointed competent personnel.
- Details of emergency services.

- Actions or steps to be taken in the event of the specific types of emergencies likely to occur on this site.

It is the responsibility of the Principal Contractor to ensure that the Emergency Procedures, Escape Routes, Emergency Assembly Points, and other emergency precautions are reviewed and updated to reflect the changing construction environments throughout the construction project.

Emergency procedure(s) shall include but shall not be limited to:

- Fire / explosion.
- Injury to employees.
- Damage to material / equipment / plant.
- Traffic accidents.
- Hazardous substances spills.
- Hazardous biological agent infections.
- Major incidents/injuries; evacuation.
- Collapse of structures or excavations.
- Violent threats; intimidation; protesting action; unrest; etc.

The Principal Contractor must advise the Client in writing forthwith, of any emergency situations, together with a record of action taken/action to be taken. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc.) must be maintained and made available to site personnel.

8.7 FIRST AID BOXES AND FIRST AID EQUIPMENT (GSR 3)

The Principal Contractor and all Contractors shall appoint First Aider(s) in writing. The Principal Contractor must appoint at least one certified First Aider. Copies of valid certificates are to be kept on site. The Principal Contractor must provide at least 1 (one) first aid box, adequately always stocked. All Contractors with more than 5 employees shall supply their own first aid box. Contractors with more than 10 employees must have their own trained, always certified first aider on site.

The Contingency Plan of the Contractor must include the arrangements for speedily and promptly transporting injured persons to a medical facility or securing emergency medical help to persons that may require it.

8.8 PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING

The Principal Contractor and Contractors must ensure that all site workers are issued with and wear the appropriate PPE as indicated in their risk assessments.

The Principal Contractor and Contractors must make provision and keep adequate quantities of SANS always approved PPE on site according to their risk assessments. The above procedure applies to Contractors and their Sub-contractors, as they are all Employers and must therefore supply their own PPE. The contractor must compile a detailed PPE matrix for the various disciplines and tasks.

All personnel at the various sections of this site, including visitors, shall always use the following minimum personal safety equipment:

HARD HAT	LONG TROUSERS	REFLECTIVE VEST	STEEL TOE CAP SAFETY FOOTWEAR
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Additional PPE that may be required as per Risk Assessment Matrix:

- Safety head protection with chin strap for elevated work.
- Safety glasses.
- Hand protection as required.
- Long trousers.
- High visibility vests or shirts.
- Hearing and respiratory, protection as required.
- Suitable protective clothing as per PPE Matrix (overalls for all employees conducting physical works).
- Personnel exposed to noise levels exceeding 85dB for any period or where signs indicate hearing protection is required to wear hearing protection.

This PPE is to be always worn whilst in the construction areas. Contractors are to define additional PPE requirements specific to their needs and based on the work performed and such PPE shall conform to SANS standards.

The Contractor shall ensure that his employees understand why the personal protective equipment is necessary and that they know how to use and maintain same correctly. Symbolic signs indicating the use of PPE must be placed at the entrance to the construction site.

Site access for any person refusing to wear protective clothing as prescribed by this procedure or risk assessment will be cancelled immediately.

8.9 OCCUPATIONAL HEALTH AND SAFETY (OHS) SIGNAGE

The Principal Contractor must provide adequate on-site OHS signage. Including but not limited to:

- ❖ **NO UNAUTHORIZED ENTRY REPORT TO SITE OFFICE**
- ❖ **DIRECTION TO SITE OFFICE**
- ❖ **BEWARE OF OPEN EDGES / EXCAVATIONS**
- ❖ **BEWARE OF OVERHEAD WORK**
- ❖ **BEWARE OF MOVING PLANT AND MACHINERY**
- ❖ **MANDATORY PPE REQUIREMENTS**
- ❖ **LIVE SERVICES**
- ❖ **EMERGENCY SYMBOLS SUCH AS LOCATION OF FIRST AID BOX**

Signage must be posted up at all site entrances. Signage must also be posted up on site in strategic locations e.g., access routes, stairways, entrances to structures and buildings, scaffolding, and other potential risk areas/operations such as exposed edges and openings and trenches/excavations where persons are at work. Health & safety signage must be well maintained including weekly inspections, cleaning, replacement, and repair.

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8.10 PUBLIC AND SITE VISITOR HEALTH & SAFETY

Public/ Operational walkways and roadways must be kept clean and free of excessive construction materials. Roadways and walkways will have to be cleaned on a regular basis – daily inspections to be conducted by the Principal Contractor with action to be taken without delay.

Site visitors must be briefed on the hazards they may be exposed to as well as what measures are in place or should be taken to control these hazards. As per the Construction Regulations, a record of these 'inductions' must be kept on site. It is advised that a visitor book with site rules leaflet be kept at the gate or at reception/site office and all visitors to be directed to such point where they must read through the site safety information and sign the visitor book. All hoarding lay out drawing are to be strictly adhered to.

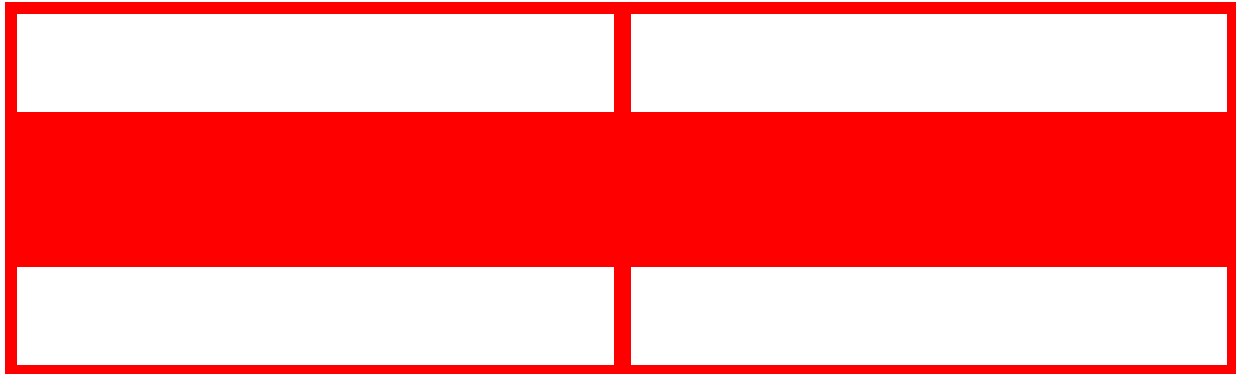
Construction site and laydown areas must be adequately barricaded off by means of solid barriers with relevant and adequate warning signs posted as per example below:

❖ USE OF SNOW NETTING / MESH FOR EXCLUSION ZONES

NOTE: Use of danger tapes will NOT be regarded as adequate barricading.

PHYSICAL BARRICADING FOR OPEN EDGES AND EXCAVATIONS

HOARDING THROUGH HIGHER RISK AREAS / ACCESS FOR OVERHEAD



WORKS (EXCLUDES SUSPENDED LIFTING PRACTICES)

8.11 MINIMUM ENVIRONMENTAL REQUIREMENTS

All contractors shall, comply with the following environmental protection procedures and requirements:

8.11.1 Water Use and Disposal:

- No water hoses may be used on site unless they are fitted with nozzles that can prevent flow when not being used. Leaks in hoses are not permitted.
- Water from fire hydrants may not be used without prior authorization of the Client.
- Contaminated water may not be disposed of into the effluent drainage system without the prior authorization of the Engineer.
- Contaminated water may not be discharged into storm water drains under any circumstances.
- Contaminated water that cannot be disposed of via the site effluent system must be removed from site by a recognized waste disposal company and disposed of as per relevant legislation.

8.11.2 Storm Water Drains:

- Nothing other than clean uncontaminated water may be discharged into the site storm water drains.
- In the event of pollutants accidentally entering the storm water drains the Supervisor shall be notified immediately and the removal of the contaminants from the storm water system and their proper disposal shall be commenced without delay.
- If contamination has reached the outside of the site, the appropriate local authorities shall be notified, and full-scale clean-up operations shall be commenced immediately.

- To ensure that stormwater system function at their maximum capacity, the contractor must ensure that no stormwater run-off is deviated or block for any reason. Stormwater systems must be kept clear of debris, spoil, and materials always.
- All construction activities must consider the stormwater run-off and potential for erosion during heavy rains.

8.11.3 Sewerage System

- Nothing shall be discharged into the site sewerage systems except domestic wastewater.
- Authorization shall be obtained from the site manager before connecting any temporary toilet or ablution facilities into the site sewerage system.

8.11.4 Solid Waste Disposal

- Contractors shall be responsible for the safe and proper disposal of solid waste generated by their activities.
- Hazardous waste material shall only be disposed of via approved and recognized waste disposal companies. Disposal certificates shall be obtained, and copies kept in the safety file.

8.11.5 Discharges to Atmosphere

- Nothing will be burnt on site.
- Any process which causes dust will be assessed prior to the work starting and authorization to work obtained before starting work.

8.11.6 Reporting of Environmental Incidents

- Environmental Incidents shall be reported without delay and at the latest before the end of the shift during which the incident occurred.
- Spillages or incidents that could cause pollution outside of the boundaries of site shall be reported immediately for prompt preventative measures to prevent or reduce contamination of the environment.

8.12 ACCESS TO SITE & TEMPORARY ACCESS ROUTES

Access to site for contractors and delivery vehicles has been identified by the client.

The Principal Contractor will establish site access rules and implement and maintain these throughout the construction period. Access control must include the rule that non-employees will not be allowed on site unaccompanied. Access to site will be restricted to persons working on site that attended a site-specific safety induction **BEFORE** starting work on site. Safety induction stickers / cards must be always issued

and displayed / carried by all persons while on site. Visitors to site must be inducted and accompanied by a safety representative during their visit on site.

The Principal Contractor will ensure the construction area is adequately demarcated to prevent tenants and visitors from being affected by construction activities. Contractors and their employees are to refrain from walking about the facilities and to remain within the hoarded areas closed off for construction works.

NOTE: Any Contractors or their employees found walking about the site unattended, will be removed from the project at the Contractors cost.

8.12.1 Security on Site

Both the Client and the Principal Contractor have a duty in terms of the OHS Act 85/1993 to do all that is reasonably practicable to prevent members of the public and site visitors from being affected by the construction activities. The site must be suitably always fenced with a limited number of access points which must be controlled to ensure safe access and egress. The access points must be kept closed and must have the adequate notices displayed.

Access to site is restricted by the existing security of the client on the premises. Workers may be subject to having access permits and badges as per tenant requirements. It is the responsibility of the principal contractor to adhere to the tenants' procedures.

8.13 HOURS OF WORK

The Contractor is responsible for the administration of the working hours of its employees and subcontractors. Maximum working hours per day and minimum rest times between shifts shall be specified in the Contractor's HS management plan and shall comply with the legal requirements. The Contractor shall be responsible to apply for any directives from the DOL for work outside legislative boundaries.

Weekend and after-hours work may only be done with the prior approval of the Clients Agent. Approval shall be subject to:

- Competent supervision being on site throughout the duration of the weekend/after-hours work.
- The contractor having a demonstrated history of adequate, problem free control and supervision of the work during normal working hours.
- Noise levels that will be generated after-hours.

8.14 LIGHTING

The contractor is to ensure that wherever work is performed where the lighting conditions are less than the minimum requirement as defined in Environmental Regulation 3 and relative schedules, that this is supplemented with additional lighting capacity to ensure that all works contemplated can be conducted safely. Portable Lights must be fitted with a robust non-hygroscopic non-conducting handle and the lamp must be protected by a robust and weatherproof guard. The cable lead-in must withstand rough handling. Registers must be maintained for each piece of equipment and findings of regular inspections must be

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entered into a register. Inspections must concentrate on plug, cord, switch, and any obvious faults. When used in wet/damp conditions, it must be protected from the elements.

8.15 NOISE CONTROL

The Principal Contractor is to ensure that all noise levels are kept to as low a level as is reasonably practicable.

Employees and other contractors are to be made aware that Noise is disrupting to SARAO Artisan Training centre at Carnarvon Clients and Tenants operations and that all employees shall refrain from creating excessive noise by shouting across rooms and work areas.

Toolbox talks must cover the topic of construction noise, as well as nuisance noise (that is created by employees shouting) and how best to reduce or minimize the noise levels.

9 PHYSICAL REQUIREMENTS

9.1 ERECTION OF HOARDING

All hoarding operations on site are to be compliant and done in such a manner that it will be safe to members of public and existing tenants of the business park. Where overhead and/or excavation work is undertaken, ensure that solid barricading is placed over the top / along excavations of a suitable structure to protect persons and plant moving in the vicinity.

Hoarding must be maintained in a good condition and inspected on a regular basis. All gaps in the hoarding must be sealed to prevent dust entering operational areas.

9.2 TRAFFIC DIVERSIONS

Provision by means of a method statement must be made for any traffic diversions to conduct your construction activities as well as any loading and off-loading of materials and waste. The method statement must include a drawing indicating traffic signage and the like.

Emergency services and pedestrians always have right of way. The contractor must not block any of the emergency routes at any stage during construction works.

9.3 EDGE PROTECTION, BARRICADING (CR 10 & CR 27)

A contractor must ensure that—

- All openings and edges are barricaded with solid barricading to withstand an impact of at least **1 KM (100 kg)**.
- Only solid barricading covered with orange 'snow netting' and or Client approved equivalent barricading is allowed to be used as barricade; danger tape or snow netting alone will not be accepted as barricading!
- all unprotected openings in floors, edges, slabs, hatchways, and stairways are adequately guarded, fenced, or barricaded or that similar means are used to safeguard any person from falling through such openings.
- no person is required to work in a fall risk position unless such work is performed safely.
- A detailed Fall Protection & Rescue Plan must be drafted by a competent person appointed in writing and this plan implemented on site.

Note: *Danger tape does not represent barricading.*

9.4 HOUSEKEEPING (CR 27)

The Contractor shall ensure that all legislative requirements with regards to housekeeping including Construction Regulations 27 are adhered to.

The Contractor shall maintain all work areas in a tidy state, free of debris and rubbish. Unless directed otherwise, the Contractor shall dispose of all debris, rubbish, spoil, and hazardous waste off site. In cases where an inadequate standard of housekeeping has developed and compromised safety and

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cleanliness, the Client/ client representative has the right to instruct the Contractor to cease work until the area has been tidied up and made safe.

The Contractor to ensure that:

- Housekeeping is continuously implemented.
- Scrap, waste & debris are removed regularly.
- Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to free movement of pedestrian and vehicle traffic.
- Waste & debris not to be removed by disposing from heights, but by chute or crane.
- Where practicable, Construction sites are fenced off to prevent access of unauthorized persons.
- An unimpeded workspace is maintained for every employee.
- Every workplace is kept clean, orderly, and free of tools etc. that are not required for the work being done.
- As far as is practicable, every floor, walkway, stair, passage, and gangway are kept in good state of repair, slip and trip, skid-free and free of obstruction, waste, and materials.
- The walls and roof of every indoor workplace is sound and leak-free.
- Openings in floors, hatchways, stairways and open sides of floors or buildings are barricaded, fences, boarded over or provided with protection to prevent persons from falling.

9.5 STACKING & STORAGE (CONSTRUCTION REGULATION 28)

- The Contractor/Employer must ensure that a competent person is appointed in writing to supervise all stacking and storage on a construction site.
- Adequate storage areas will be provided by the client upon approval should it be required outside designated construction areas.
- Contractor must ensure stacking and storage areas provided are barricaded.
- The base of any stack is level and capable of sustaining the weight exerted on it by the stack.
- The items in the lower layers can support the weight exerted by the top layers.
- Cartons and other containers that may become unstable due to wet conditions are kept dry.
- Pallets and containers are in good condition and no material is allowed to spill out.
- The height of any stack does not exceed 3X the base unless stepped back at least half the depth of a single container at least every fifth tier or the approval of an inspector has been obtained to build the stacks higher with the aid of an appropriate machine.
- The articles that make up a single tier are consistently of the same size, shape, and mass.

- Structures for supporting stacks are structurally sound and able to support the mass of the stack.
- No articles are removed from the bottom of the stack, but from the top tier first.
- Anybody climbing onto a stack can and does so safely and that the stack is sufficiently stable to support him/her.
- Stacks that are in danger of collapsing are broken down and restacked.
- Stability of stacks are not threatened by vehicles or other moving plant and machinery.
- Stacks are built in a header and stretcher fashion and that corners are securely bonded.

9.6 FIRE EXTINGUISHERS AND FIRE FIGHTING EQUIPMENT (CR 29)

The Principal Contractor and relevant Contractors shall provide adequate, regularly serviced firefighting equipment located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs must be posted up as required. A minimum of four 9kg dry chemical powder fire extinguishers must be available in and around the site office establishment and stores. Wherever 'hot work' is taking place, additional fire extinguishers must be on hand. Contractors are responsible for ensuring compliance with hot work procedures and must be in possession of method statements detailing the safe working procedures. 'Hot work' includes all work that generates a spark or flame and may therefore result in a fire.

9.7 FALL PROTECTION – FALL RISK POSITIONS (CONSTRUCTION REGULATION 10.)

The contractor shall ensure that all applicable working at heights standards is complied with at all times. The Contractor must implement and comply with Construction Regulation 10 and General Safety Regulations 6.

Submit and implement a fall protection and rescue plan to Thabelo Maswime for review before any elevated work may commence.

The Fall Protection Plan must include any hazards of falling from, into or onto, thus including general site conditions.

A contractor must:

- a) designate a competent person to be responsible for the preparation of a fall protection plan.
- b) ensure that the fall protection plan contemplated in paragraph (a) is implemented, amended where and when necessary and maintained as required; and
- c) take steps to ensure continued adherence to the fall protection plan.

A fall protection plan contemplated in sub regulation (1), must include:

- a. a risk assessment of all work carried out from a fall risk position and the procedures and methods used to address all the risks identified per location.
- b. the processes for the evaluation of the employees' medical fitness necessary to work at a fall risk position and the records thereof.

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- c. a program for the training of employees working from a fall risk position and the records thereof.
 - d. the procedure addressing the inspection, testing and maintenance of all fall protection equipment; and
 - e. a rescue plan detailing the necessary procedure, personnel and suitable equipment required to affect a rescue of a person in the event of a fall incident to ensure that the rescue procedure is implemented immediately following the incident.
- 1) A contractor must ensure that a construction manager appointed under construction regulation 8(1) is in possession of the most recently updated version of the fall protection plan.
- 2) A contractor must ensure that:
- a. All unprotected openings in floors, edges, slabs, hatchways, and stairways are adequately guarded, fenced, or barricaded or that similar means are used to safeguard any person from falling through such openings.
 - b. No person is required to work in a fall risk position unless such work is performed safely as contemplated in sub regulation (2).
 - c. Fall prevention and fall arrest equipment are:
 - i. Approved as suitable and of sufficient strength for the purpose for which they are being used, having regard to the work being carried out and the load, including any person, they are intended to bear, and
 - ii. Securely attached to a structure or plant, and the structure or plant and the means of attachment thereto are suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any person who could fall; and
 - d. Fall arrest equipment is used only where it is not reasonably practicable to use fall prevention equipment. The fall arrest equipment used must be specific as per the fall protection plan.
 - ☐ All persons fitted with personal fall arrest equipment shall have a 3-point body harness with deployable foot holds to be used in the event of a fall.
 - ☐ Body harnesses shall have a retractable shock-absorbing lanyard attached for all risks where the total fall distance is less than 5500mm from anchor point.
 - ☐ Body harnesses fitted with double lanyard shock absorbing fall arrest, shall only be used where the total fall distance is equal to or greater than 5500mm.
 - ☐ Scaffolding hooks shall be used on anchor straps or tubular anchor rails points only.
 - ☐ Anchor straps shall be used to provide secure anchor points around beams, columns, and structures.

- ☐ At no point may fall arrest equipment be slinged around anchor points and connected onto itself as an anchor point, unless specifically designed for such work.
- e) The Contractor shall further ensure that:
 - i. All hand tools used in elevated positions are attached to lanyards and attached to either the person or the structure.
 - ii. There are no loose items in elevated positions – e.g., bolts and nuts must be stored appropriately, and housekeeping shall be maintained at all times
 - iii. Competent riggers place each lifeline on register, check each lifeline daily before use and record findings in the register for elevated work the areas around and below the work area shall be barricaded
 - iv. No surface work is permitted at height during rain, lightning storms or when wind speeds exceed 35 km/h (11.1 m/s). This is only a guide it shall also depend on RA and working conditions.

9.8 SCAFFOLDING (CR 16 / SANS 10085 - 1)

The Principal Contractor must ensure that all scaffolding operations are carried out under the supervision of a competent person who has the necessary skills and training to fulfil the role in accordance with SANS. 10085-1, and that all erectors, team leaders and inspectors are competent to carry out their work. The Principal Contractor must ensure that scaffolding when used and erected, complies with the safety standards as per SANS 10085-1:2004.

Scaff-tags or a similar system must be used on all scaffolds, deeming them either safe to use or declaring them not safe. Scaffold inspectors to sign off on all safe to use scaffolds, printing the type of scaffold, the load bearing ability and the date of erection and last inspection.

Please note that Scaffold also need to comply with CR 12 Temporary Works.

9.9 SEVERE WEATHER PLAN

- i. When high wind creates a hazard to craftsmen or work being performed, i.e., instability in elevated areas, limited visibility due to dust or particles in the air, unmanageable materials, etc., supervision will stop work activities, re-assign work and area, properly store and secure material which might blow away, injure, or damage, lower/tie down crane booms and obtain further instruction from Site Management.
- ii. When rain creates a hazard to craftsmen on work being performed, i.e., un-stable footing conditions due to slippery structural steel, muddy and flooded work environments, unstable trenches or excavations, poor visibility due to rain or eye protection, supervision will stop specific work due to hazard, re-assign work duties and/or areas, and obtain further instructions from Project Management. The use of tarpaulins to cover exposed embankments and works under construction must be secured to minimise rain and stormwater run-off.
- iii. All scaffolding equipment and lifting equipment to be inspected and proclaimed safe to use or rectified as to be safe to use following any inclement weather. Signage must be posted to indicate the status of the scaffolding.

9.10 STRUCTURES (CONSTRUCTION REGULATION 11)

The Contractor will ensure that in terms of the Construction Regulations

- 1) A contractor must ensure that—
 - a) all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work.
 - b) no structure or part of a structure is loaded in a manner which would render it unsafe; and
 - c) all drawings pertaining to the design of the relevant structure are kept on site and are available on request to an inspector, other contractors, the client and the client's agent or employee.
- 2) An owner of a structure must ensure that—
 - a) inspections of that structure are carried out periodically by competent persons to render the structure safe for continued use.
 - b) that the inspections contemplated in paragraph (a) are carried out at least once every six months for the first two years and thereafter yearly.
 - c) the structure is maintained in such a manner that it remains safe for continued use.
 - d) the records of inspections and maintenance are kept and made available on request to an inspector.

That the structure on/in, which works, are to be performed has been inspected by a certified structural engineer declaring the structure to be safe for construction, demolition, or renovations work processes. Steps are taken to ensure that no structure becomes unstable or poses a threat of collapse due to demolition and construction work being performed on it, or in the vicinity of it. No structure is overloaded to the extent where it becomes unsafe, He/she has received from the designer the following information:

- Information on known or anticipated hazards relating to the construction/demolition work and the relevant information required for the safe execution of the construction/demolition work.
- A geo-scientific report (where applicable)
- The loading the structure is designed to bear.
- The methods and sequence of the construction/demolition process

All drawings pertaining to the design are on site and available for inspection.

- The structural engineer shall carry out inspections at appropriate and sufficient intervals of the construction work involving the design of the relevant structure to ensure compliance with the design and record the results of these inspections in writing. These records shall be maintained on the relevant site safety files as per Construction regulation 11(2) d.

9.11 OVERHEAD WORK

Overhead work must be actioned within the Fall Protection Plan for the project. Any contractor performing overhead work above other contractors or where members of the public will likely pass, must ensure that

sufficient steps are taken to prevent any tools and materials from dropping onto persons below. e.g., use of catch-netting as an example.

Articles falling from heights can cause serious injuries. Employees working overhead must ensure that materials and tools are properly secured to prevent articles falling.

'Men Working Above' signs are displayed in the appropriate places. Where there is danger of falling material, fence off the area in danger. Material must not be thrown from above but lowered in a safe controlled manner - use a securely fixed rope to lower it.

9.12 DEMOLITION WORKS (CONSTRUCTION REGULATIONS 14)

- 1) A contractor must appoint a competent person in writing to supervise and control all demolition work on site.
- 2) A contractor must ensure that before any demolition work is carried out, and to ascertain the method of demolition to be used, a detailed structural engineering survey of the structure to be demolished is carried out by a competent person and that a method statement on the procedure to be followed in demolishing the structure is developed by that person.
- 3) During a demolition, the competent person contemplated in sub regulation (1) must check the structural integrity of the structure at intervals determined in the method statement contemplated in sub regulation (2), to avoid any premature collapses.
- 4) A contractor who performs demolition work must:
 - a) About a structure being demolished, take steps to ensure that—
 - i. No floor, roof or other part of the structure is overloaded with debris or material in a manner which would render it unsafe.
 - ii. all reasonably practicable precautions are taken to avoid the danger of the structure collapsing when any part of the framing of a framed or partly framed building is removed, or when reinforced concrete is cut, and
 - iii. precautions are taken in the form of adequate shoring or other means that may be necessary to prevent the accidental collapse of any part of the structure or adjoining structure.
 - b) Ensure that no person works under overhanging material or a structure which has not been adequately supported, shored, or braced.
 - c) ensure that any support, shoring or bracing contemplated in paragraph (b), is designed, and constructed so that it is strong enough to support the overhanging material.
 - d) Where the stability of an adjoining building, structure or road is likely to be affected by demolition work on a structure, take steps to ensure the stability of such structure or road and the safety of persons.
 - e) ascertain as far as is reasonably practicable the location and nature of electricity, water, gas, or other similar services which may in any way be affected by the work to be performed and must before the commencement of demolition work that may affect any

such service, take the steps that are necessary to render circumstances safe for all persons involved.

- f) Cause every stairwell used and every floor where work is being performed in a building being demolished, to be adequately illuminated by either natural or artificial means.
 - g) cause convenient and safe means of access to be provided to every part of the demolition site in which persons are required to work, and
 - h) erect a catch platform or net above an entrance or passageway or above a place where persons work or pass under or fence off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe where there is a danger or possibility of persons being struck by falling objects.
- 5) A contractor must ensure that no material is dropped to any point, which falls outside the exterior walls of the structure, unless the area is effectively protected,
 - 6) No person may dispose of waste and debris from a high place by a chute unless the chute—
 - a) Is adequately constructed and rigidly fastened.
 - b) if inclined at an angle of more than 45 degrees to the horizontal, is enclosed on its four sides.
 - c) if of the open type, is inclined at an angle of less than 45 degrees to the horizontal.
 - d) Where necessary, is fitted with a gate at the bottom end to control the flow of material; and
 - e) Discharges into a container or an enclosed area surrounded by barriers.
 - 7) A contractor must ensure that every chute used to dispose of rubble is designed in such a manner that rubble does not free-fall and that the chute is strong enough to withstand the force of the debris travelling along the chute.
 - 8) A contractor must ensure that no equipment is used on floors or working surfaces unless such floors or surfaces are of sufficient strength to support the imposed loads.
 - 9) Where a risk assessment indicates the presence of asbestos, a contractor must ensure that all asbestos related work is conducted in accordance with the Asbestos Regulations, 2001, promulgated by Government Notice No. R155 of 10 February 2002.
 - 10) Where a risk assessment indicates the presence of lead, a contractor must ensure that all lead related work is conducted in accordance with the Lead Regulations, 2001, promulgated by Government Notice No. R.236 of 28 February 2002.
 - 11) Where the demolition work involves the use of explosives, a method statement must be developed in accordance with the applicable explosive's legislation, by an appointed person who is competent.
 - 12) in the use of explosives for demolition work and all persons involved in the demolition works must adhere to demolition procedures issued by the appointed person.
 - 13) A contractor must ensure that all waste and debris are as soon as reasonably practicable removed and disposed of from the site in accordance with the applicable legislation.

9.13 EXCAVATION WORKS (CONSTRUCTION REGULATIONS 13)

The Principal Contractor and relevant Contractors must make provision in their tender for the shoring of excavations where the soil conditions warrant it or if this is not possible cut it back excavation walls must be battered back to a safe angle, termed the safe angle of repose.

The Principal Contractor has the following options:

Option 1 includes shoring or bracing the excavation as per Geotechnical engineer's report and methodology. Should this not be practical then such excavation must be battered back to the safe angle of repose (second option). Should the first two options not be deemed necessary by the contractor, then permission must be given in writing by the appointed competent excavation supervisor (third option). Where uncertainty pertaining to the stability of the soil exists, the decision of a professional engineer or professional technologist competent in excavations shall be decisive.

Such permission must be in writing. The following is relevant to excavations:

- Excavations/trenches are inspected before every shift and a record of these inspections is kept.
- Safe work procedures have been communicated to the workers.
- The safe work procedures are enforced and maintained by the Principal Contractor's; and
- Contractors' responsible persons always
- Excavations next to permanent or temporary roadways -ensure that no load, material, plant, or equipment is placed or moved near the edge of any excavation where it is likely to cause its collapse and thereby endangering the safety of any person, unless precautions such as the provision of sufficient and suitable shoring or bracing are taken to prevent the sides from collapsing.
- Ensure that where the stability of an adjoining building, structure or road is likely to be affected by the making of an excavation, steps are taken that may be necessary to ensure the stability of such building, structure, or road as well as the safety of persons.
- Cause convenient and safe means of access to be provided into every excavation in which persons are required to work and such access shall not be further than 6m from the point where any worker within the excavation is working.
- Ascertain as far as is reasonably practicable, the location and nature of electricity, water, gas, or other similar services which may in any way be affected by the work to be performed. The necessary steps must then be taken to render the circumstances safe for all persons involved.
- Cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or where the safety of persons may be endangered, to be adequately protected by a barrier or fence of at least one meter in height and as close to the excavation as is practicable.

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- and provided with warning illuminates or any other clearly visible boundary indicators at night or when visibility is poor.

Cause warning signs to be positioned next to an excavation within which persons are working or carrying out inspections or tests.

10 PLANT, MACHINERY AND EQUIPMENT

10.1 CONSTRUCTION VEHICLES & MOBILE PLANT (CR 23)

“Construction Plant” includes all types of plant including but not limited to, cranes, piling rigs, excavators, construction vehicles, compaction plant, batch plants and lifting equipment.

The Principal Contractor must ensure that such plant complies with the requirements of the OHS Act, Construction Regulations 2014, and any manufacturers specifications. The Principal Contractor and all relevant contractors must inspect and keep records of inspections on construction vehicles and mobile plant used on site. Only authorised/competent persons in the possession of the necessary training certificates and in possession of a certificate of medical fitness may operate construction vehicles and mobile plant. Appropriate PPE and clothing must be always provided and maintained in good condition. Reverse alarms must be installed on construction vehicles i.e., trucks, digger loaders, etc. Vehicles and pedestrian traffic must be safely separated, preventing any unnecessary interfacing.

All construction vehicles and mobile plant must be tagged and a full-service history of these vehicles and plant must be available on site.

Any vehicle or mobile plant using any public road must be roadworthy and carry a certificate proving this, likewise any operator of such construction vehicle or mobile plant will have to carry the necessary driver's license.

All vehicles and mobile plant must use the dedicated roadways and laydown areas as defined by the Client for loading/ offloading of materials as well as for parking.

10.2 HIRED PLANT AND MACHINERY

The Principal Contractor shall ensure that any hired plant and machinery used on site is safe for use and complies with the minimum legislated requirements. The necessary requirements as stipulated by the OHS Act and Construction Regulations 2014 shall apply.

The Principal Contractor shall ensure that operators hired with machinery are competent and that certificates are kept on site in the health & safety file.

Any load test requirements and inspections in terms of legislation must be complied with and copies of load test certificates and inspections must be kept in the health & safety file. All relevant contractors must ensure the same.

10.3 TEMPORARY WORKS (CR 12)

- 1) A contractor must appoint a temporary works designer in writing to design, inspect and approve the erected temporary works on site before use.
- 2) A contractor must ensure that all temporary works operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose.
- 3) A contractor must ensure that—
 - a) all temporary works structures are adequately erected, supported, braced, and maintained by a competent person so that they are capable of supporting all anticipated

vertical and lateral loads that may be applied to them, and that no loads are imposed onto the structure that the structure is not designed to withstand.

- b) all temporary works structures are done with close reference to the structural design drawings, and where any uncertainty exists the structural designer should be consulted.
- c) detailed activity specific drawings pertaining to the design of temporary works structures are kept on the site and are available on request to an inspector, other contractors, the client, the client's agent, or any employee.
- d) all persons required to erect, move, or dismantle temporary works structures are provided with adequate training and instruction to perform those operations safely.
- e) all equipment used in temporary works structure are carefully examined and checked for suitability by a competent person, before being used.
- f) all temporary works structures are inspected by a competent person immediately before, during and after the placement of concrete, after inclement weather or any other imposed load and at least daily until the temporary works structure has been removed and the results have been recorded in a register and made available on site.
- g) no person may cast concrete, until authorization in writing has been given by the competent person contemplated in paragraph (a).
- h) if, after erection, any temporary works structure is found to be damaged or weakened to such a degree that its integrity is affected, it is safely removed or reinforced immediately.
- i) adequate precautionary measures are taken to—
 - i. secure any deck panels against displacement; and
 - ii. prevent any person from slipping on temporary works due to the application of release agents.
- j) as far as is reasonably practicable, the health of any person is not affected using solvents or oils or any other similar substances.
- k) upon casting concrete, the temporary works structure is left in place until the concrete has acquired sufficient strength to safely support its own weight and any imposed load and is not removed until authorization in writing has been given by the competent person contemplated in paragraph (a).
- l) the foundation conditions are suitable to withstand the loads caused by the temporary works structure and any imposed load in accordance with the temporary works design.
- m) provision is made for safe access by means of secured ladders or staircases for all work to be carried out above the foundation bearing level.
- n) a temporary works drawing, or any other relevant document includes construction sequences and methods statements.
- o) the temporary works designer has been issued with the latest revision of any relevant structural design drawing.
- p) a temporary works design and drawing is used only for its intended purpose and for a specific portion of a construction site; and

- q) the temporary works drawings are approved by the temporary works designer before the erection of any temporary works.
- 4) No contractor may use a temporary works design and drawing for any works other than its intended purpose.

10.4 LIFTING MACHINES (DMR 18)

The Principal Contractor and all contractors shall ensure that lifting machinery and tackle are inspected before use and thereafter in accordance with the Driven Machinery Regulations and the Construction Regulations (Regulation 23).

There must be a competent lifting machines inspector (registered with the Department of Labour, Gazette number 27305) and a competent lifting tackle inspector who must inspect the equipment, considering that:

- a) All lifting machinery and tackle have a safe working load clearly indicated.
- b) Regular inspection and servicing are carried out (3-monthly inspections and records for tackle and 6-monthly inspections and records for lifting machines).
- c) Records are kept of inspections and of service certificates.
- d) Annual load test certificates for lifting machines are in place.
- e) The operators are certified to operate the specific machine (valid certificate to be on site).
- f) The operators are physically and psychologically fit to work and in possession of a medical certificate of fitness to be available on site.

10.5 LADDERS (GSR 13A)

Contractors must ensure that all ladders are inspected daily with monthly records kept; in good safe working order; the correct height for the task; extend at least 1m above the landing; fastened and secured; and at a safe angle. Stepladders must be safe for use, must be the correct height for the task and the top two rungs may not be used. Contractors using their own ladders must ensure the same. Timber ladders must not be painted other than with clear preserving oils, clear varnishes, or clear plastics. Ladders, which are in a damaged condition, must not be used and are labelled accordingly and removed from the Premises. All Ladders are numbered, logged in a register, and inspected monthly. A ladder in use is held by an assistant and where possible, properly tied down.

10.6 ELECTRICAL INSTALLATIONS AND PORTABLE ELECTRICAL TOOLS (CR 24)

The Client will ensure as far as possible that the Principal Contractor is made aware of the positions of all electrical power lines, cables. The Principal Contractor must notify the Client should it not be sure of the location of any electrical power lines. The Principal Contractor must comply with the Electrical Installation Regulations, the Electrical Machinery Regulations, and the Construction Regulations (CR 24).

The Principal Contractor must communicate with the SARAO, for any requirements in terms of power connections.

NOTE: *CONTRACTOR/S MAY NOT TAMPER WITH ANY DISTRIBUTION BOARDS.*

ONLY APPOINTED AND COMPETENT ELECTRICAL WORKERS (CR24(C) TEMPORARY ELECTRICAL CONTROLLER AND/OR EIR2 RESPONSIBLE ELECTRICAL SUPERVISOR) MAY SWITCH, CONNECT OR CONDUCT WORKS ON ELECTRICAL INSTALLATION AND EQUIPMENT.

The Principal Contractor must keep a copy of the Certificate of Compliance (COC) for its electrical power supply. A revised COC is required whenever the installation is altered or changed in any way. All temporary electrical installations must be inspected at least weekly by a competent person appointed in writing.

Portable electrical tools and equipment must be visually inspected daily. Records of inspections must be kept on site (monthly inspection records to be kept after a competent inspector has carried out the monthly check).

10.7 ELECTRICAL & MECHANICAL LOCKOUT

For all operational installations and areas, the Principal Contractor must decide with the relevant departments or stakeholders of the service to ensure that Lock-out Procedures are implemented and adhered to. The Permit Issuer shall be the responsible and appointed persons authorised by the owner of the service. The Permit Receiver shall be the responsible CR8.1 Construction Manager for the appointed Principal Contractor.

For all construction related activities, the Principal Contractors must implement a system of control that shall be established in order that no unauthorized person can energize a circuit, open a valve, or activate a machine on which people are working or doing maintenance, even if equipment, plant or machinery is out of commission for any period, thus eliminating injuries and damage to people and equipment as far as is reasonably practicable. Physical/mechanical lock-out systems shall be part of the safety system and included in training. Lockouts shall be tagged, and the system tested before commencing with any work or repairs.

10.8 ALTERATIONS TO EXISTING FACILITIES

All necessary alterations to existing details and connections between new and existing details are carried out by the Contractor, including the making good of existing details on the completion of the work.

Where openings are left, due to the removal of access platforms, handrails, fences or steel work or where new details have not been installed, the Contractor must fabricate and install temporary solid handrails until the permanent structure is erected.

All temporary connections and the likes are carried out in conformance with all regulations to ensure safe operation and passageway for all personnel.

11 OCCUPATIONAL HEALTH

11.1 ASBESTOS

11.1.1 Asbestos Abatement

Identification of asbestos in place 3.

An employer or self-employed person must, as far as is reasonably practicable—

- a) ensure that all asbestos-containing materials at the workplace are identified by a competent person;
- b) if it is uncertain whether the suspected material contains asbestos, either deem the material to be asbestos-containing material or arrange for a sample of that material to be analyzed for the presence of asbestos by a laboratory competent to carry out such analyses.
- c) if part of the workplace is inaccessible and considered by a competent person as likely to contain asbestos, assume that asbestos is present in that area.
- d) if no asbestos is identified as per sub regulations (a), (b) and (c), ensure that the asbestos-free status of the workplace is substantiated in writing by a competent person: Provided that sub regulation (d) does not apply to an employer who occupies or uses a structure as defined in the Construction Regulations, 2003, published as Government Notice R.1010 in Gazette No. 25207 of 18 July 2003, where construction commenced at least three years after promulgation of the Regulations for the Prohibition of the Use, Manufacturing, Import and Export of Asbestos and Asbestos-containing Materials, 2007, published as 8 Government Notice R.341 in Gazette No. 30904 of 28 March 2008, under section 24B of the Environment Conservation Act, 1989 (Act No. 73 of 1989).

11.1.2 Inventory of asbestos in place

- a) An employer or self-employed person must obtain the services of a competent person to ensure that all materials identified as, or assumed to be, asbestos-containing material, as contemplated in regulation 3, are entered into an inventory of asbestos in place, which is kept at the workplace or premises.
- b) With regard to any disagreement as to whether any substance is in fact asbestos, the health and safety representative, health and safety committee or a person nominated by the employees may require that a sample of that substance be taken and definitive identification of the substance be determined by an approved inspection authority, provided that the cost of the identification is borne by the employer.
- c) The inventory of asbestos in place must contain, as far as is reasonably practicable, the following information about each of the asbestos-containing materials-
 - The date on which the material was identified.
 - a description of the material, quantity, and extent of deterioration.
 - the location as detailed on a floor plan.
 - confirmation of labelling and signage as required by regulation 20.
 - the risk categorization derived from the asbestos risk assessment as detailed in regulation 5(3); and
 - a description of potential exposure scenarios as required in regulation 6(2)(b).

- d) The employer or self-employed person must ensure that a competent person reviews and, if necessary, revises the inventory of asbestos in place for the workplace at intervals not exceeding 24 months.
- e) The inventory of asbestos in place should be revised more frequently if—
- f) further asbestos-containing material is identified; and
- g) the asbestos-containing material has deteriorated significantly or is removed, damaged, sealed, coated, or encapsulated.
- h) Where the removal of asbestos or repair of asbestos-containing material is planned, information in the inventory of asbestos in place must be adequately detailed with respect to the work to be carried out.
- i) The employer, self-employed person or asbestos client must ensure that a copy of the inventory of asbestos in place, or relevant part thereof, is—
 - given to the mandatory before any asbestos removal or repair work commences.
 - given to the registered asbestos contractor and approved inspection authority before asbestos removal or repair work commences.
 - readily accessible to employees and health and safety representatives at the workplace.
 - in the case of transfer of ownership, provided to the new owner of the premises; and
 - given to the approved inspection authority before asbestos removal or repair work commences.
- j) The mandatory who carries out the removal of asbestos or the repair of asbestos-containing material at a workplace must—
 - obtain a copy of the inventory of asbestos in place from the employer, self-employed person, or asbestos client; and
 - if suspected asbestos-containing materials are located on the structure, plant, or machinery, inform the employer, self-employed person or asbestos client who must ensure that a competent person determines whether the substance in question is asbestos-containing material.
- k) In the event of work carried out at a workplace and potential exposure to airborne asbestos—
 - the employer, self-employed person, or asbestos client, as the case may be, must ensure that the person authorizing such work is given a copy of the inventory of asbestos in place.
 - the person authorizing the work as contemplated in sub regulation (a), from the inventory of asbestos in place, must determine what future task and incident-related potential exposure scenarios are applicable to the work, including identifying recommended controls; and
 - the employer, self-employed person, or asbestos client, as the case may be, must ensure that the recommended controls are implemented with regard to the work.
- l) All asbestos-containing material listed in the inventory of asbestos in place, as required by sub regulation (3), must be clearly labelled, or provided with signage in accordance with regulation 20.

11.1.3 Asbestos Risk Assessment

- a) If asbestos is identified in terms of regulation 3, then the employer or self-employed person must ensure that an asbestos risk assessment is carried out, as far as is reasonably practicable, immediately by a competent person and thereafter at intervals not exceeding 24 months.
- b) An employer contemplated in sub regulation (1) must, before causing an asbestos risk assessment to be made, consult with the relevant health and safety representative or relevant health and safety committee and inform them in writing of the arrangements made for the asbestos risk assessment, give them reasonable time to comment thereon, and ensure that the results of the asbestos risk assessment are made available to them for comment.
- c) The asbestos risk assessment must, as an outcome, have a risk categorization based on the potential for exposure to asbestos for each item of asbestos-containing material, which must be derived from the following:
- d) The health impacts of asbestos.

- the number of persons potentially exposed at the workplace.
 - the potential for damage or disturbance of asbestos-containing materials at the workplace, also by maintenance activities, potential incidents, and normal occupant activities; and
 - the condition of asbestos-containing material, including state of deterioration.
- e) The risk categorisation contemplated in sub regulation (3) must be used to determine the need for keeping in place, repairing, or removing the asbestos containing material.
- f) The asbestos risk assessment for asbestos repair work, as required in sub regulations (1), (2) and (3), must include the following:
- The assessed risk of any asbestos exposure relating to each job step.
 - the controls necessary to reduce the risk of exposure to as low as is reasonably practicable.
 - an indication whether environmental air monitoring is required; and
 - if exposure risk indicates that the OEL may be exceeded, an indication that the employer must obtain the services of an occupational medical practitioner to fulfil the requirements of regulation 17(1)(b).
- g) The asbestos risk assessment for asbestos removal work, as part of the plan of work as contemplated in regulation 15 for asbestos-containing materials identified for removal, must consider the following:
- The aspects detailed in sub regulation (5).
 - the risk assessment carried out in accordance with regulation 12(2).
 - the potential exposure of persons other than employees.
 - the potential contamination of the air, ground, and water.
 - the thorough decontamination of employees and the workplace.
 - the transportation of asbestos-containing materials and asbestos waste; and
 - emergency scenarios.
- h) An employer or self-employed person must obtain the services of an approved inspection authority that must review and endorse the following at intervals not exceeding six years-
- The inventory of asbestos in place as required by regulation 4; and
 - the asbestos risk assessment as required by sub regulation (1): 12 Provided that the review and endorsement are not required if the work was carried out by an approved inspection authority.

11.1.4 Asbestos management plan

- a) If asbestos-containing materials are identified, as required in regulation 3, the employer or self-employed person must ensure that a written asbestos management plan for the workplace is prepared by a competent person.
- b) The asbestos management plan must include at least the following:
- c) A procedure that contains at least measures related to—
- d) the implementation of regulations 3, 4, 5, 8 and 20 at the workplace.
- e) the repair, removal, and management of asbestos-containing materials; and
- f) the implementation of the Regulations for Prohibition of the Use, Manufacturing, Import and Export of Asbestos and Asbestos-containing Materials, 2007.

- g) where asbestos-containing materials have been identified in the inventory of asbestos in place, a specific procedure which will, as far as is reasonably practicable, reduce the risk of exposure of employees, as well as incidental asbestos exposure, for the following scenarios-
- Incidents.
 - emergencies.
 - removal work; and
 - a policy, procedure, and implementation plan for phasing out existing asbestos-containing materials at the workplace, which considers the following:
 - The principle of 'reasonably practicable'; and
 - reasons for decisions.
- h) The employer or self-employed person must review and, if necessary, revise the asbestos management plan at intervals not exceeding eight years or if any information contemplated in sub regulation (2) changes.

11.2 INDUSTRIAL HYGIENE (EXPOSURE TO PHYSICAL AND CHEMICAL STRESS FACTORS)

Exposure of workers to occupational health hazards and risks is very common in any work environment, especially in construction. Occupational exposure is a major problem, and all Contractors must ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards. Prevent inhalation, ingestion, and adsorption through the skin of hazardous chemical substances.

11.3 MOLD TREATMENT AND CONTROL MEASURES

It's crucial for contractors to treat mould issues with seriousness and diligence to protect the health and safety of everyone involved in the construction project and to prevent further mould-related problems. Collaborating with certified professionals and following industry best practices is essential for effective mould remediation and prevention.

Assess the Mold Issue.

Conduct a thorough assessment to determine the extent of the mould contamination. This may involve hiring a certified mould inspector or industrial hygienist to evaluate the situation and provide guidance.

Implement Safety Measures:

Prioritize the safety of workers and building occupants. Provide appropriate personal protective equipment (PPE) to workers, including masks or respirators, gloves, and eye protection, to prevent exposure to mould spores.

Isolate and Contain the Area.

Isolate the mould-affected area by setting up physical barriers, sealing off openings, and using plastic sheeting or containment walls. Negative air pressure systems with HEPA filtration should be used to prevent the spread of mould spores.

Prevent Cross-Contamination:

Take precautions to prevent cross-contamination by establishing clean and dirty zones, using proper decontamination procedures, and ensuring that workers and materials do not carry mould spores to unaffected areas.

Mould Removal and Remediation:

Depending on the extent of the mould contamination, engage certified mould remediation professionals to safely remove the mould. Mould removal should follow industry best practices and local regulations.

Maintain detailed records of all activities related to mould remediation, including inspection reports, work plans, containment setup, air quality testing results, and photographs.

Proper Disposal:

Dispose of all contaminated materials, including mouldy building materials, in accordance with local regulations and guidelines. Materials should be double-bagged in plastic and sealed.

Reconstruction and Repairs:

After mould remediation, the affected area may require reconstruction or repairs. Ensure that the construction is completed with moisture control measures to prevent future mould growth.

Air Quality Testing:

Consider conducting air quality testing post-remediation to verify that the mould issue has been effectively resolved and that the indoor environment is safe for occupants.

Preventative Measures:

Identify and address the root cause of the mould issue, such as water intrusion or high humidity levels, to prevent future mould growth. Implement preventative measures, such as improved ventilation and moisture control.

Communication and Education:

Maintain open and transparent communication with the project owner, building occupants, and relevant parties about the mould issue, the steps taken to address it, and any precautions that need to be observed.

Compliance with Regulations:

Ensure that all mould-related activities, including remediation and disposal, comply with local, state, and federal regulations and guidelines.

11.4 NOISE INDUCED HEARING LOSS (GNR 307 7TH MARCH 2003) REFERS.

Occupational noise emitted by construction machinery and power tools must be controlled as far as possible by implementing engineering solutions such as noise dampening, regular maintenance, servicing, and inspection, screening off of the noise, and reducing the number of persons exposed. It is generally accepted that all employees on a construction site will be exposed to varying degrees of noise. In view of this, the contractor shall ensure full compliance with the above-mentioned regulation; furthermore, provide proof of the relative management process. The contractor is advised to pay particular attention to section 12 of the "Noise-Induced Hearing Loss Regulation".

The Contractor must also include in the Induction process the importance of keeping noise to the lowest level practicable, this includes employees shouting across the construction site.

11.5 ERGONOMICS

Ergonomics is the study of how workers relate to their workstations. The Principal Contractor and Contractors shall take this into consideration when conducting risk assessments, thereby improving the worker-task relationship, which will in turn improve productivity and reduce chronic conditions such as back strains, joint problems, and mental fatigue, amongst others. All contractors must consider how to decrease adverse effects of Labour intensive, repetitive, awkward, or heavy working positions and conditions for each operation.

11.6 HAZARDOUS CHEMICAL SUBSTANCES (HCS)

The Principal Contractor must ensure that the use, transport, and storage of HCS are carried out as prescribed in the HCS Regulations. The Principal Contractor and contractors must ensure that all hazardous chemicals on site have Safety Data Sheets (SDS) on site and the users are made aware of the hazards and precautions that need to be taken when using the chemicals.

A list of all Hazardous Chemical Substances must be available in the safety file.

The First Aiders must be made aware of the SDS's and how to treat HCS incidents appropriately. Copies of the SDS's must be kept in the first aid box and in the store. All containers must be clearly labelled. Flammable substances must be stored separately, away from other materials, and in a well-ventilated area (appropriate cross ventilation).

A competent person should be appointed to be in control of this portfolio. Fuel storage tanks must conform to the general environmental legislation and Environmental Management Plan. The necessary safety signage must be posted up on the tanks:

✓ NO NAKED FLAMES ✓ NO SMOKING ✓ MAXIMUM QUANTITY OF MATERIALS TO BE STORED

Two 9kg DCP fire extinguishers must be placed near to fuel tanks, but not within 5m of the tanks.

These extinguishers are over and above the minimum four required for the offices and stores.

11.7 WELFARE - CONSTRUCTION EMPLOYEES' FACILITIES (CR 30 & FACILITIES REGULATIONS)

The Principal Contractor must supply sufficient toilets (1 toilet per 30 workers), clean, lockable changing facilities, hand washing facilities, soap, toilet paper, and hand drying material.

Waste bins must be strategically placed around site and emptied regularly.

Workers must not be exposed to hazardous materials/substances while eating and must be provided with adequate, sheltered eating areas complete with benches and tables. Stores may not double up as change rooms or mess areas.

Contractors and their employees may not make use of the existing facilities and are always instructed to use the facilities as provided by their employer.

11.8 ALCOHOL AND OTHER DRUGS

No alcohol and drugs will be allowed on site. No person may be under the influence of alcohol or any drug while on the construction site. Any person on prescription medication must inform his/her superior, who shall in turn report this to the Principal Contractor forthwith.

Any person suffering from any illness/condition that may have a negative effect on his/her /anyone else's health or safety performance must report this to his/her superior. Any person suspected of being under the influence of alcohol or other drugs must be sent home immediately.

The Client, Client Agent or tenant Impact may conduct regular testing as and when required.

11.9 REPORTING ON OCCUPATIONAL HEALTH ISSUES

As per the incident reporting and investigation requirements it is essential that the contractor advise the client on any condition or occurrence where the health of any worker has been affected. Where an occupational health concern has been raised such incident is to be investigated just as any other incident.

11.10 OCCUPATIONAL HEALTH MEDICALS

ALL EMPLOYEES on the project shall be medically examined (pre-employment medical) prior to being inducted on site and before commencing with any work, and thereafter at a period stipulated by the Occupational Medical Practitioner.

Exit medicals from previous employment will not be accepted as a pre-employment medical.

Although not a requirement, contractors are advised to consider the possibility of providing for an exit medical for all employees.

It is however the responsibility of the principal contractor to ensure that where legislation requires a medical fitness certificate that such medicals are conducted, and records kept in the site safety file. Medicals must be issued as per the Construction Regulations Annexure 3 – Medical Certificate of Fitness document, which must be completed by the employer.

12 ANNEXURES

- Annexure A - List of possible legal appointments and assignments
- Annexure B - Safe Work Method Statements, minimum requirement
- Annexure C - Compliance submissions in terms of the specification
- Annexure D - Health and Safety costing guideline
- Annexure E - Sample site safety files index

PRINCIPAL CONTRACTOR & CONTRACTORS ACCEPTANCE OF SPECIFICATION

I, _____ representing the Contractor, do hereby declare that my company, _____ acknowledge having read and understood the conditions contained in this document and furthermore we agree and accept to abide by the conditions and requirements of the OHS Act and all applicable regulations there under.

CONTRACTOR:

NAME: _____ DATE: _____

SIGNATURE: _____

WITNESS: _____ PRINT NAME: _____

13 ANNEXURE A - ASSIGNMENT OF RESPONSIBLE PERSONS

The Principal Contractor must make all management appointments. Below is a list of possible appointments for this project. (Further appointments could become necessary as the project progresses).

No	OHS Act Ref.	Appointment	Name of Appointee
1	Section 16	Overall Authority and Accountability	
2	Section 16(2)	Assignment of Duties	
3	CR 8(1)	Construction Manager	
4	CR 8(2)	Assistant Construction Manager	
5	CR 8(7)	Construction Supervisor	
6	CR 8(8)	Assistant Construction Supervisor	
7	Section 17	Health and Safety Representative	
8	CR 16(2)	Scaffold Erector, Inspector (separate appointments)	
9	GSR 3(4)	First Aiders	
10	CR 29(h)	Fire Equipment Inspector	
11	EMR 10(4)	Portable Electrical Tool Inspector	
12	CR 19(8)(a)	Materials Hoist Inspector	
13	DMR 18(5)	Lifting Machinery and Equipment Inspector	
14	DMR 18(6)	Lifting Tackle Inspector	
15	GSR 13(a)	Ladder Inspector	
16	HCS Reg	Hazardous Chemical Substances Inspector	
17	CR 21(2)(b)	Explosive Actuated Fastening Device Inspector	
18	GSR 3	Emergency Procedure Coordinator	
19	CR12(1)	Temporary Works Designer	
20	CR 12(a)	Temporary Works Supervisor	
21	CR12(3) (e &f)	Temporary Works Inspector	
22	CR12(3)(d)	Temporary Works Erectors	
23	CR13	Excavation Supervisor	
24	CR13	Excavation Inspector	
25	CR 14(1)	Demolition Work Supervisor	
26	CR 16	Scaffolding Supervisor	
27	CR 16	Scaffolding Inspector	
28	CR16	Scaffolding Erector	
29	CR 23(j)	Construction Vehicle and Mobile Plant Inspector	
30	CR23	Traffic Control Members	
31	CR24(e)	Electrical Installation and Machinery Responsible Person	
32	EIR2	Supervisor for Electrical Installations	
33	CR 28(a)	Stacking and Storage Supervisor	
34	DMR 18(11)	Crane Manager	

35	DMR 18(11)	Crane Supervisor	
36	DMR 18(11)	Crane Operator	
37	DMR 18(11)	Banksman	
38	DM Act	COVID19 Compliance Officer	
39	CR 8.5	Construction health and safety officer	

Abbreviations:

CR	=	Construction Regulations
EMR	=	Electrical Machinery Regulations
EIR	=	Electrical Installations Regulations
DMR	=	Driven Machinery Regulations
GMR	=	General Machinery Regulations
ER	=	Environmental Regulations
GSR	=	General Safety Regulations
HCS	=	Hazardous Chemical Substances Regulations

13.1 ANNEXURE B - SAFE WORK PROCEDURES/METHOD STATEMENTS REQUIRED

The hazardous operations listed below have been identified by the Client and must be managed by the Principal Contractor in the form of preparation of method statements / SWP's before such work begins. The onus remains on the Principal Contractor to conduct risk assessments and compile method statements for hazardous tasks (Construction Regulations). Contractors appointed by the P/Contractor will be required to conduct the necessary risk assessments and method statements and forward these to the P/Contractor before such work begins.

Due to the fact that various structures will be constructed with varying engineering designs, structure specific method statements will be required.

No.	METHOD STATEMENT / SWP	DATE APPROVED	DATE REVIEWED	LAST
1	Site Establishment and security management			
2	Clearing and Grubbing			
3	Bulk Earthworks			
4	Import materials, layer works & compaction testing			
5	Plumbing and drainage			
6	Temporary works, Re-enforced steel works and placement of concrete			
7	Construction of steel structures and roof structures			
8	Electrical works			
9	Installation and commissioning of HVAC and ventilation systems			
10	Installation and commissioning of fire prevention and fighting system			
11	Installation of doors and windows			
12	Joint sealing and waterproofing			
13	Tiling			
14	Painting structures and road marking			
15	Installation of signage			
16	Landscaping			
17	Direct contractors work			
18	De-establishment of site			

13.2 ANNEXURE C - COMPLIANCE SUBMISSION REQUIREMENTS

The Principal Contractor and Contractors must comply with [where applicable] but not be limited to the requirements tabled below: Compliance must be proved at audits conducted by the safety agent.

OHS Act Section/Regulation	Subject	Requirements
Construction. Regulation 4	Notification of intend to commence. Construction work	Department of Labour notified Copy of Notice available on Site
General Admin. Regulation 4	Copy of OH&S Act (Act 85 of 1993)	Updated copy of Act & Regulations on site. Readily available for perusal by employees.
COID Act Section 80	Registration with Compensation Insurer	Written proof of registration/Letter of good standing available on Site
Construction. Regulation 5	H&S Specification	H&S Spec received from Client and/or its Agent on its behalf OH&S programme developed & Updated regularly
Section 8(2)(d) Construction. Regulation 9	Hazard Identification & Risk Assessment	Hazard Identification carried out/Recorded. Risk Assessment and – Plan drawn up/Updated. RA Plan available on Site Employees/Sub-Contractors informed/trained
Section 16(2)	Assigned duties (Managers)	Responsibility of complying with the OH&S Act assigned to another person/s by CEO.
Construction Regulations 8(1)	Designation of Person Responsible for Managing of Site	Competent person appointed in writing as Construction Manager with job description
Construction Regulations 8(2)	Designation of Assistant for above	Competent person appointed in writing as Assistant Construction Manager with job description
Construction. Regulation 8(7)	Designation of Person Responsible on Site	Competent person appointed in writing as Construction Supervisor with job description
Construction. Regulation 8(8)	Designation of Assistant for above	Competent person appointed in writing as Assistant Construction Supervisor with job description
Section 17 & 18 General Administrative Regulations 6 & 7	Designation of Health & Safety Representatives	More than 20 employees - one H&S Representative, one additional H&S Rep. for each 50 employees or part thereof. Designation in writing, period and area of responsibility specified in terms of GAR 6 & 7 Meaningful H&S Rep. reports. Reports actioned by Management.
Section 19 & 20 General Administrative Regulations 5	Health & Safety Committee/s	H&S Committee/s established. All H&S Reps shall be members of H&S Committees Additional members are appointed in writing. Meetings held monthly; Minutes kept. Actioned by Management.

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Section 24 & General Admin. Regulation 8 COLD Act Sect.38, 39 & 41	Reporting of Incidents (Dept. of Labour)	Incident Reporting Procedure displayed. All incidents in terms of Sect. 24 reported to the Provincial Director, Department of Labour, within 3 days. (Annexure 1) (WCL 1 or 2) and to the Client and/or its Agent on its behalf Copies of Reports available on Site Record of First Aid injuries kept
OHS Act Section/Regulation	Subject	Requirements
General Admin. Regulation 9	Investigation and Recording of Incidents	All injuries which resulted in the person receiving medical treatment other than first aid, recorded, and investigated by investigator designated in writing. Copies of Reports (Annexure 1) available on Site Tabled at H&S Committee meeting
Construction. Regulation 10	Fall Prevention & Protection	Competent person appointed to draw up and supervise the Fall Protection Plan Proof of appointee's competence available on Site Risk Assessment carried out for work at heights. Fall Protection Plan drawn up/updated and workers trained Available on Site
Construction. Regulation 10(5)	Roof work	Competent person appointed to plan & supervise Roof work. Proof of appointee's competence available on Site Risk Assessment carried out and workers trained. Roof work Plan drawn up/updated. Roof work inspect before each shift. Inspection register kept. Employees medically examined for physical & psychological fitness. Written proof on site
Construction. Regulation 11	Structures	Information re. the structure being erected received from the Designer including: - geo-science technical report where relevant - the design loading of the structure - the methods & sequence of construction - anticipated dangers/hazards/special measures to construct safely. Risk Assessment carried out. Method statement drawn up. All above available on Site

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Construction. regulation 12	Temporary Works	Competent person appointed in writing to supervise erection, maintenance, use and dismantling of Temporary Works Contractor must appoint a Temporary Works Designer to design, Inspect and approve the erected temporary works on site before use. Design drawings available on-site Risk Assessment carried out Support & Formwork inspected: - before use/inspection - before pouring of concrete - weekly whilst in place - Before stripping/dismantling. - Inspection register kept
Construction. Regulation 16	Scaffolding	Competent persons appointed in writing to: - erect scaffolding (Scaffold Erector/s) - inspect Scaffolding weekly and after inclement weather (Scaffold Inspector/s) Written Proof of Competence of above appointees available on Site Risk Assessment carried out. Inspected weekly/after bad weather. Inspection register/s kept
Construction.	Demolition Work	Competent person/s appointed in writing to supervise and control
OHS Act Section/Regulation	Subject	Requirements
Regulation 14		Demolition work Written Proof of Competence of above appointee/s available on Site Risk Assessment carried out. Engineering survey and Method Statement available on-Site Inspections to prevent premature collapse carried out by competent person before each shift. Inspection register kept.
Construction Regulation 13	Excavation Work	Competent person/s appointed in writing to supervise and inspect excavation work. Written Proof of Competence of above appointee/s available on Site Risk Assessment carried out Inspected: - before every shift - after any blasting - after an unexpected fall of ground - after any substantial damage to the shoring - after rain. Inspections register kept. Method statement developed where explosives will be/ are used

Construction. Regulation 21	Explosive Actuated fastening devices	Where possible, Explosive Actuated Fastening Devices, should be substituted for mechanical fastening devices. Competent person appointed to control the issue of the Explosive. Actuated Fastening Devices & cartridges and the service, maintenance, and cleaning. Register kept of above Empty cartridge cases/nails/fixing bolts returns recorded Cleaned daily after use Work areas are demarcated!
Construction. Regulation 22/ Driven Machinery Regulations 18 & 19	Cranes & Lifting Machines Equipment	Competent person appointed in writing to inspect Cranes, Lifting Machines & Equipment Written Proof of Competence of above appointee available on Site. Cranes & Lifting tackle identified/numbered. Register kept for Lifting Tackle Logbook kept for each individual Crane. Inspection: - All cranes - daily by operator - Tower Crane/s - after erection/6monthly - Other cranes - annually by comp. person - Lifting tackle (slings/ropes/chain slings etc.) - daily or before every new application
Construction. Regulation 24/Electrical Machinery Regulations 9 & 10/ Electrical Installation Regulations	Inspection & Maintenance of Electrical Installation & Equipment (including portable electrical tools)	Competent person appointed in writing to inspect/test the installation and equipment. Written Proof of Competence of above appointee available on Site. Inspections: - Electrical Installation & equipment inspected after installation, after alterations and quarterly. Inspection Registers kept. Portable electric tools, electric lights and extension leads must be uniquely identified and numbered. Weekly visual inspection by User/Issuer/Storeman. Register kept.
Construction. Regulation 28/	Stacking & Storage Supervisor.	Competent Person/s with specific knowledge and experience designated to supervise all Stacking & Storage
OHS Act Section/Regulation	Subject	Requirements
General Safety Regulation 8(1)(a)		Written Proof of Competence of above appointee available on Site

Construction. Regulation 29/ Environmental Regulation 9	Designation of a Person to Co-ordinate Emergency Planning And Fire Protection	Person/s with specific knowledge and experience designated to coordinate emergency contingency planning and execution and fire prevention measures. Emergency Evacuation Plan developed: - Drilled/Practiced - Plan & Records of Drills/Practices available on Site Fire Risk Assessment carried out. All Fire Extinguishing Equipment identified and on register. Inspected weekly. Inspection Register kept Serviced annually
General Safety Regulation 3	First Aid	Every workplace provided with enough First Aid boxes. (Required where 5 persons or more are employed) First Aid freely available Equipment as per the list in the OH&S Act. One qualified First Aider appointed for every 50 employees. (Required where more than 10 persons are employed) List of First Aid Officials and Certificates Name of person/s in charge of First Aid box/es displayed. Location of First Aid box/es clearly indicated. Signs instructing employees to report all Injuries/illness including first aid injuries
General Safety Regulation 2	Personal Safety Equipment (PSE)	Items of PSE prescribed/use enforced. Records of Issue kept. Undertaking by Employee to use/wear PSE. PSE remain property of Employer, not to be removed from premises GSR 2(4)
General Safety Regulation 9	Inspection & Use of Welding/Flame Cutting Equipment	Competent Person/s with specific knowledge and experience designated to Inspect Electric Arc, Gas Welding and Flame Cutting Equipment Written Proof of Competence of above appointee available on Site All new vessels checked for leaks, leaking vessels NOT taken into stock but returned to supplier immediately. Equipment identified/numbered and entered into a register. Equipment inspected weekly. Inspection Register kept
Hazardous Chemical Substances (HCS) Regulations Construction Regulation 25	Control of Storage & Usage of HCS and Flammables	Competent Person/s with specific knowledge and experience designated to Control the Storage & Usage of HCS (including Flammables) Risk Assessment carried out. Register of HCS kept/used on Site
Pressure Equipment Regulations	Pressure Equipment	Competent Person/s with specific knowledge and experience designated to supervise the use, storage, maintenance, statutory inspections & testing of VUP's. Written Proof of Competence of above appointee available on Site Risk Assessment carried out.

		Register of Pressure Equipment on Site
OHS Act Section/Regulation	Subject	Requirements
Construction. Regulation 23	Construction Vehicles & Earth Moving Equipment	Operators/Drivers appointed to: - Carry out a daily inspection prior to use. - Drive the vehicle/plant that he/she is competent to operate/drive. Written Proof of Competence of above appointee available on Site. Medical Report available for each operator available on-site Record of Daily inspections kept
General Safety Regulation 13A	Inspection of Ladders	Competent person appointed in writing to inspect Ladders inspected at arrival on site and weekly thereafter. Inspections register kept

13.3 ANNEXURE D - HEALTH AND SAFETY COSTING GUIDELINE

As part of the tender submission contractors are required to submit a detailed breakdown as to the expenditure requirements about the implementation and maintenance of the Health and Safety program. This check sheet serves as a guideline to the compilation of such costs and must be completed by the contractor.

List may be modified as required but must be submitted along with tender and self-assessment.

ITEMS COSTED		ESTIMATED COST 100 EMPLOYEES	
1.	PERSONAL PROTECTIVE EQUIPMENT		
	Overalls	R	350
	Hard hats and safety glasses	R	1400
	Safety boots/shoes	R	300
	Visors / gloves	R	400
	Other	R	350
SUB-TOTAL		R	
2.	FIRE FIGHTING		
	Fire extinguishers	R	20000
	Training	R	60000
	Surveys	R	20000
SUB-TOTAL		R	
3.	HEALTH AND SAFETY PERSONNEL		
	Full-Time Safety Officer	R	450000
	Fire Watchers	R	40000
	First Aiders	R	40000
SUB-TOTAL		R	
4.	FACILITIES		
	Service and maintenance of ablution facilities	R	300000

	Provision of eating areas	R	2000
	Cleaning of Lay down and other storage areas	R	45000
SUB-TOTAL		R	

ITEMS COSTED		ESTIMATED COST	
5.	FALL PREVENTION AND PROTECTION		
	Safety harnesses with double lanyards	R	30000
	Safety harnesses with retractable lanyards	R	20000
	Lanyard extenders	R	20000
	Scaffold hooks	R	56000
	Lifelines and vertical fall arrest systems	R	80000
SUB-TOTAL		R	
6.	BARRICADING AND HOARDING		
	Speed fencing and Solid Barricading with warning signs for construction site	R20000	
	Temporary Hoarding and Safe Access for public	R	15000
SUB-TOTAL		R	
7.	LIFTING MACHINERY AND EQUIPMENT		
	Annual inspections and load testing as per legal requirement	R	30000.00
	Certification of all lifting gear during the course of the project	R	25000
SUB-TOTAL		R	
8.	FIRST AID		
	First aid boxes	R	2000
SUB-TOTAL		R	

9.	SIGNAGE	
	All signage as required by law: regulatory, warning and information	R 50000
	Posters for awareness	R 4000
	SUB-TOTAL	R
10.	HAZARDOUS BIOLOGICAL AGENTS' MANAGEMENT	
	Provision of Sanitizer and Handwash Facilities	R
	Hazardous Biological Substance Disposal Facilities	R
	SUB-TOTAL	R
ITEMS COSTED		ESTIMATED COST
GRAND TOTAL WHICH COULD BE USED IN THE TENDER		R
This list is not exhaustive, and contractors may expand all levels to include all relevant H&S expenditure		

13.4 ANNEXURE E - TYPICAL SAFETY FILE INDEX AND REGISTERS

Please note: Site File contents may vary depending on the type of trade. (Typical Site File Contents) - **All Communicated and Signed**

1. Notification of Construction Work; Contractor Appointments and 37.2 Mandatary Agreements
2. COID Act Letter of Good standing; Tax Clearance Certificate & Public Liability Insurance
3. Client Health and Safety Specification
4. SHE Policy and SHE Plan
5. Environmental Policy and Environmental Management Plan
6. Organogram including management team and sub-contractors.
7. Appointments; Relevant Competencies & CV's
8. Site Rules & Inductions with proof of training
9. List of Employees with Next of Kin Details; Annex 3 & Occ. Medical Certificates
10. Method Statements with proof of training
11. Relevant Risk Assessments with proof of training
12. Appointment letter from SARAO
13. Scope of work
14. Task specific risk assessments
15. Risk Assessment Review Plan
16. Safe Working and Operating Procedures with proof of training
17. Fall Protection Plan with proof of training.
18. Demolition Plan with proof of training
19. Safety Data Sheets with proof of training
20. Emergency Tel List; Site Specific Emergency Procedures and Emergency Escape Procedures with proof of training
21. Accident and Incident Procedures
22. First Aid Dressing Register; Annexure 1; WCL 1; WCL 2 Forms
23. Accident and Incident Investigations
24. Additional Plans and Procedures
 - a. Severe Weather Plan
 - b. Fatigue Management Plan
 - c. Heat Stress Procedure
 - d. Lock Out Procedure
 - e. COVID19 Plan
25. Equipment list and AIA Test Certifications
26. Works Permits for Hot works; Lockouts; Excavations; etc.
27. Equipment & Machinery Checklists
28. Facilities & Environmental Checklists
29. Client Audits and Notifications

30. List of Contractors; Contractors OHS Plan; Contractors Fall Protection Plan
31. Contractors Audits and Notifications
32. Minutes of Safety Meetings
33. Toolbox Talks & Awareness Campaigns
34. Copy of the Act and Copy of Construction Regulations 2014

13.5 ANNEXURE F – STATISTICAL RECORDS

	STATISTICAL RECORDS			
	REPORTING PERIOD	FROM:		TO:
	CURRENT		PROJECT TO DATE (P.T.D)	
MAN-HOURS	WORKFORCE	MAN-HOURS	WORKFORCE	MAN-HOURS
CONSOLIDATED PROJECT RECORDS				
PRINCIPAL CONTRACTOR				
CONTRACTORS				
NUMBER OF CONTRACTORS				
INCIDENT RECORDS	REPORTING PERIOD	PROJECT DATE	TO	COMMENTS
NEAR-MISS (NM)				
FIRST AID CASE (FAC)				
MEDICAL TREATMENT (MTC)				
FATALITY (FA)				
UNCONTROLLED MACHINERY MOVEMENT (UMM)				
PROPERTY DAMAGE (PD)				
LTIFR FREQUENCY RATES CALCULATOR	=	=	REPORTED LOST DAYS X 200,000 MAN-HOURS X NUMBERS OF EMPLOYEES	

LTIFR FREQUENCY RATES CALCULATOR	=	=	(REPORTED INCIDENTS + NEAR MISS INCIDENTS) X 200,000
			MAN-HOURS X NUMBERS OF EMPLOYEES

SARAO ARTISAN TRAINING CENTRE SAFETY AND HEALTH SPECIFICATIONS

Final reviewed (1)

Final Audit Report

2024-02-05

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