



**HEALTH & SAFETY
SPECIFICATIONS
FOR**

(Contractor)

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1. PURPOSE OF THE HEALTH AND SAFETY SPECIFICATION

This Health and Safety Specification has been prepared to comply with the requirements of the Construction Regulations 2014.

The purpose of this site specific Health and Safety Specification is to comply with legal requirements and to provide health and safety information about specific project risks known by the Client, Designer and Client Agent to be applicable to this project. This document also provides minimum health and safety requirements, standards and expectations that the principal contractor and contractors must adhere to.

The Contractor must take into account all information in this specification and ensure that their tenders include adequate resource and competence to deal with the matters detailed herein so that all relevant contents are dealt with in a way which is in compliance with legislation and the ethical concerns for the safeguarding of employees, contractors and other persons affected by the construction activities.

The Health and Safety Specification will be implemented during construction of the works and any construction activity that the Client has control over.

This will also assist in ensuring that all the costs related to the compliance with Occupational Health Act 85 of 1993 and the Construction Regulations 2014, as well as this Health and Safety Specification, are taken into consideration at Tender stage.

No advice, approval of any document required by the Health and Safety Specification such as hazard identification and risk assessment action plans or any other form shall be construed as an acceptance by the Client of any obligation that absolves the Contractor from achieving the required level of performance and compliance with legal requirements.

Further, there is no acceptance of liability by the Client which may result from the Contractor failing to comply with the Health and Safety Specification unless the Client has issued an instruction to any requirement, i.e. the Contractor remains responsible for achieving the required performance levels.

2. IMPLEMENTATION OF THE HEALTH AND SAFETY SPECIFICATION

This Health and Safety Specification forms an integral part of the Contract, and Contractors shall make it an integral part of their Contracts with Sub Contractors and Suppliers.

Contractors employed by the Client are to ensure that the provisions of the Health and Safety Specification are applied both on the site and in respect of all off site activities relating to the project, in particular in transport activities and project dedicated off site fabrication works.

The Contractor shall enforce the provisions of the Health and Safety Specification amongst all sub-contractors and suppliers for the project.

The Contractor shall sign the acknowledgment on the last page of this safety specification that he/she has familiarized him/herself with the content of the Health and Safety Specification and shall comply with all obligations in respect thereof.

The successful Contractor will be required to compile a Health and Safety Plan based on the requirements of the Occupational Health Act 85 of 1993 and these Specifications, which will need to be approved by Client prior to commencement with construction work.

3. APPLICATION AND INTERPRETATION

This document is to be read and understood in Conjunction with the following inter alia:

- Occupational Health and Safety Act (Act 85 of 1993)
- SABS codes and standards referred to by the Occupational Health and Safety Act
- Regulations as per the Occupational Health and Safety Act (Act 85 of 1993) with specific reference but not limited to:
 - General Safety Regulations (GN 928, 25 June 2003)
 - General Machinery Regulations (GN R1521, 5 August 1988)
 - Electrical Machinery Regulations (GN R250, 25 March 2011)
 - Electrical Installation Regulations (GN R242, 6 March 2009)
 - Driven Machinery Regulations (GN R1010, 18 July 2003)
 - Hazardous Chemical Substance Regulations (GN R930, 25 June 2003)
 - Hazardous Biological Agents Regulations(GN R 1390, 27 December 2001)
- Basic Conditions of Employment Act (Act 75 of 1997)
- SANParks Environmental Management Plan
- SANParks Code of Conduct of working in a National Park
- Disaster Management Act(Act No.57 of 2002)
- Consolidated Covid-19 direction on health and safety in the workplace

4. DEFINITIONS

ALL REFERENCES TO CLIENT IN THIS HEALTH AND SAFETY SPECIFICATION ALSO REFER TO CLIENT AGENT, WHERE SO APPOINTED.

Definitions (as per the Construction Regulations 2014) applicable to this Health and Safety Specification:

"agent" means a competent person who acts as a representative for a client;

"angle of repose" means the steepest angle of a surface at which a mass of loose or fragmented material will remain stationary in a pile on the surface, rather than sliding or crumbling away;

"bulk mixing plant" means machinery, appliances or other similar devices that are assembled in such a manner so as to be able to mix materials in bulk for the purposes of using the mixed product for construction work;

"client" means any person for whom construction work is being performed;

"competent person" means a person who has, in respect of the work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act No.67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and is familiar with the Act and with the applicable regulations made under the Act;

"construction manager" means a competent person responsible for the management of the physical construction processes and the coordination, administration and management of resources on a construction site;

"construction site" means a work place where construction work is being performed;

"construction supervisor" means a competent person responsible for supervising construction activities on a construction site;

"construction vehicle" means a vehicle used as a means of conveyance for transporting persons or material, or persons and material, on and off the construction site for the purposes of performing construction work;

"construction work" means any work in connection with-

- the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or
- the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work ;

"construction work permit" means a document issued in terms of regulation 3;

"contractor" means an employer who performs construction work;

"demolition work" means a method to dismantle, wreck, break, pull down or knock down of a structure or part thereof by way of manual labor, machinery, or the use of explosives;

"design" in relation to any structure, includes drawings, calculations, design details and specifications;

"designer" means a competent person who-

- prepares a design;
- checks and approves a design;
- arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or
- designs temporary work, including its components;
- an architect or engineer contributing to, or having overall responsibility for a design;
- a building services engineer designing details for fixed plant;
- a surveyor specifying articles or drawing up specifications;
- a contractor carrying out design work as part of a design and building project; or
- an interior designer, shop-fitter or landscape architect;

"electrical contractor" means a person who undertakes to perform electrical installation work on behalf of any other person, but excludes an employee of such first-mentioned person;

"electrical installation" means any machinery, in or on any premises, used for the

transmission of electricity from a point of control to a point of consumption anywhere on the premises, including any article forming part of such an electrical installation irrespective of whether or not it is part of the electrical circuit, but excluding (a) any machinery of the supplier related to the supply of electricity on the premises; (b) any machinery which transmits electrical energy in communication, control circuits, television or radio circuits; (c) an electrical installation on a vehicle, vessel, train or aircraft; and (d) control circuits of 50 V or less between different parts of machinery or system components, forming a unit, that are separately installed and derived from an independent source or an isolating transformer;

"excavation work" means the making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping;

"explosive actuated fastening device" means a tool that is activated by an explosive charge and that is used for driving bolts, nails and similar objects for the purpose of providing fixing;

"fall arrest equipment" means equipment used to arrest a person in a fall, including personal equipment, a body harness, lanyards, deceleration devices, lifelines or similar equipment;

"fall prevention equipment" means equipment used to prevent persons from falling from a fall risk position, including personal equipment, a body harness, lanyards, lifelines or physical equipment such as guard-rails, screens, barricades, anchorages or similar equipment;

"fall protection plan" means a documented plan, which includes and provides for -

- all risks relating to working from a fall risk position, considering the nature of work undertaken;
- the procedures and methods to be applied in order to eliminate the risk of falling; and
- a rescue plan and procedures;

"fall risk" means any potential exposure to falling either from, off or into;

"health and safety file " means a file, or other record containing the information in writing required by these Regulations;

"health and safety plan" means a site, activity or project specific documented plan in accordance with the client's health and safety specification;

"health and safety specification" means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work;

"installation electrician" means a person who has been registered as an installation electrician in terms of regulation 11 (2) for the verification and certification of the construction, testing and inspection of any electrical installation, excluding specialised electrical installations;

"installation work" means (a) the installation, extension, modification or repair of an electrical installation; (b) the connection of machinery at the supply terminals of such machinery; or (e) the inspection, testing and verification of electrical installations for the purpose of issuing a certificate of compliance;

"master installation electrician" means a person who has been registered as a master installation electrician in terms of regulation 11 (2) for the verification and certification of the construction, testing and inspection of any electrical installation;

"material hoist" means a hoist used to lower or raise material and equipment, excluding passengers;

"medical certificate of fitness" means a certificate contemplated in regulation 7(8);

"mobile plant" means any machinery, appliance or other similar device that is able to move independently, and is used for the purpose of performing construction work on a construction site;

"National Building Regulations" means the National Building Regulations made under the National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977), and promulgated by Government Notice No. R. 2378 of 30 July 1990, as amended by Government Notices No's R. 432 of 8 March 1991, R. 919 of 30 July 1999 and R. 547 of 30 May 2008;

"person day" means one normal working shift of carrying out construction work by a person on a construction site;

"principal contractor" means an employer appointed by the client to perform construction work;

"Professional Engineer or Professional Certificated Engineer" means a person holding registration as either a Professional Engineer or Professional Certificated Engineer in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000);

"Professional Technologist" means a person holding registration as a Professional Engineering Technologist in terms of the Engineering Profession Act, 2000;

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations, 2003;

"scaffold" means a temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both;

"shoring" means a system used to support the sides of an excavation and which is intended to prevent the cave-in or the collapse of the sides of an excavation;

"structure" means-

- any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;
- any false work, scaffold or other structure designed or used to provide support or means of access during construction work; or
- any fixed plant in respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling;

"suspended platform" means a working platform suspended from supports by means of one or more separate ropes from each support;

"temporary works" means any false work, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction work;

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

"tunneling" means the construction of any tunnel beneath the natural surface of the earth for a purpose other than the searching for or winning of a mineral.

5. GENERAL REQUIREMENTS in terms of Construction Regulations 2014 and OHS Act and Regulations

5.1 Construction Work Permit

It must be noted that from August 2015 all projects that meet the following criteria will require a construction work permit to be applied for at least 30 days prior to the work being carried out:

- Exceeds 180 days
- Will involve more than 1800 person days of construction work
- Works contract is of a value equal to or exceeding thirteen million rand, or Construction Industry Grading Board (CIDB) grading level 6

It is the client's responsibility to apply for this permit from the Provincial Director and construction work may not commence until the permit has been issued by the Provincial Director.

A copy of this permit will be required to be kept in the principal contractors safety file, and the site specific number issued by the Provincial Director must be displayed at the site entrance.

5.2 Notification of Intention to Commence Construction Work

The Contractor shall notify the Provincial Director of the Department of Labour of the intention to commence construction work at least 7 days prior to the works commencing if the intended construction work will:

- include excavation work
- Include work at height where there is a risk of falling
- Include the demolition of a structure, or
- Include the use of explosives to perform construction work.

If the construction work involves construction of a single storey dwelling for a client, and such client will be residing in such dwelling upon completion, the contractor must also notify the Provincial Director of the Department of Labour at least 7 days before the works commence.

This must be done on a form similar to an Annexure 2 (template of which can be found in the Construction Regulations, 2014). A copy of the notification letter to the Provincial Director shall be forwarded to the Client for record purposes.

5.3 Duties of Principal Contractor / Contractor

A Principal Contractor must:

- 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, 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, in order to ensure compliance with the provisions of the Act –
 - provide contractors who are tendering to perform construction work for the principal contractor, with the relevant sections of the health and safety specifications pertaining to the construction work which has to be performed;
 - ensure that potential contractors submitting tenders have made sufficient provision for health and safety measures during the construction process;
 - 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;
 - 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; and
 - has a valid Public Liability Insurance.
 - appoint each contractor in writing for the part of the project on the construction site
 - take reasonable steps to ensure that each contractor's health and safety plan is implemented and maintained on the construction site;
 - 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;
 - 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;

- 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;
- discuss and negotiate with the contractor the contents of their health and safety plan and finally approve that plan for implementation;
- ensure that a copy of both the principal contractor and contractor's health and safety plan 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, to 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 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;
- 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.

A contractor must prior to performing any construction work-

- 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 and provided by the principal contractor, 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;
- 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;
- 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 that apply to the principal contractor will 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 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 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 (a template of which can be found in the Construction Regulations, 2014).

5.4 Management and Supervision of Construction Work

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.

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.

Where the construction manager has not appointed assistant construction managers, 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.

No construction manager appointed in terms of the Regulations 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.

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.

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

A construction manager must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

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, 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 such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties.

Where the contractor has not appointed such an employee, or, in the opinion of an inspector, a sufficient number of such employees have not been appointed, that inspector must instruct the employer to appoint the number of employees indicated by the inspector.

No construction supervisor appointed 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 a sufficient number of competent employees have been appropriately designated on all the relevant construction sites, the appointed construction supervisor may supervise more than one site.

5.5 Assignment of Contractor's Responsible Persons to Manage Health and Safety on Site

The Contractor shall submit management and supervisory appointments as well as any relevant appointments in writing (as stipulated by the Construction Regulations 2014 and the Occupational Safety and Health Act 1993), prior to commencement of work (refer to **Annexure B** at the end of this Health and Safety Specification).

5.6 Competency for Contractor's Responsible Persons

The Contractor's responsible persons shall be competent in health and safety and be familiar with the Occupational Health and Safety Act 1993, and applicable regulations. Valid proof of pertinent health and safety courses attended by such persons will be required to be presented to the Client.

The Contractor must be Competent and (or) Accredited to do the work that they are contracted for.

Ensure that all the subcontracted contractors are competent and (or) accredited.

5.7 Compensation of Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

The successful Contractor shall submit to the Client a valid letter of good standing with the Compensation Insurer prior to appointment.

5.8 Occupational Health and Safety Policy

The Contractor shall submit their Health and Safety Policy, prior to construction commencement, signed by the Chief Executive Officer. The Policy must outline objectives and how they will be achieved and implemented within the operations.

5.9 Health and Safety Organogram

The Contractor shall submit an organogram, prior to construction commencement, outlining the Health and Safety Site Team that will be assigned to the project, if successful with the tender. In cases where appointments have not been made, the organogram shall reflect the position. The organogram shall be updated, when there is a change in the site team.

5.10 Risk Assessments

Baseline Risk Assessment

The Client shall cause a baseline risk assessment to be conducted by a competent person before the design process and tender process commence, and the assessed risks shall form part of the health and safety specifications.

The Contractor must, before commencement of any construction work, and during 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 plan

The Contractor must ensure that, as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in a risk assessment.

The Contractor must ensure that all employees under his 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**.

The 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 determined in the risk assessment monitoring and review plan of the relevant site**.

The Contractor must consult with the health and safety committee or with a representative trade union or representative group of employees if no health and safety committee exists, on the monitoring and review of the risk assessments for the site.

The Contractor must ensure that copies of risk assessment for this site are available on site for inspection purposes by interested parties (inspector, the client, client's agent, any contractor, any employee, a representative trade union, a health and safety representative or safety committee member.

A Contractor must review the relevant risk assessment where changes are effected to the design and/or construction that result in a change to the risk profile, or when an incident has occurred.

Preventative measures must first address the elimination of the hazard or risk. Should PPE be required to reduce risk, the equipment or clothing to be used must be SABS approved

In general the Contractor must ensure that the Risk Assessment involves identifying the hazards present in a work activity on site. This is followed by an evaluation of the extent of the risk involved taking into account those precautions already being taken.

The following general principle should be followed when conducting a risk assessment:

- All relevant risks and/or hazards should be systematically addressed;
- The risk assessment should address what actually happens in the workplace during the work activity;
- All employees and those who may be affected must be considered, including maintenance staff, security guards, visitors and subcontractors;
- The risk assessment should highlight those groups and individuals who may be required to work alone or who have disabilities;
- The risk assessment process should take into account the existing safety measures and controls.
- The level of detail on a risk assessment should be appropriate to the level of risk.

5.11 Safe Work Procedures

Safe Work Procedures are to form part of the H&S Plan and **must be compiled for all the identified activities.**

The safe work procedures must address the following elements:

- The work method to be followed to conduct work safely
- Mitigation of identified risks

- Reducing and controlling risks and hazards that have been identified
- Responsibilities of competent persons
- Required personal protective equipment
- Correct equipment/tools/machinery to be used
- Reference to relevant registers to be completed
- Reference to applicable risk assessment

5.12 Health and Safety Representative(s)

The Contractor shall ensure that Health and Safety Representative(s) is/are elected and trained to carry out his / her functions. The appointment must be in writing. The Health and Safety Representative shall carry out regular inspections, keep records and report to the supervisor to take appropriate action. He / she shall attend Health and Safety Committee Meetings. The Health and Safety Representative shall be part of the team that will investigate incidents, accidents and non-conformances.

5.13 Health and Safety Committee

Where two or more health and safety representatives have been appointed on site, the Contractor shall ensure that monthly health and safety meetings are held with such representatives and minutes are kept on record. Meetings must be organized and chaired by the Contractor's Health and Safety Committee Chairperson. Minutes of these meetings must be available for the employees of the contractor to refer to.

5.14 Medical Certificate of Fitness

The contractor must ensure that their employees on site have a valid medical certificate of fitness, specific to the construction work being performed, issued by an occupational health practitioner in the form of an Annexure 3 template (refer to the Construction Regulations 2014 on the Department of Labour website for a sample of this form).

5.15 Health and Safety Training

The Contractor shall quarterly conduct a training needs analysis to ascertain what health and safety training is required. A plan of action should be devised and forwarded to the Client for records. Once the identified people have attended the training, the Contractor must provide the Client with copies of certificates obtained.

5.15.1 Induction

No Contractor may allow or permit any employee or person to enter site unless they have undergone health and safety induction training pertaining to the hazards prevalent on site at the time of entry. This includes visitors to site. The Contractor must ensure that visitors to site have the necessary protective equipment (PPE). A copy of attendance registers of all employees who attend inductions shall be kept.

5.15.2 Awareness

The Contractor shall conduct periodic toolbox talks on site, preferably weekly or before any hazardous work takes place. The talks shall cover the relevant activity and an attendance register must be signed by all attendees. This record of who attended and the content of the topic will be kept on the site health and safety file as evidence of training.

5.16 Competency

After the Contractor has identified the training to be conducted as part of the competency requirement, and based on Risk Assessment, he shall send the relevant persons on appropriate courses and keep certificates of training for reference. Familiarity with the Health and Safety Act and Regulations is an integral part of the definition of competence.

5.17 General Record Keeping

The Contractor shall keep and maintain Health and Safety records to demonstrate compliance with the Health and Safety Specification and the Occupational Health and Safety Act. The contractor shall ensure that all records of incidents, spot fines, training etc. are kept on site. All documents shall be available for inspection by the Client, or the Department of Labour's Inspectors.

5.18 General Inspection, Monitoring and Reporting

The Contractor shall carry out inspections as required by **Annexure C** in this Health and Safety Specification, as well as by health and safety legislation.

5.19 Emergency Procedures

The Contractor shall submit a detailed Emergency Procedure for approval by the Client prior to commencement on site. The procedure shall detail the response plan including the following:

- List of key personnel;

- Details of emergency services;
- Actions or steps to be taken in the event of the emergency; and
- Information on hazardous materials / situations, including each material's hazardous potential impact or risk on the environment or human and measures to be taken in the event of an accident.

Emergency procedure(s) shall include, but shall not be limited to, fire, spills, accidents to employees, use of hazardous substances, dangers as a result of riot / service deliver protests / intimidation, etc. The Contractor shall advise the Client in writing of any on-site emergencies, together with a record of action taken, within 24 hours of the emergency occurring. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc.) must be maintained and available to site personnel.

5.20 First Aid Box and First Aid Equipment

The Contractor shall provide first aid boxes and appoint, in writing, First Aider(s) for this project in line with the results of the Contractor's risk assessment for the project, this health and safety specification as well as the provisions of the General Safety Regulations. The appointed First Aider(s) are to be sent for accredited first aid training before starting on site. Valid certificates are to be kept on site.

First Aid boxes must be adequately stocked at all time, accessible and be controlled by a qualified First Aider. If required by the Client, the Contractor shall have a stretcher on site to be used in case of a serious incident.

5.21 Accident / Incident Reporting and Investigation

The Contractor shall, in addition to the prescribed requirements of the Occupational Health and Safety Act and General Safety Regulations, investigate, record and report all Section 24 reportable incidents to the Client within 24 hours of the incident occurring. Incident investigations shall be conducted by the Contractor's appointed Accident Investigator – this Investigator must be a competent person or persons who have sufficient knowledge to carry out an investigation.

In the event of a fatality or a permanent disabling injury the Contractor must submit proof of reporting of incident to Department of Labour as well as proof of preventative measures to the Client. The Client reserves the right to conduct investigations into any incidents that they deem fit and the Contractor is required to provide full co-operation in this regard.

5.22 Hazards and Potential Situations

The Contractor shall immediately notify other Contractors of any hazardous or potentially hazardous situations, which may arise during performance of the activities.

5.23 Occupational Health and Safety Signage

The Contractor shall ascertain and provide adequate on site health and safety signage. This signage shall include, but shall not be limited to, Hard Hat / Helmet Area; Safety Shoes to be worn on site; Dust Masks to be worn in areas where there might be exposure to excessive dust; Ear Plugs / Muffs to be worn where there might be noise exposure over 85 db; Gloves; Safety Goggles; Safety Harness, Workers in Excavation, traffic management, etc. The Contractor shall be responsible to maintain the quality and replacement of signage.

5.24 Management of Contractors by Principal Contractor

The Principal Contractor shall ensure that all sub-contractors under his control are complying with the respective Health and Safety Plans, as well as Health and Safety Legislation.

5.25 Fall protection

The Contractor must:

- designate a competent person to be responsible for the preparation of a fall protection plan
- ensure that the fall protection plan contemplated above is implemented, amended where and when necessary and maintained as required; and
- Take steps to ensure continued adherence to the fall protection plan.

A fall protection plan contemplated above must include-

- 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;
- the processes for the evaluation of the employees' medical fitness necessary to work at a fall risk position and the records thereof;
- a programme for the training of employees working from a fall risk position and the records thereof;
- the procedure addressing the inspection, testing and maintenance of all fall protection equipment; and
- 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.

A contractor must ensure that a construction manager appointed under regulation 8(1) is in possession of the most recently updated version of the fall protection plan.

A contractor must ensure that 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;

Also that no person is required to work in a fall risk position, unless such work is performed safely as contemplated in above and fall prevention and fall arrest equipment are 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 securely attached to a structure or plant, and the structure of plant and the means of attachment thereto are suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and person who could fall, and fall arrest equipment is used only where it is not reasonably practicable to use fall prevention equipment.

5.26 Structures

A contractor must ensure that-

- 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;
- no structure or part of a structure is loaded in a manner which would render it unsafe; and
- 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.

An owner of a structure must ensure that-

- inspections of that structure are carried out periodically by competent persons in order to render the structure safe for continued use;
- that the inspections contemplated in paragraph (a) are carried out at least once every six months for the first two years and thereafter yearly;
- the structure is maintained in such a manner that it remains safe for continued use;
- the records of inspections and maintenance are kept and made available on request to an inspector.

5.27 Temporary works

A contractor must appoint a temporary works designer in writing to design, inspect and approve the erected temporary works on site before use.

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.

A contractor must ensure that-

- 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;
- 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;
- 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;
- all persons required to erect, move or dismantle temporary works structures are provided with adequate training and instruction to perform those operations safely;
- all equipment used in temporary works structure are carefully examined and checked for suitability by a competent person, before being used;
- 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 on a daily basis until the temporary works structure has been removed and the results have been recorded in a register and made available on site;
- no person may cast concrete, until authorization in writing has been given by the competent person contemplated above;
- 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;
- adequate precautionary measures are taken in order to-
- secure any deck panels against displacement; and
- prevent any person from slipping on temporary works due to the application of release agents;

- as far as is reasonably practicable, the health of any person is not affected through the use of solvents or oils or any other similar substances;
- 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
- 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.
- 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;
- a temporary works drawing or any other relevant document includes construction sequences and methods statement;
- the temporary works designer has been issued with the latest revision of any relevant structural design drawing;
- a temporary works design and drawing is used only for its intended purpose and for a specific portion of a construction site; and
- the temporary works drawings are approved by the temporary works designer before the erection of any temporary works.

No contractor may use a temporary works design and drawing for any work other than its intended purpose.

5.28 Scaffolding

A contractor must appoint a competent person in writing who must ensure that all scaffolding work operations are carried out under his or her supervision and that all scaffold erectors, team leaders and inspectors are competent to carry out their work.

A contractor using access scaffolding must ensure that such scaffolding, when in use, complies with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act.

5.29 Suspended Platforms

A contractor must appoint a competent person in writing who must ensure that all suspended platforms work operations are carried out under his or her supervision and that all suspended platform erectors, operators and inspectors are competent to carry out their work.

No contractor may use or permit the use of a suspended platform, unless-

- the design, stability and construction thereof comply with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act;
- he or she is in possession of a certificate of system design issued by a professional engineer, certificated engineer or a professional technologist for the use of the suspended platform system; and
- he or she is, before the commencement of the work, in possession of an operational compliance plan developed by a competent person based on the certificate of system design contemplated in subparagraph (b) and applicable to the environment in which the system is being used, which operational compliance plan must include proof of the- (i) appointment of the competent person contemplated in sub regulation (1); (ii) competency of erectors, operators and inspectors; (iii) operational design calculations, which must comply with the requirements of the system design certificate; (iv) performance test results; (v) sketches indicating the completed system with the operational loading capacity of the platform; (vi) procedures for and records of inspections having been carried out; and (vii) procedures for and records of maintenance work having been carried out.

A contractor making use of a suspended platform system must submit a copy of the certificate of system design contemplated in sub regulation (2)(b), including a copy of the operational design calculations contemplated in sub regulation 2(c)(iii), sketches and test results, to the provincial director before commencement of the use of the system and must further indicate the intended type of work that the system will be used for.

A contractor must submit a copy of the certificate of system design in the manner contemplated in sub regulation (3) for every new project. (5) A contractor must ensure that the outriggers of each suspended platform – (a) are constructed of material of adequate strength and have a safety factor of at least four in relation to the load it is to carry; and (b) have suspension points provided with stop devices or other effective devices at the outer ends to prevent the displacement of ropes.

A contractor must ensure that-

- the parts of the building or structure on which the outriggers of a suspended platform are supported, are checked by means of calculations to ensure that the required safety factor is adhered to without risk of damage to the building or structure;
- the suspension wire rope and the safety wire rope are separately connected to the outrigger;
- each person on a suspended platform is provided with and wears a body harness as a fall prevention device, which must at all times be attached to the suspended platform;

- the hand or power driven machinery to be used for the lifting or lowering of the working platform of a suspended platform is constructed and maintained in such a manner that an uncontrolled movement of the working platform cannot occur;
- the machinery referred to in paragraph (d) is so situated that it is easily accessible for inspection;
- the rope connections to the outriggers are vertically above the connections to the working platform; and
- when the working platform is suspended by two ropes only, the connections of the ropes to the working platform are of a height above the level of the working platform to ensure the stability of the working platform.

A contractor must ensure that a suspended platform-

- is suspended as near as possible to the structure to which work is being done to prevent as far as is reasonably practicable horizontal movement away from the face of the structure;
- is fitted with anchorage points to which workers must attach the lanyard of the safety harness worn and used by the worker, and such anchorage connections must have sufficient strength to withstand any potential load applied to it; and
- is fitted with a conspicuous notice easily understandable by all workers working with the suspended platform, showing- (i) the maximum mass load; (ii) the maximum number of persons; and (iii) the maximum total mass load, including load and persons, which the suspended platform can carry.

A contractor must cause-

- the whole installation and all working parts of a suspended platform to be thoroughly examined by a competent person in accordance with the manufacturer's specification;
- the whole installation to be subjected to a performance test as determined by the standard to which the suspended platform was manufactured;
- the performance test contemplated in paragraph (b) to be done by a competent person appointed in writing, with the knowledge and experience of erection and maintenance of suspended platforms or similar machinery, and who must determine the serviceability of the structures, ropes, machinery and safety devices before they are used, every time suspended platforms are erected; and
- the performance test contemplated in paragraph (b) of the whole installation of the suspended platform to be subjected to a load equal to that prescribed by the manufacturer or, in the absence of such load, to a load of 110 per cent of the rated mass load, at intervals not exceeding 12 months and in such a manner that every part of the installation is stressed accordingly.

A contractor must, in addition to sub regulation (8), cause every hoisting rope, hook or other load-attaching device which forms part of the suspended platform to be thoroughly examined in accordance with the manufacturer's specification by the competent person contemplated in sub regulation (8) before they are used every time they are assembled, and, in cases of continuous use, at intervals not exceeding three months.

A contractor must ensure that the suspended platform supervisor contemplated in sub regulation (1), or the suspended platform inspector contemplated in sub regulation (8)(c), carries out a daily inspection of all the equipment prior to use, including establishing whether-

- all connection bolts are secure;
- all safety devices are functioning;
- all safety devices are not tampered with or vandalized;
- the total maximum mass load of the platform is not exceeded;
- the occupants in the suspended platform are using body harnesses which have been properly attached; there are no visible signs of damage to the equipment; and
- all reported operating problems have been attended to.

A contractor must further ensure that –

- all inspection and performance test records are kept on the construction site at all times and made available to an inspector, the client, the client's agent or any employee upon request.
- all employees required to work or to be supported on a suspended platform are- (a) medically fit to work safely in a fall risk position or such similar environment by being in possession of a medical certificate of fitness; (b) competent in conducting work related to suspended platforms safely; (c) trained or received training, which includes at least- (i) how to access and egress the suspended platform safely; (ii) how to correctly operate the controls and safety devices of the equipment; (iii) information on the dangers related to the misuse of safety devices; and (iv) information on the procedures to be followed in the case of- (aa) an emergency; (bb) the malfunctioning of equipment; and (cc) the discovery of a suspected defect in the equipment; and (v) instructions on the proper use of body harnesses.
- where the outriggers of a suspended platform are to be moved, only persons trained and under the supervision of the competent person effect such move, within the limitation stipulated in the operational compliance plan contemplated in sub regulation (2)(c), and that the supervisor must carry out an inspection and record the result thereof prior to re-use of the suspended platform.
- the suspended platform is properly isolated after use at the end of each working day in such a manner that no part of the suspended platform presents a danger to any person thereafter.

5.30 Rope Access Work

A contractor must-

- appoint a competent person in writing as a rope access supervisor with the duty of supervising all rope access work on the site, including the duty of ensuring occupational health and safety compliance in relation to rope access work: Provided that the appointment of any such person does not relieve the construction manager of any personal accountability for failing in his management duties in terms of this regulation;
- ensure that all rope access work on the construction site is carried out under the supervision of a competent person; and
- ensure that all rope access operators are competent and licensed to carry out their work.

No contractor may use or allow the use of rope access work unless-

- the design, selection and use of the equipment and anchors comply with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act; and
- he or she is in possession of a site specific fall protection plan developed by a competent person applicable to the specific work and environment prior to the commencement of the work, including records of maintenance and inspections of all the equipment used for the work operations.

A contractor must ensure that adequate measures are in place to allow rescue procedures to commence immediately in the event of a fall incident taking place.

5.31 Material Hoists

A contractor must ensure that-

- every material hoist and its tower have been constructed in accordance with the generally accepted technical standards and are strong enough and free from defects.
- the tower of every material hoist is- (a) erected on firm foundations and secured to the structure or braced by steel wire guy ropes, and extends to a distance above the highest landing to allow a clear and unobstructed space of at least 900 millimeters for over travel; (b) enclosed on all sides at the bottom, and at all floors where persons are at risk of being struck by moving parts of the hoist, except on the side or sides giving access to the material hoist, with walls or other effective means

to a height of at least 2100 millimeters from the ground or floor level; and (c) provided with a door or gate at least 2100 millimeters in height at each landing, and that door or gate must be kept closed except when the platform is at rest at such a landing.

- every material hoist- (a) is inspected on daily basis by a competent person appointed in writing by the contractor and such competent person must have the experience pertaining to the erection and maintenance of material hoists or similar machinery; (b) inspection contemplated in paragraph (a) , includes the determination of the serviceability of the entire material hoist, including guides, ropes and their connections, drums, sheaves or pulleys and all safety devices; (c) inspection results are entered and signed in a record book by a competent person, which book must be kept on the premises for that purpose; (d) is properly maintained and the maintenance records in this regard are kept on site.

A contractor must cause-

- the platform of every material hoist to be designed in a manner that it safely contains the loads being conveyed and that the combined mass of the platform and the load does not exceed the designed lifting capacity of the hoist;
- the hoisting rope of every material hoist which has a remote winch to be effectively protected from damage by any external cause to the portion of the hoisting rope between the winch and the tower of the hoist; and
- every material hoist to be provided with an efficient brake capable of holding the platform with its maximum load in any position when power is not being supplied to the hoisting machinery.
- a notice, indicating the maximum mass load which may be carried at any one time and the prohibition of persons from riding on the platform of the material hoist, to be affixed around the base of the tower and at each landing.

No contractor may require or permit trucks, barrows or material to be conveyed on the platform of a material hoist and no person may so convey trucks, barrows or material unless those articles are secured or contained in a manner that displacement thereof cannot take place during movement. A contractor of a material hoist may not require or permit any person to operate a hoist, unless the person is competent in the operation of that hoist. No contractor may require or permit any person to ride on a material hoist.

5.32 Cranes

A contractor must, in addition to compliance with the Driven Machinery Regulations, 1988 ensure that where tower cranes are used-

- they are designed and erected under the supervision of a competent person;
- a relevant risk assessment and method statement are developed and applied;
- the effects of wind forces on the crane are taken into consideration and that a wind speed device is fitted that provides the operator with an audible warning when the wind speed exceeds the design engineer's specification;
- the bases for the tower cranes and tracks for rail-mounted tower cranes are firm, level and secured;
- the tower crane operators are competent to carry out the work safely; and the tower crane operators have a medical certificate of fitness to work in such an environment, issued by an occupational health practitioner.

5.33 Construction Vehicles and Mobile Plant

A contractor must ensure that all construction vehicles and mobile plant-

- are of an acceptable design and construction;
- are maintained in a good working order;
- are used in accordance with their design and the intention for which they were designed, having due regard to safety and health;
- are operated by a person who-
- has received appropriate training, is certified competent and in possession of proof of competency and is authorised in writing to operate those construction vehicles and mobile plant;
- has a medical certificate of fitness to operate those construction vehicles and mobile plant, issued by an occupational health practitioner in the form of Annexure 3.
- have safe and suitable means of access and egress;
- are properly organized and controlled in any work situation by providing adequate signalling or other control arrangements to guard against the dangers relating to the movement of vehicles and plant, in order to ensure their continued safe operation;
- are prevented from falling into excavations, water or any other area lower than the working surface by installing adequate edge protection, which may include guard-rails and crash barriers;
- are fitted with structures designed to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn;
- are equipped with an acoustic warning device which can be activated by the operator;
- are equipped with an automatic acoustic reversing alarm; and
- are inspected by the authorised operator or driver on a daily basis using a relevant checklist prior to use and that the findings of such inspection are recorded in a register kept in the construction vehicle or mobile plant.

A contractor must ensure that-

- no person rides or is required or permitted to ride on a construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose;
- every construction site is organized in such a way that, as far as is reasonably practicable, pedestrians and vehicles can move safely and without risks to health;
- the traffic routes are suitable for the persons, construction vehicles, or mobile plant using them, are sufficient in number, in suitable position's and of sufficient size;
- every traffic route is, where necessary, indicated by suitable signs;
- all construction vehicles and mobile plants left unattended at night, adjacent to a public road in normal use or adjacent to construction areas where work is in progress, have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of the vehicles or plant;
- all construction vehicles or mobile plant when not in use, have buckets, booms or similar appendages, fully lowered or blocked, controls in a neutral position, motors stopped, wheels chocked, brakes set and ignition secured;
- whenever visibility conditions warrant additional lighting, all mobile plant are equipped with at least two headlights and two taillights when in operation;
- tools, material and equipment are secured and separated by means of a physical barrier in order to prevent movement when transported in the same compartment with employees;
- vehicles used to transport employees have seats firmly secured and adequate for the number of employees to be carried; and
- all construction vehicles or mobile plant travelling, working or operating on public roads comply with the requirements of the National Road Traffic Act, 1996.

5.34 Electrical Installations and Machinery on Construction Sites

A contractor must, in addition to compliance with the Electrical Installation Regulations and the Electrical Machinery Regulations, ensure that –

- before construction commences and during the progress thereof, adequate steps are taken to ascertain the presence of and guard against danger to workers from any electrical cable or apparatus which is under, over or on the site;
- all parts of electrical installations and machinery are of adequate strength to withstand the working conditions on construction sites;

- the control of all temporary electrical installations on the construction site is designated to a competent person who has been appointed in writing for that purpose;
- all temporary electrical installations used by the contractor are inspected at least once a week by a competent person and the inspection findings are recorded in a register kept on the construction site; and
- all electrical machinery is inspected by the authorized operator or user on a daily basis using a relevant checklist prior to use and the inspection findings are recorded in a register kept on the construction site.
- Maintenance, Repairs and inspections of electrical machinery done by competent and authorised person.

5.35 Use and Temporary Storage of Flammable Liquids on Construction Sites

A contractor must, in addition to compliance with the provisions for the use and storage of flammable liquids in the General Safety Regulations, 2003, ensure that –

- where flammable liquids are being used, applied or stored at the workplace concerned, it is done in a manner that does not cause a fire or explosion hazard, and that the workplace is effectively ventilated;
- no person smokes in any place in which flammable liquid is used or stored, and the contractor must affix a suitable and conspicuous notice at all entrances to any such areas prohibiting such smoking;
- an adequate amount of efficient fire-fighting equipment is installed in suitable locations around the flammable liquids store with the recognized symbolic signs;
- only the quantity of flammable liquid needed for work on one day is taken out of the store for use;
- all containers holding flammable liquids are kept tightly closed when not in actual use and, after their contents have been used up, are removed from the construction site and safely disposed of;
- where flammable liquids are decanted, the metal containers are bonded and earthed; and
- no flammable material, including cotton waste, paper, cleaning rags or similar material is stored together with flammable liquids

5.36 Water environments

A contractor must ensure that where construction work is done over or in close proximity to water, provision is made for-

- preventing persons from falling into water; and

- the rescuing of persons in danger of drowning.

A contractor must ensure that where a person is exposed to the risk of drowning by falling into the water, the person is provided with and wears a lifejacket.

5.37 Housekeeping and General Safeguarding on Construction Sites

A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, promulgated by Government Notice No. R. 2281 of 16 October 1987, ensure that suitable housekeeping is continuously implemented on each construction site, including-

- the proper storage of materials and equipment;
- the removal of scrap, waste and debris at appropriate intervals;
- ensuring that materials required for use, are not placed on the site so as to obstruct means of access to and egress from workplaces and passageways;
- ensuring that materials which are no longer required for use, do not accumulate on and are removed from the site at appropriate intervals;
- ensuring that waste and debris are not disposed of from a high place with a chute, unless the chute complies with the requirements set out in the regulations;
- ensuring that construction sites in built-up areas adjacent to a public way are suitably and sufficiently fenced off and provided with controlled access points to prevent the entry of unauthorized persons; and
- ensuring that a catch platform or net is erected above an entrance or passageway or above a place where persons work or pass under, or fencing 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 in the case of danger of possibility of persons being struck by falling objects.

5.38 Stacking of Materials

In addition to the provisions for the stacking of articles in the General Safety Regulations, 2003, the contractor must ensure that –

- a competent person is appointed in writing with the duty of supervising all stacking and storage on a construction site;
- adequate storage areas are provided;
- there are demarcated storage areas; and
- storage areas are kept neat and under control.

5.39 Fire precautions on Construction Sites

A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, ensure that –

- all appropriate measures are taken to avoid the risk of fire;
- sufficient and suitable storage is provided for flammable liquids, solids and gases;
- smoking is prohibited and notices in this regard are prominently displayed in all places containing readily combustible or flammable materials;
- in confined spaces and other places in which flammable gases, vapours or dust can cause danger-
 - only suitably protected electrical installations and equipment, including portable lights, are used;
 - there are no flames or similar means of ignition;
 - there are conspicuous notices prohibiting smoking;
 - oily rags, waste and other substances liable to ignite are without delay removed to a safe place; and
 - adequate ventilation is provided;
- combustible materials do not accumulate on the construction site;
- welding, flame cutting and other hot work are done only after appropriate precautions have been taken to reduce the risk of fire;
- suitable and sufficient fire-extinguishing equipment is placed at strategic locations or as may be recommended by the Fire Chief or local authority concerned, and that such equipment is maintained in a good working order;
- the fire equipment contemplated above is inspected by a competent person, who has been appointed in writing for that purpose, in the manner indicated by the manufacturer thereof;
- a sufficient number of workers are trained in the use of fire-extinguishing equipment;
- where appropriate, suitable visual signs are provided to clearly indicate the escape routes in the case of a fire;
- the means of escape is kept clear at all times;
- there is an effective evacuation plan providing for all -
 - persons to be evacuated speedily without panic;
 - persons to be accounted for; and
 - plant and processes to be shut down; and
 - a siren is installed and sounded in the event of a fire.

5.40 Construction Employees' Facilities

A contractor must, in terms of the Construction Regulations 2014, provide:

- Shower facilities after consultation with the employees or employees representatives, or at least one shower facility for every 15 persons;
- at least one sanitary facility for each sex and for every 30 workers;
- changing facilities for each sex;
- and sheltered eating area.

A contractor must provide reasonable and suitable living accommodation for the workers at construction sites who are far removed from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

5.41 Hazardous Chemical Substances (HCS)

In addition to the requirements in the HCS Regulations, the principal contractor must provide proof in the Health and Safety Plan that:

- Material Safety Data Sheets (MSDS's) of the relevant materials / hazardous chemical substances are available prior to use by the contractor. All MSDS's shall be available for inspection by the agent at all times.
- Risk assessments are done at least once every 6 months.
- Exposure monitoring is done according to OESSM and by an Approved Inspection Authority (AIA) and that the medical surveillance programme is based on the outcomes of the exposure monitoring.
- How the relevant HCS's are being/going to be controlled by referring to:
 - Limiting the amount of HCS
 - Limiting the number of employees
 - Limiting the period of exposure
 - Substituting the HCS
 - Using engineering controls
 - Using appropriate written work procedures
- The correct PPE is being used.
- HCS are stored and transported according to SABS 072 and 0228.
- Training with regards to these regulations was given.

The Health and Safety plan should make reference to the disposal of hazardous waste on classified sites and the location thereof (where applicable).

The First Aider must be made aware of the MSDS and trained in how to treat HCS incidents appropriately.

5.42 Hazardous Biological Agents (HBA)

Because of the possible exposure of workers to Hazardous Biological agents the H&S Plan shall include details of the following:

- The conducting of Risk Assessment specifically aimed at exposure to HBA which shall include the following
 - Nature and dose of HBA
 - Where HBA may be present and in what physical form
 - The nature of work or process
 - Steps in the event of failure of control measures
 - The effect of the HBA
 - The period of exposure
 - Control measures to be implemented
- Monitoring of exposure of workers shall be conducted to establish whether any worker is infected with an HBA associated with working or being exposed to raw sewage, in terms of the following:
 - By an occupational medical practitioner
 - Before entering the site to establish the workers baseline
 - During the period of the contract the risk assessment indicate possible exposure
 - After completion of the contract
- Medical surveillance should such be required after the above-mentioned by an occupational health practitioner.
- Indication on how all records of assessment, monitoring, etc will be kept, taking into account that records have to be kept for a period of 40 years.
- How exposure to HBA is to be controlled
- The provision of personal protective equipment
- What information and training is to be provided to employees regarding the following:
 - The contents of these regulations
 - Potential risks to health
 - Control measures to be implemented
 - The correct use and maintenance of personal protective equipment

- The results of the risk assessment.

5.43 Noise Induced Hearing Loss

Where noise is identified as a hazard the requirements of the NIHL regulations must be complied with and the following must be included / referred to in the Health and Safety Plan:

- Proof of training with regards to these regulations.
- Risk assessment done within 1 month of commencement of work.
- That monitoring carried out by an AIA and done according to SABS 083.
- Medical surveillance programme established and maintained for the necessary employees.
- Control of noise by referring to:
 - Engineering methods considered
 - Admin control (number of employees exposed) considered
 - Personal protective equipment considered/decided on
 - Describe how records are going to be kept for 40 years.

5.44 Personal Protective Equipment (PPE)

The Contractor shall carry out PPE or clothing needs analysis in accordance with his risk assessment, to determine the necessary PPE or clothing to be used during construction. The Contractor shall make provision and keep adequate quantities of SABS approved PPE or clothing on site at all times.

The Contractor must ensure that personnel are trained in the correct use of PPE to be used.

The Contractor must ensure that lost, stolen, worn out or damaged PPE is replaced as required and receipt signed for by employees on site.

5.45 Fire Extinguishers and Fire Fighting Equipment

The Contractor shall provide adequate, regularly serviced fire extinguishers located at strategic points on site. The Contractor shall keep spare serviced portable fire extinguishers. The Contractor shall have adequate persons trained or competent to use the Fire Fighting Equipment.

Safety signage shall be posted up in all areas where fire extinguishers are located.

5.46 Ladders and Ladder work

The Contractor shall ensure that all ladders are numbered and inspected regularly keeping record of inspections. It should be noted that Aluminium ladders are preferred to wooden ladders.

5.47 Public Health and Safety

The Contractor shall ensure that each person working on or visiting a site, and the surrounding community, shall be made aware of the dangers likely to arise from onsite activities and the precautions to be observed to avoid or minimize those dangers. Appropriate health and safety signage shall be posted at all times.

5.48 Work in confined space

An employer or a user of machinery shall take steps to ensure that a confined space is entered by an employee or other person only after the air therein has been tested and evaluated by a person who is competent to pronounce on the safety thereof, and who has certified in writing that the confined space is safe and will remain safe while any person is in the confined space, taking into account the nature and duration of the work to be performed therein.

Where the provisions of sub regulation (1) cannot be complied with the employer or user of machinery, as the case may be, shall take steps to ensure that any confined space in which there exists or is likely to exist a hazardous gas, vapor, dust or fumes, or which has or is likely to have, an oxygen content of less than 20 per cent by volume, is entered by an employee or other person only when—

- subject to the provisions of sub regulation (3), the confined space is purged and ventilated to provide a safe atmosphere therein and measures necessary to maintain a safe atmosphere therein have been taken; and
- the confined space has been isolated from all pipes, ducts and other communicating openings by means of effective blanking other than the shutting or locking of a valve or a cock, or, if this is not practicable, only when all valves and cocks which are a potential source of danger have been locked and securely fastened by means of chains and padlocks.

Where the provisions of sub regulation (2)(a) cannot be complied with, the employer or user of machinery shall take steps to ensure that the confined space in question is entered only when the employee or person entering is using breathing apparatus of a type approved by the chief inspector and, further, that—

- the provisions of sub regulation (2) (b) are complied with;
- any employee or person entering the confined space is using a safety harness or other similar equipment, to which a rope is securely attached which reaches beyond the access to the confined space, and the free end of which is attended to by a person referred to in paragraph (c);
- at least one other person trained in resuscitation is and remains in attendance immediately outside the entrance of the confined space in order to assist or remove any or persons from the confined space, if necessary; and
- effective apparatus for breathing and resuscitation of a type approved by the chief inspector is available immediately outside the confined space.

An employer or user of machinery shall take steps to ensure that all persons vacate a confined space on completion of any work therein.

Where the hazardous gas, vapor, dust or fumes contemplated in sub regulation (2) are of an explosive or flammable nature, an employer or user of machinery shall further take steps to ensure that such a confined space is entered only if –

- the concentration of the gas, vapor, dust or fumes does not exceed 25 per cent of the lower explosive limit of the gas, vapor, dust or fumes concerned where the work to be performed is of such a nature that it does not create a source of ignition; or
- such concentration does not exceed 10 per cent of the lower explosive limit of the gas, vapor, dust or fumes where other work is performed.

The provisions of this regulation shall mutatis mutandis also apply, in so far as they can be so applied, to any work which is performed in any place or space on the outside of and bordering on or in the immediate vicinity of, any confined space, and in which place or space, owing to its proximity to the confined space, any hazardous article, oxygen-deficient atmosphere or dangerous concentration of gas, vapor, dust or fumes may occur or be present.

5.49 Work in Elevated Heights

No employer shall require or permit any person to work in an elevated position, and no person shall work in an elevated position, unless such work is performed safely from a ladder or scaffolding, or from a position where such person has been made as safe as if he were working from scaffolding.

Roof work falls within the definition of the construction site, the Construction Regulation, 2014 as per the requirements needs to be considered when working on roofs including the following sections when working at heights – CR 10 – Fall Protection (1) 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 (2) A fall protection plan contemplated in subregulation (1), must include a risk assessment of all work carried out from a fall risk position and the (a) 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; (c) a programme for the training of employees working from a fall risk position and the records thereof; 4 (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. (4) 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 subregulation (2); c) fall prevention and fall arrest equipment are 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.

Also taking into account – (5) Where roof work is being performed on a construction site, the contractor must ensure that, in addition to the requirements set out in subregulations (2) and (4), it is indicated in the fall protection plan that a) the roof work has been properly planned b) the roof erectors are competent to carry out the work; c) no employee is permitted to work on roofs during inclement weather conditions or if any conditions are hazardous to the health and safety of the employee; d) all covers to openings and fragile material are of sufficient strength to withstand any imposed loads; e) suitable and sufficient platforms, coverings or other similar means of support have been provided to be used in such a way that the weight of any person passing across or working on or from fragile material is supported; and f) suitable and sufficient guard-rails, barriers and toe-boards or other similar means of protection prevent, as far as is reasonably practicable, the fall of any person, material or equipment.

5.50 Lighting

Where poor or lack of illumination is identified as a hazard the lighting regulations must be complied with and the following must be included in the H&S Plan:

- How lighting will be ensured/ provided where daylight is not sufficient and /or after hours are worked.
- Planned maintenance programme for replacing luminaries.
- Proof of illumination levels of artificial illumination equipment.

5.51 Environmental Conditions and Flora and Fauna

The Contractor must be mindful of adverse weather conditions upon the health and safety of the workforce. This includes inclement weather, strong wind, heat stress, extreme cold, etc. The Contractor's risk assessment process must take into account the risks associated with such weather conditions. The same is true when working in an environment where there is a risk to employees' health and safety from presence of poisonous flora, or wildlife (including bees, snakes, etc). The Contractor's risk assessment process must take these risks into account.

5.52 Occupational Health

Exposure of workers to occupational health hazards and risks are very common in any work environment, especially in construction. Occupational health hazards and risks exposure is a major problem and all Contractors are to ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards and risks.

The occupational hazards and risks may enter the body in three ways:

- Inhalation through breathing e.g. cement dust;
- Ingestion through swallowing maybe through food intake;
- Absorption through the skin (pores) e.g. painting or use of thinners.

The contractor is required to ensure that all his personnel are medically fit prior to being allowed onto the work site.

All Contractors should ensure that Occupational Hygiene surveys are conducted as per the Occupational Health and Safety Act to ensure employees are not exposed to hazards. Risk Assessments should identify areas where surveys are to be conducted.

5.53 COVID-19

Ensure compliance to the requirements of Consolidated Covid-19 direction on health and safety workplace

Covid-19 Risk assessment was conducted and employees trained.

Workplace plans are documented and readily available

Workplace Covid-19 protocols are implemented and complied to.

5.54 Waste Management

Contractors are to ensure that the area immediately around workplace is always kept neat, and free of obstruction and waste.

Contractor to develop waste management plan per their scope of work and ensure compliance. Ensure that waste does not accumulate, and that waste is disposed of in the bins provided.

5.55 Asbestos

The appointed contractor shall provide asbestos removal services in compliance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Asbestos Abatement Regulations, 2020 (as amended).

The contractor shall:

Be registered with the Department of Employment and Labour (where required).

Ensure all asbestos workers are trained, competent, and medically fit.

Conduct a site-specific risk assessment and prepare an Asbestos Work Plan before work begins.

Use appropriate PPE and respiratory protective equipment (RPE).

Implement fibre control measures, exclusion zones, and decontamination procedures.

Dispose of asbestos waste at a licensed hazardous waste facility.

Conduct air monitoring and clearance inspections through an Approved Inspection Authority (AIA), where applicable.

Submit all required compliance documentation, including training records, medical certificates, air monitoring results, and waste disposal certificates.

All asbestos removal activities shall be undertaken to protect workers, the public, and the environment while ensuring full compliance with applicable health, safety, and environmental legislation.

1. TRAINING, INSPECTIONS AND RECORDS

The Contractor must be aware of the following additional requirements:

What	When	Output
Awareness training (Toolbox Talks)	At least fortnightly and before hazardous work is carried out	Attendance Register
Health and Safety Committee Meetings	Monthly	Minutes signed by employer
Health and Safety Reports	Monthly	Report covering: a) Incidents / Accidents and investigation b) Non conformance c) Health and Safety Training d) HIRA Updates e) Internal & External Audits
General Inspections	As per Health and Safety Specifications & OHSA	Report of Health and Safety Specifications and OHSA compliance: a) Scaffolding b) Lifting Machinery c) Excavations d) Construction vehicle
General Inspections	Monthly	Covering: a) Fire Fighting Equipment b) Portable Electrical Equipment c) Hand Tools d) Ladders
Record Keeping	On-going	Covering: a) General Complaints b) Fines c) General Incidents d) MSDS e) Surveillance Medicals f) Inspection Registers g) Department of Labour Notices h) Safe Disposal certificate (Waste)

ANNEXURE A

The contractor shall submit the info below prior to construction commencement.

Item No.	Health and Safety Specification Requirement	OHSA Requirement	Submission date
1	Notification of Intention to Commence Construction Notification of Asbestos work	Construction Regulation 2014	At least 7 days before commencement on site
2	Construction Work Permit(Approval)	Construction Regulation 2014	At least 30 days prior to project commencement
3	Assignment of a Responsible Person to Manage Building Work Via Health and Safety Organogram	Construction Regulation 2014	Before commencement on site
4	Competency for Health and Safety Positions	Client / Client Agent requirement	Before commencement on site
5	Letter of Good Standing	Compensation of Occupational Injuries & Disease Act (COIDA) 130 of 1993	Before commencement on site
6	Public Liability Insurance	Client / Client Agent requirement	Before commencement on site
7	Occupational Health and Safety Policy	Client / Client Agent requirement	Before commencement on site
8	Section 37(2)	Client / Client Agent requirement	Before commencement on site
9	Health and Safety File With the Following including 1-8 of this annexure •Scope of work + Occupational Health and Safety Plan •Health and Safety Policy •Responsibilities and Appointment letters+ Organogram •Training and Toolbox talks - Competency, licenses, and accreditations- Fall Protection Planner, Registered Asbestos Contractor, Approved Inspection Authority (AIA),Asbestos Handling Certificate •Medicals •Safe Working Procedures •Risk assessment and Method Statement(s) including Covid-19 - Approved plan of works for the asbestos removal from DOL, for asbestos removal. •Fall protection plan •Registers, Inspections and Audits •Incident Management and emergency procedures+ Emergency Numbers •Waste Management Plan including asbestos disposal (Landfill certificate and Hazardous Waste •Subcontractors management	Client / Client Agent requirement	Before commencement on site

10	Induction	Client / Client Agent requirement	Before commencement on site
11	Covid 19 Regulations and protocols	Client / Client Agent requirement	Before commencement on site

ANNEXURE B: APPOINTMENTS

The Contractor shall make the following appointments:

No	Description	No	Description
1	Chief Executive Officer (OSHACT 16(1))	17	Material Hoist Inspector (CR19(8)(a))
2	Contract Director/Manager (OSHACT 16(2))	18	Material Hoist Operator (CR19(6))
3	Construction Manager (CR 8(1))	19	Bulk Mixing Plant Supervisor (CR20(1))
4	Construction Supervisor (CR 8(7))	20	Bulk Mixing Plant Operator (CR20(2))
5	Assistant Construction Supervisor (CR 8(8))	21	Controller of Explosive Actuated Fastening Devices (CR21(2)(g)(1))
6	Construction Safety Officer (CR 8(5))	22	Construction Vehicle and Mobile Plant Operator (CR23(1)(d)(i))
7	Construction risk assessor (CR 9(1))	23	Controller of Temporary Electrical Installations (CR24('c)) and Competent for Electrical installations
8	Fall Protection Competent Person (CR 10(1))	24	Stacking Supervisor (CR28(a))
9	Traffic Safety Officer	25	Fire Extinguishing Equipment Inspector (CR29(h))
10	Safety Representative (where > 20 employees on site)	26	Fire Fighters (CR29(i))
11	Temporary work Designer (CR 12(1))	27	First Aider (GSR 3)
12	Temporary work Supervisor (CR12(2))	28	Fall Protection Plan Developer (CR 10(1)(a))
13	Excavation Supervisor (CR13(1)(a))	29	Incident Investigator (OSHACT 9(2))
14	Demolition Supervisor (CR14(1))	30	Competent Person – Confined Spaces (GAR 5(1))
15	Scaffold Supervisor (CR16(1))	31	Health and Safety technical Committee (CR 31)
16	Suspended Platform Supervisor (CR17(1))	32	General Machinery Competent Person (GMR 2)
		33	Covid-19 Compliance Officer

7. PROJECT DETAILS

PROJECT DIRECTORY:		
Client	SANParks	Tel: email:
Safety Manager	SANParks	Tel: email:

PROJECT DETAILS:
Description of Works
Anticipated Contract Duration
Provisional Start Date
Completion Date

EXISTING ENVIRONMENT:															
Hazards particular to this project by virtue of location: Wild Animals: NA Members of the public: All necessary steps to be taken to protect them from any dangers associated with the construction works being undertaken. Public Roads: Use of roads network to be carefully planned to accommodate day to day users. Other:															
Overhead, Above Ground and Underground Services crossing the site: <table> <tr> <td>Overhead:</td><td>Applicable/Not Applicable</td></tr> <tr> <td>Underground:</td><td>Applicable/Not Applicable</td></tr> <tr> <td>Ground Level:</td><td>Applicable/Not Applicable</td></tr> <tr> <td>Services Drawings available</td><td>Applicable/Not Applicable</td></tr> <tr> <td>Way leaves required:</td><td>Applicable Not Applicable</td></tr> <tr> <td>Permits required:</td><td>Applicable/Not Applicable</td></tr> <tr> <td>Isolation required:</td><td>Applicable/Not Applicable</td></tr> </table>		Overhead:	Applicable/Not Applicable	Underground:	Applicable/Not Applicable	Ground Level:	Applicable/Not Applicable	Services Drawings available	Applicable/Not Applicable	Way leaves required:	Applicable Not Applicable	Permits required:	Applicable/Not Applicable	Isolation required:	Applicable/Not Applicable
Overhead:	Applicable/Not Applicable														
Underground:	Applicable/Not Applicable														
Ground Level:	Applicable/Not Applicable														
Services Drawings available	Applicable/Not Applicable														
Way leaves required:	Applicable Not Applicable														
Permits required:	Applicable/Not Applicable														
Isolation required:	Applicable/Not Applicable														
Existing structures and surrounding land use (with a significant impact on Health and Safety): The work entails Maintenance of Standby Power Supply.															
Existing ground conditions and ground survey report: Normal or levelled Ground.															
Existing Traffic Systems: <table> <tr> <td>Conditions:</td><td>Tar roads</td></tr> </table>		Conditions:	Tar roads												
Conditions:	Tar roads														



Restrictions to access:	Applicable
Speed restrictions:	Normal road restrictions: 20km/h

PROJECT HEALTH AND SAFETY REQUIREMENTS:

Significant health and safety hazards identified by Designer and Client Agent:

Accommodation of Traffic (Management Plan): The Principal Contractor must supply a proper and comprehensive Traffic Management Plan for the various sites within this identification, i.e. the Site camp and surrounds as well as the work area and surrounds.

Members of the Public: The works is in a very busy area. The Principal Contractor is responsible for the safety of the workers as well as the public. The Principal Contractor will have to have sufficient warning & information signage to assist with the information to the public. The Principal Contractor will be responsible to have sufficient directional signage.

Wild animals:

Other:

Normal construction hazards expected . Indicate

Manual Handling of plant/material/equipment

Members of public

Metal work

Noise and Dust

Fire

Plant / Vehicle and Equipment Operations

Hand Tools

Hazardous Substances

Confined Spaces

Electric Tools & Electrical Installation

Electrical cabling

Temporary Works

NOTE: Please refer to the end of this Health and Safety Specification for the baseline risk assessment of these risks.

ACTIVITIES REQUIRING APPROVED METHOD STATEMENTS

Protection of Public
Not applicable

ACTIVITIES REQUIRING PERMITS

Permit to Dig / Permit to Enter Excavations: Applicable/Not applicable on this project

Permit to Work with Electricity: Applicable/Not applicable on this project

Confined Space Permit: Applicable/Not applicable on this project

Hot Works Permit: Applicable/Not applicable on this project



Permit to work under Power Lines:	Applicable/Not applicable on this project
Blasting:	Applicable/Not applicable on this project
Temporary Works:	Applicable/Not applicable

GENERAL ARRANGEMENTS		
Restrictions on times:	Monday - Friday 08:00 to 19:00	Saturday 08:00-19:00
Access to site by Construction Vehicles:	Yes, principal contractor to manage	
Access to site by Construction workers & Visitors:	Visitors and personnel to report to site office	
Site camp location and set up:	Restrictions/requirements, storage areas and security to be advised in consultation with principal agent	
Ablution and Welfare:	Site Facilities	
Environmental Conditions:	Contractor must take into account adverse weather conditions on site activities and implement control measures to mitigate risk	
Induction Training:	All workers to receive induction training prior to commencement on site. Special reference to SANParks Health and Safety Policy and Induction Awareness Training and SANParks EMP and Code of Conduct	

PROTECTION OF SITE AGAINST UNAUTHORIZED ACCESS BY PUBLIC															
Excavation Fencing: Note that excavations accessible to public, or adjacent to public roads / through fares, must have (1) barrier / fence of at least 1m in height, and (2) warning illuminates at night or when visibility is poor, or have other suitable precautionary measures if both of these are not practicable. The entire site is to be fenced off with ready fencing. There needs to be access control as well as security personnel on site at all times. General Fencing of Site: Note that construction site must be fenced off and have controlled access point. Warning Notices: Construction site, Visitors to report to the site office. Pedestrian arrow signage towards the other side of the road, Fire Extinguisher, First Aid, Emergency Assembly area and Emergency telephone numbers. Reflective vests, safety boots and dust masks signage to be displayed.															
PERSONAL PROTECTIVE EQUIPMENT (PPE)															
The Client requires the Contractor to ensure that employees (and other under his/her control) wear the following minimum PPE: <table> <tr> <td>Overalls:</td><td>Yes No</td></tr> <tr> <td>Safety Harnesses:</td><td>Yes No</td></tr> <tr> <td>Hard Hats:</td><td>Yes No</td></tr> <tr> <td>Safety Footwear:</td><td>Yes No</td></tr> <tr> <td>Reflective Vests:</td><td>Yes No</td></tr> <tr> <td>Goggles / Gloves / ear and respiratory protection</td><td>As per job function</td></tr> <tr> <td>Specialist equipment:</td><td>As per job function</td></tr> </table>		Overalls:	Yes No	Safety Harnesses:	Yes No	Hard Hats:	Yes No	Safety Footwear:	Yes No	Reflective Vests:	Yes No	Goggles / Gloves / ear and respiratory protection	As per job function	Specialist equipment:	As per job function
Overalls:	Yes No														
Safety Harnesses:	Yes No														
Hard Hats:	Yes No														
Safety Footwear:	Yes No														
Reflective Vests:	Yes No														
Goggles / Gloves / ear and respiratory protection	As per job function														
Specialist equipment:	As per job function														

HAZARDOUS SUBSTANCES

The following materials and substances have, or may have, to be used in the works and are identified as potentially posing special health and / or safety hazards during the project. Appropriate measures will need to be specified for their control:

Petrol
Diesel
Silicone
Other

BASELINE RISK ASSESMENT

Baseline Risk Assessment

PROJECT

Risk Rating is measured by determining the Likelihood (L) and Consequence (C) and using the Matrix to determine the Risk Rating (R).

Risk Ranking below 10 is deemed Tolerable, between 11 and 19 is deemed Medium Risk and above 20 is deemed High Risk

Steps in operation	Ref No.	Hazard	Risk	Risk Rating			Legal Requirements	Control Measures
				L	C	R		
General Onsite Activities	A1	Access to Site	Pedestrian & people equipment interaction causing injury	4	2	12	Occupational Health and Safety Act	Area to be secured and barricaded / fenced
							24(1)	
			Dust Inhalation	3	1	4	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
			Unauthorised entry	3	2	8	Occupational Health and Safety Act	Site Visit Register, signage, Permit for vehicle access
							12(2)	
			Slip,trip, and fall	3	2	8	Occupational Health and Safety Act 12(1)(b)(c)	Induction Training & PPE
	A2	Placing of office/containers if lifting is involved	Heavy objects swinging out of control causing injury/damage	2	4	14	Driven Machinery 18(11)	Safe work area, Induction Training, Trained operator, Lifting Plan
			Crane/lifting tackle failure causing object to	2	4	14	General Machinery Regulations	Inspection Register, Trained operator

			fall				7(a)9b)	
			Accidental collision with overhead power lines	2	4	14	General Machinery Regulations	Assign a flag man, determine safe work area
							7(a)(b)	
			Lifting machine/crane falling over	2	4	14	General Machinery Regulations	Assign a flag man, determine safe work area
	A3	Hand Loading and offloading of heavy machinery & equipment	Items rolling/slipping falling causing injury	4	2	12	General Machinery Regulations 2(1)	Induction training, PPE
			Incorrect Lifting procedure resulting in injury	3	2	8	General Machinery Regulations 3(2)	Induction training, Proper lifting procedure, PPE
	A4	Machine loading and offloading of heavy machinery & equipment	Failure of machinery causing injury	3	3	13	Driven Machinery 18(1)(a)(b)	Supervision
			Equipment falling				General Machinery Regulations 2(2)	PPE
			Collision of vehicles	3	3	13	General Machinery Regulations 7(a)(b)	Flag men
	A5	Traffic	Equipment interaction	3	4	18	Construction Regulation	Traffic management plan
			Pedestrian collision	3	4	18	Construction Regulation 23(2)(c)	Pedestrians Walkways
	A6	Lack of employees facilities	Lack of drinking water, dehydration of workers	3	5	22	Construction Regulation 30(1)(a)	Provision of drinking water & Induction training
			Lack of sanitary facilities, unhygienic conditions	3	5	22	Construction Regulation 30(1)(b) and 30(2)	Provision of chemical toilets & proper housekeeping
	A7	Stacking & Storage	Fall, slip resulting in potential injury/damage	4	3	17	Construction Regulation 28(d)	Storage plan, induction training and restricted access
			Obstructing critical equipment and walkways	4	3	17	Construction Regulation 27 (a)(c)(g)	Storage plan, induction training and restricted access
			Flammable liquids catching fire	3	3	13	Construction Regulation 25(a)(b)(c)	Storage plan, induction training and fire fighting

								equipment
			Hazardous storage of materials	3	3	13	Hazardous Chemical Regulation(25)9A(2)	Storage plan, regular inspections
	A8	Handling of chemicals and fuels	Exposure	3	3	13	Hazardous Chemical Regulation 9A(1)(a-p)	PPE
			Inhalation	3	3	13	Hazardous Chemical Substances Regulation (36)(37)(38)	
			Burns to Skin	3	3	13	Hazardous Chemical Substances Regulations 9A(2); Material Data Sheet	
	A9	Temporary Low voltage Electrical installation	Exposure to live wires-electrocution	2	5	19	Construction Regulation 24(a)(b)	Lockable DB box, Inspection register
			Faulty earth leakage	2	5	19	SANS 10142	Competent person to do installation & inspection
			Short circuit causing fire	2	4	14	Construction Regulation 24(b)	Weekly inspection, Induction Training & Fire fighting equipment
	A10	Issue of PPE	Incorrect PPE	4	2	12	General Safety Regulation 2(1)	PPE Register
	A11	Usage of PPE	Incorrect use of PPE	4	2	12	General Safety Regulation 3(2)	PPE Register, Induction Training, supervision
			Negligence to use PPE	4	2	12	General Safety Regulation 5	PPE Register, Induction Training, supervision
	A12	Adverse storms	Struck by lightning	2	5	19	Induction Training	Proper warning system
Safe Operation Procedure								
A13	Adverse heat	Dehydration, Sunburn, heat stroke	3	4	18	Induction Training Safe Operation Procedure	Proper drinking water, PPE	

	A14	Working in excessive winds	Exposure to dust	3	4	18	Hazardous Chemical Substances Regulation (36)(37)(38)	PPE
	A15	House keeping	Objects lying around can result in slip/fall	4	2	12	Construction Regulation 27(a)(b)	Regular cleaning of site
			Unhygienic conditions	3	3	13	Construction Regulation 27(d)	Induction Training
			Pollution of area	3	2	8	Construction Regulation 27(e)	Proper waste bins and waste removal
	A16	Fire prevention	Open Fires	3	3	13	Construction Regulation 29(a)	SANParks EMP & Code of conduct
	A17	Environmental pollution	Pollution of ground,air,workspace	3	2	8	Environmental Regulation 6(d)	SANParks EMP & Code of conduct
			Littering	4	2	12		Induction Training, Provide proper trash bins
	A18	Working near hazardous animals incl. snakes, spiders & scorpions	Poisons bites/ attack by large animals	3	3	13	SANParks Environmental Management Plan	Induction Training, SANParks ranger where required, Proper treatment in first aid kit
	A19	Working in close proximity of water	Falling into water & drowning	3	4	18	Construction Regulation 26(1)(a)(b)	Safe work area, Induction Training, barricades
			Pollution of water body	3	4	18	SANParks Environmental Management Plan Construction Regulation 26(2)	Induction Training

	A20	Emergency Evacuation Plan	Emergency contact numbers not available	3	4	18	Emergency evacuation plan	Emergency Contact Numbers displayed and readily available
			Confusion of emergency evacuation plan	3	4	18	Emergency evacuation plan	Proper induction training
	A21	COVID-19	Occupational disease	3	4	18	OHS Act:HBA Regulations Consolidated Covid-19 Direction on Health and Safety in the workplace	Covid-19 Prorocols, PPE, Training, Induction
Plant or vehicle & equipment	B1	Construction vehicles	Equipment Failure	4	4	21	Construction Regulation 23(1)(k)	Vehicle check list and regular maintenance
			Un-roadworthy vehicles	3	4	18	Construction Regulation 23(2)(i)(j)(k)	Vehicle check list and regular maintenance
			Speeding/ Operation	3	4	18	Construction Regulation 23(2)(l)	Safe traffic route, imply penalties, traffic calming measures
			Potential accident/collision	4	4	21	General Machinery Regulations 7(a)	Induction Training, Reflective vests, safe work area
			Material/equipment fall from vehicle	4	4	21	Construction Regulations 23(1)(b)(g)(h)	Properly secure all goods
			Vehicle/plant not used for correct purpose	3	3	13	Construction Regulations 23(1)(b)(c)	Supervision, controlled access to vehicle/plant
		Licencing of operators	Unauthorized operation of equipment	3	3	13	Construction Regulation	Valid operator, restricted access to machinery, supervision
							23(1)(d)(i)(ii)	
			Expired licenses	3	1	6	Construction Regulation 23(1)(d)(i)(ii)	Keep OHS file up to date
	B3	Parking of vehicles	Runaway vehicle	3	4	17	Safe Operation Procedures (SOP)	Vehicle check list, use stop block behind tyres
			Parking in unsafe areas	3	1	4	Construction Regulation 23(2)(i)(j)	Demarcate proper parking areas
Transportation	C1	Transportation of employees	Interaction with other vehicle- collision	4	4	21	Construction Regulation 23(1)(b)(j)	Supervisor

			Equipment not roadworthy	3	1	4		Vehicle checklist, vehicle must meet required standards
			Equipment not licensed	3	1	4	Construction Regulations 23(a)(b)	Supervision and monitor
			Operator of vehicle transporting employees not licensed and authorized	3	1	4	Construction Regulation 23(2)(i)(j)	Supervision and monitor if Driver has Valid PDP
			Vehicle not equipped to transport employees	3	1	4	Construction Regulation 23(d)(i)(j)	Vehicle checklist, vehicle must meet required standards
			Not Adhering traffic legislation	3	1	4	Construction Regulation 23(2)(j)	Supervision, implement fines
	C2	Transportation of material or equipment with people	Material/equipment fall from vehicle	4	4	21	Construction Regulation 23(g)(h)	Properly secure all goods
			Potential accident/collision	4	4	21	Construction Regulation 23(2)(g)(h)(j)	Induction Training, Reflective vests, safe work area
	C3	Towing a Trailer	Vehicle accident	4	4	21	Construction Regulations 23(e); Occupational Health and Safety Act 24(1)(c)(iii)(iv)	Awareness, trained operator
			Towing coupler failure	3	3	13	Construction Regulation 22(e)	Inspection Register
Hand Tools	D1	Injury Due to handtool handling	Incorrect tools used	4	3	17	Hand tool register, Induction Training,	Supervision
			Defective tools	4	3	17	Safe Operation Procedure	Supervision
			Struck by flying debris	3	3	13	Safe Operation Procedure	PPE
	D2	Hand Drills	Clothing being grabbed by rotating drill	3	3	13	Safe Operation procedure, Toolbox Talks Electrical Machinery Regulations 10(3)(4)	PPE, Supervision
			Unsecured work piece rotating with drill	3	3	13		PPE, Supervision

			Shaving flying into eyes	3	3	13		PPE, Supervision
			Accidental injury	4	3	17	Electrical Machinery Regulations 10(4)	PPE, Supervision
			Electrocution	3	5	22	Electrical Machinery Regulations 10(1) (a)(b)	Tool inspection register
	D3	Angle Grinder	Cutting disc cracked and breaks	3	3	13	Safe Operation procedure, Toolbox Talks	PPE, Supervision
			Shaving flying into eyes	3	3	13	Electrical Machinery Regulations 10(3)	PPE, Supervision
			Exposure to noise	3	3	13	Noise Induced Hearing Loss Regulations (7)(1)(a)(b)(c)(d)	
								PPE
			Vibration	2	2	5	Safe Operation procedure, Toolbox Talks	
			Accidental injury	4	3	17	Safe Operation procedure, Toolbox Talks	PPE, Supervision
			Electrocution	3	5	22	Electrical Machinery Regulations 10(1) (a)(b)	Tool inspection register
	D4	Other electrical portable hand tools	Electrocution	3	5	22	Electrical Machinery Regulations 10(1) (a)(b)	Tool inspection register, inspect extension cord

			Exposure to noise	3	3	13	Noise Induced Hearing Loss Regulations (7)(1)(a)(b)(c)(d)	PPE
			Vibration	2	2	5	Safe Operation procedure, Toolbox Talks	
			Accidental injury	4	3	17	Safe Operation procedure, Toolbox Talks	PPE, Supervision
			Shaving flying into eyes	3	3	13	Safe Operation procedure	PPE, Supervision
	D5	Explosive actuated fastening device	Malfunction of equipment causing injury/damage	3	3	13	Explosive Regulations 15(a)(b)	Tool inspection register, inspect extension cord
			Accidental discharge	3	3	13	Explosive Regulations 15(a)(b)	Safety mechanism working, Store in unloaded condition
Site Clearance	E1	Site/Bush Clearing	Moving machinery accident	4	3	17	Construction Regulation 23(2)(b)	Reflective vests, restricted access, induction training
			Injury due to hand tools	4	3	17	Safe Operation Procedures (SOP)	Induction Training, PPE, First Aider
			Snakes/ Spider bites	3	3	13	SANParks Environmental Management Plan	Induction Training, Proper First Aid treatment available
			Dangerous animals in vicinity	3	3	13	SANParks Environmental Management Plan	Induction training, armed rangers escort
			Electrical cables and other services in way of work area	3	4	17	Construction Regulation 24(c)	Properly mark & demarcate existing services
	E2	Tree felling	Injury from chainsaw	3	3	13	Safe Operation Procedures (SOP)	Trained operator, PPE
			Injury from falling tree	3	3	13		Safe work area, PPE
			Felling from height	3	3	13		Safety Harness, Fall Protection Plan, PPE
				Exposure to electrical cables	3	3	13	Electrical Installation Regulations(5)(1)(2)

	E3	Removal of waste	Moving machinery accident	4	4	22	Construction Regulation 23(1)(b)(c)	Reflective vests, restricted access, induction training
			Waste material falling of vehicle	3	3	13	Construction Regulations 23(h)	Secure load, stay within maximum vehicle load capacity
			Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	
								Induction Training & PPE
	E4	Demolition	Structure/rubble falling on person	3	3	13	Construction Regulation 14(1); 4(ii)	Induction Training, PPE, demarcate area
			Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	
								Induction Training & PPE
			Presence of Asbestos	2	4	14	Asbestos Regulations (4)	PPE, Induction Training
			Hitting electrical cable - electrocution	3	5	22	Construction Regulation 24(a)	Induction training, Site map indicating existing services
			Hitting of gas line - explosion	3	5	22	Construction Regulation 14(1)(2)	Induction training, Site map indicating existing services
Excavation & backfilling	F1	Hand Digging of holes/trenches	Injury due to defective tools	4	3	18	Construction Regulation 13(a)	Hand tool register, Induction Training
			Injury due to improper work method	4	3	18		Induction training, supervision
			Trip/fall into holes	3	3	13		Demarcate area, induction training, PPE
	F2	Machine Digging of holes/trenches	Collapse of trench	3	3	13	Construction Regulation 14(4)(iii)	Excavation inspection register by component person daily
			Collapse of adjacent structure	3	3	13	Construction Regulation 11(1)(a)	Safeguard adjacent structures
			Malfunction of machinery	3	3	13	General Machinery Regulations 2(2)	Machinery Inspection Register
			Unauthorized driver	2	2	5	General Machinery Regulations 2(1)	Trained operator, supervision, restricted access to machinery
			Unnecessary Damage to environment	3	2	9	SANParks Environmental Management Plan	Induction Training, designated work area

	F3	Tipping of material	Material falling on to person	3	3	13	Construction Regulation 23(g)	PPE, Safe Work area, Flag men
			Malfunction of equipment causing injury/damage	3	3	13		
	F4	Use of Jackhammer	Exposure to excessive noise	3	3	13	Noise Induced Hearing Loss Regulations 7(1)(a)(b)(c)(d)	PPE
			Injury due to malfunction of equipment	3	3	13		Inspection Register
	F5	Hitting of electrical cable and services	Electrocution	3	5	22	Construction Regulation 24(a)(b)(c)	Induction training, Site map indicating existing services
	F6	Opening trenches	Risk of collapse	3	3	13	Construction Regulation 13(h)(l)	Stabilize trench, work permit, induction training
			Fall, slip into trench	4	3	17	General Safety Regulations 2(5)(6)	Barricade trench, PPE
	F7	Compaction	Personal Injury	3	3	13	General Safety Regulations 2(5)	PPE, Trained operator
			Collision of machinery	3	3	13	General Machinery Regulations 4(1)	Induction Training, Reflective vests, safe work area
			Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
Installation of pipes/cables	G1	Installation of sewer/water pipes in trenches	Fall, slip into trench	4	3	17	Electrical Installation Regulations(5)(1)(2)	Barricade trench, PPE
			Exposure to hazardous biological agents	3	3	13	Hazardous Biological Agent Regulations 5(2)	Induction training, PPE
			Pipe handling/lifting resulting in injury	3	3	13		Induction training, PPE
	G2	Installation of electrical cable in trench	Fall, slip into trench	4	3	17	Electrical Installation Regulations(2)(1)(2)	Barricade trench, PPE

Temporary Works	H1	Shoring/formwork/ Shuttering	Cable handling/lifting resulting in injury	3	3	13	Electrical Installation Regulations(2)(1)	Induction training, PPE,
			Dangerous/unsafe cable Joints	3	3	13	Electrical Installation Regulations(5)(1)(2)	Competent installer
			Collapse of equipment	3	3	13	Construction Regulation 12(1)(2)	Built by competent person, PPE
			Injury during assembly/dismantling	3	3	13	Construction Regulations 12(3)(a)	Induction Training, PPE, Supervision
			Collapse/bursting of structure	2	3	9	Construction Regulation 12(3)(c)(f)	Design of structure to be loaded to be approved by competent designer
			Inaccessibility to work area	2	3	9		Adequate safe access provided
			Fall, slip from shoring/formwork	3	3	13	Construction Regulation 10(1)(b);(2)(a)(b)	Fall Protection Plan, PPE, safety nets
			Falling material from height	4	3	17		PPE, safety nets
			Cuts and abrasions from splinters and nails	4	2	12	Construction Regulations 12(2)	PPE
	H2	Stop & Go Procedures - Moving Vehicles	injuries to employees involved in an accidents whiles setting up and taking down Stop/Go procedure	4	4	21	Construction Regulation 12(3)(d)	Visibility jackets, radio communication
			Injuries to employees involved in an accidents - in the midst of Stop/Go activity	4	4	21		
			Injuries to road users involved in an	4	4	21	Construction Regulation 12(3)(d)	
			accidents - approaching a Stop/Go activity					
Concrete	I1	Manual Mixing	Cement dust inhalation	3	2	8	Hazardous Chemical Substances Regulations 8(a)(b)(c)	Material Safety Data Sheet, PPE, Supervision
			Hazardous substance contact - dry cement mix	3	3	13	Hazardous Chemical Substances	PPE, Induction Training

			Spillage/ pollution	3	3	13		PPE, Concrete mixing sheet
			Injury during mixing/ cement burns	3	3	13		Induction Training, supervision, PPE
	I2	Concrete Mixer Machine	Poor ventilation causing ill health	3	2	8	General Safety Regulations 5(5)	PPE, additional ventilation
			Accidental injury through flying objects	3	3	13	Hazardous Chemical Substances Regulations 10(3)	Induction training, supervision
			Spillage/ pollution	4	3	17		PPE, Concrete mixing sheet
			Clothing/body parts getting caught in open pulley. V-belts etc.	3	3	13		Induction training, inspection register, all moving parts covered with guard
	I3	Bulk Mixing Plant	Unauthorized operation	3	2	8	Construction Regulation 20(1)(a)(b)	Competent Operator, Supervision
			Malfunction of equipment causing injury/damage	3	3	13		Inspection Register & maintenance register
	I4	Concrete pumping	Cement Burns	3	2	8	Safe Operation Procedures (SOP)	PPE, Induction Training
			Accidental collision with pump	2	3	9	General Safety Regulations 2(5)	Trained operator, supervision, restricted access to machinery
			Collapse/bursting of structure	2	3	9	Safe Operation Procedures (SOP)	Design of structure to be loaded to be approved by competent designer
			Malfunction of equipment causing injury/damage	3	3	13	Safe Operation Procedures (SOP)	Inspection register
	I5	Exposure to Hazardous chemical substances	Exposure	3	3	13	Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)	PPE, Induction Training
			Burns to Skin	3	3	13		PPE, Induction Training
			Inhalation	3	3	13		PPE, Induction Training
Working at	J1	Climbing up and down equipment	Fall from equipment	4	3	17	General Safety Regulations (6)	Induction, PPE, Fall Protection plan

heights			Equipment used for incorrect purposes	3	3	13		Induction training, supervision
			Equipment failure resulting in injury/damage	3	3	13		Inspection register
	J2	Working on Scaffolding	Collapse of Scaffolding	3	3	13	Construction Regulation 16(1)	Competent scaffold erector, inspection register
			Person slipping/falling from scaffolding	4	3	17	Construction Regulation 16(2)	Fall protection plan, safety harnesses, barricades
			Falling objects from scaffolding causing injury/damage	4	3	17	Construction Regulation 16(1)(2)	PPE, safe work area, catch nets
			Scaffolding used for incorrect purpose					
			Sharp edges causing injury	3	2	8	Construction Regulation 16(1)	Induction Training, supervision
				3	2	8		Induction Training, supervision
	J3	Working on Ladders	Fall from ladder	4	3	17	General Safety Regulation 13A(4)(a)(b)	PPE, safety harness, Fall protection plan
			Ladder not secure - slip	3	3	13	General Safety Regulation 13A(2)(a)(b)	Secure ladder
			Ladder damaged or substandard	3	3	13	General Safety Regulation 13A(2)(a)(b)	Ladder inspection Register
			Ladder used for incorrect purpose	3	2	8	General Safety Regulation 13A(3)(a)(b)	Induction Training, supervision
	J4	Roof Work	Fall from heights resulting in injury/Fatality	3	5	22	Construction Regulation 10	Induction, Training, Supervision
			Fall from heights as a result of Anchor Failure	3	5	22	Construction Regulation 10	Inspection. Training, maintenance
			Exposure to Asbestos – e.g. cement roof sheets,	3	4	18	Construction Regulation 10 Asbestos Regulation (OHS Act)	Induction, Training

			Hot Work on the roof	3	3	17	General Safety Regulation 5	
			No fall protection and method statements leading to injuries/Fatalities	3	5	22	Construction Regulation 10	Fall protection Plan, Method Statement, Training
			Lack of training	3	3	17	Construction Regulation 10	Training records, Induction Records
			Deteriorated roof material including structure leading to Injuries and Fatalities	3	5	22	Construction Regulation 10	Inspections, Method Statements, Training
			Lack of Working at heights equipment and PPE	3	5	22	Construction Regulation 10	Roof Inspection to identify Equipment needed, Fall Protection plan, Method statement, PPE
Work in Confined Spaces	K1	Confined Spaces	Lack of oxygen	2	3	9	General Safety Regulations 5(1)	Additional ventilation
			Intoxicating Fumes	2	3	9	General Safety Regulations 5(1)(2)(a)(b)	Respiratory masks
Construction	L1	Bricklaying	Injury due to sharp bladed tools	3	3	13	Occupational Health and Safety	PPE, Induction Training
			Fall from heights	3	3	13	8(1)(2) Construction Regulations 10	PPE, Fall Protection Plan
			Injury due to hauling of bricks	4	3	17	SOP	PPE, Induction Training
			Shards flying into eyes from breaking bricks	4	3	17	SOP	PPE, Induction Training
			Bricks falling from height	4	3	17	Construction Regulation 10	Safe work area, Induction Training, barricades
	L2	Plastering	Falling Material onto person	3	3	13	Safe Operation Procedures (SOP)	PPE, Induction Training

			Fall from heights	3	3	13		PPE, Fall Protection Plan
			Spillage/ pollution	3	3	13	Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)	Drop sheets to be used
			Hazardous substance contact - dry plaster mix	3	3	13		
			Dust -ill health	3	3	13		PPE, Induction Training
	L3	Painting	Unauthorized use of grinders during preparation for painting	3	3	13	Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)	PPE, Supervision
			Exposure to chemicals/ inhalation of fumes	3	4	18		
			Spillage/ pollution from paint	3	3	13		PPE, Supervision
			Flammable liquids - Accidental fire	3	4	18	Construction Regulation 25(a)(b)(c)(d)(e)(f)(g)	PPE, Supervision
			Improper ventilation	3	3	13		Proper storage facilities, Fire fighting equipment
			Unauthorized access to flammable liquids	3	3	13		Restricted access
			Fall from heights	3	3	13		PPE, Fall Protection Plan
	L4	Tiling	Injury due to sharp bladed tools	3	3	13	Safe Operation Procedures (SOP)	PPE, Induction Training
			Shards flying into eyes from breaking tiles	4	3	17		PPE, Induction Training
			Exposure to chemicals/ inhalation of fumes	3	4	18	Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)	
	L5	Carpentry & Joinery	Injury due to sharp bladed tools	3	3	13		PPE, Supervision
			Shards flying into eyes	4	3	17	Safe Operation Procedures (SOP)	PPE, Induction Training

			Exposure to chemicals/ inhalation of fumes	3	4	18	Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)	PPE, Supervision
	L5	Chasing of services into brickwork	Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
			Electrocution - hitting of services				Construction Regulation 24(a)	
			Injury due to sharp bladed tools	3	3	13	Safe Operation Procedures (SOP)	PPE, Induction Training
			Shards flying into eyes	4	3	17		PPE, Induction Training
	L6	Rope Access Work	Falling from height	3	3	13	Construction Regulations 18(1)(a)(b)(c)	
			Failure of equipment	4	3	17	Construction Regulations 18(2)(a)(b)(3)	
			Improper equipment	3	3	13	Construction Regulations 18(2)(a)(b)(3)	
	L7	Roof Construction	Falling Material onto person	3	3	13	Construction Regulations 10(1)(a)(b)(c)	PPE, Induction Training
			Fall from heights	3	3	13		PPE. Fall Protection Plan
			Collapse of structure	3	3	13		Competent designer, supervision
	L8	Water pipeline connections	Person coming into contact with liquid under pressure	3	3	13	Safe Work Procedure	PPE, Induction Training
			Exposure to thread sealant	3	3	13		PPE, Induction Training
			Release of pressure during pressure test	2	2	5		PPE, Induction Training
	L9	Sewer pipeline connections	Person coming into contact with hazardous biological agents	3	2	8	Hazardous Biological Agents Regulation 4(1)(a)(b)(c);(2)(3)	PPE PPE, Induction Training, Medicals
			Explosion due to hazardous fumes	3	2	8		PPE, Induction Training
			Person coming into contact with liquid under	3	3	13		PPE, Induction Training

			pressure					
	L10	Electrical cable connections/ electrical installations	Electrocution	3	5	22	Construction Regulation 24(a)	Competent person to do installation & inspection
			Dangerous/unsafe cable Joints	3	3	13	Construction Regulation 24(a)(b)(d)(e)	Supervision
			Accidental switch on while work in progress	3	5	22		Apply lockout procedure before doing connections
			Inadequate material used, causing short circuit/fire	3	3	13		SABS approved material
			Short circuit can blow up when switching	3	5	22		PPE, Induction Training
	L11	Work on Water pipeline reticulation	Person coming into contact with liquid under pressure	3	3	13	Safe Work Procedure Hazardous Biological Agents Regulation 10(1)(a)(b); 2(a)(b)(c)	PPE, Induction Training
			Exposure to thread sealant	3	3	13		PPE, Induction Training
			Release of pressure during pressure test	2	2	5		PPE, Induction Training
	L12	Work on Sewer pipeline reticulation	Person coming into contact with hazardous biological agents	3	2	8	Safe Work Procedure Hazardous Biological Agents Regulation 10(1)(a)(b); 2(a)(b)(c)	PPE, Induction Training
			Explosion due to hazardous fumes	3	2	8		PPE, Induction Training
			Suspended pipe work, pipe falling on person	3	2	8		
			Person coming into contact with liquid under pressure	3	3	13		PPE
	L13	Medium Voltage reticulation	Electrocution	3	5	22	Construction Regulation 24(a)(b)(c)	Competent person to do installation & inspection
			Dangerous/unsafe cable Joints	3	3	13	Construction Regulation 24(d)(e)	Supervision
			Accidental switch on while work in progress	3	5	22		Apply lockout procedure before doing connections

			Short circuit can blow up when switching	3	5	22		PPE
	L14	Exposure to mechanical components	Injury from moving parts	3	3	13	Occupational Health and Safety Act 24(1)(a)(c)	SOP'S, PPE, TRAINING
			Electrocution	3	3	13		
			Explosions	3	3	13		
	L15	Water & Sewerage Treatment	Chemical Exposure				Hazardous Chemical Substances	Sampling
			Slip and fall				Regulations 4(a)(b)(d)(f)(g)	
			Exposure to UV lights				Material Date Sheet	
	L16	High Voltage reticulation > 1000V	Discharge of cable	3	5	22	Electrical Installation Regulations	Correct measuring equipment
			Electrocution	3	5	22	9(1) General	Competent person to do installation & inspection
			Dangerous/unsafe cable Joints	3	3	13	Machinery Regulations 2(1)(2)(3)(i)	Supervision
			Accidental switch on while work in progress	3	5	22	Construction Regulation 24(a)(b)(c)	Apply lockout procedure before doing connections
			Short circuit can blow up when switching	3	5	22		PPE
	L17	Steel Fixing (Re-bar)	Injuries from tie wire	3	3	13	Occupational Health and Safety Act 24(2)	PPE, Induction Training
			Fall from heights	3	3	13		PPE, Fall Protection Plan
			Falling components	3	3	13		PPE, safe work area, catch nets
			Back injuries from manual handling	3	3	13		PPE, limit lifting weight
			Steel structure collapsing	3	3	13		PPE, Supervision

	L18	Road Construction	Risk of being struck by vehicle while working next to road	4	4	21	Occupational Health and Safety Act	Traffic Management Plan, Road Signs, reflective vests, Flag man
							24(3)(a)(b)	
			Failure of regulating traffic causing collisions	3	4	18		Competent person, supervision
			Injury from road users and public	4	4	21	Construction Regulations 23(1)(e)(j)	Restrict access to site, Signage
			Noise pollution	3	2	8	Noise Induced Hearing Loss Regulations 7(1)(a)(b)(c)(d)	PPE
			Inhalation of dust	3	2	8	Hazardous Chemical Substances Regulations 8(a)(b)(c)	
	L19	Paving						PPE
			Injury due to sharp bladed tools	3	3	13	Occupational Health and Safety 8(1)(2)	PPE, Induction Training
			Injury due to hauling of paving blocks	4	3	17		PPE, Induction Training
			Shards flying into eyes from breaking bricks	4	3	17		PPE, Induction Training
	L20	Kerb laying	Bodily injury due to handling	4	2	12	Occupational Health and Safety Act	PPE, Induction Training
			Falling of kerb onto person	3	2	8	24(1)(a)	Proper offloading plan, PPE
	L21	Bitumen Surfacing	Burns to Skin	3	2	9	Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)	PPE, Induction training
			Accidental Fire	3	3	13		Fire Fighting equipment, Induction Training, Emergency Plan
			Accidental spillage	4	3	17		SANParks EMP & Code of conduct
			Potential accident/collision of vehicle	4	3	17	Hazardous Chemical Substances Regulations 4(a)(b)(c)	Induction Training, Reflective vests, safe work area
			Hazardous fumes	3	3	13	Hazardous Chemical	

			inhalation				Substances Regulations 6(1)(a)(b)	PPE, Induction Training
			Hazardous Chemical Exposure	3	3	13	Hazardous Chemical Substances Regulations 10(1)(a)(b)	PPE, Material Data Sheet, induction Training
	L22	Layer Works	Potential accident/collision of vehicle	4	3	17	Hazardous Chemical Substances Regulations 14(b)	Induction Training, Reflective vests, safe work area
			Hazardous Chemical Exposure	3	3	13	Hazardous Chemical Substances Regulations 10(1)(a)	PPE, Material Data Sheet, induction Training
			Radio active exposure due to Nondestructured density testing (Radio Active)	3	3	13	Hazardous Chemical Substances Regulations 5(4)	
			Injury due to vehicle/plant	4	3	17	Occupational Health and Safety Act 24(1)(a)(b)(c)	Induction Training, Reflective vests, safe work area
	L23	Gabions	Injury due to rock packing	4	3	17	Occupational Health and Safety Act 24(1)(c)(ii)	PPE, Induction Training
			Fall, slip from height	3	3	13	Construction Regulation 10(2)(a)(b)(d)(e)	PPE, Fall Protection Plan, Safe Work area
			Cuts and abrasions from sharp material	4	2	12		PPE, Induction Training
			Collapse of structure	2	4	14	Construction Regulation 10(4)(c)(ii)(d)	Design of structure to be approved by competent designer
			Falling of material onto person	3	3	13		PPE, safe work area, catch nets
	L24	Culvert placing with lifting machinery	Heavy objects swinging out of control causing injury/damage	3	3	13	Driven Machinery 18(a)	Safe work area, Induction Training, Trained operator, Lifting Plan
			Crane/lifting tackle failure causing object to fall	3	3	13	Construction Regulation 22(a)(b)(d)(e)	Inspection Register, Trained operator

			Accidental collision with overhead power lines	2	3	9	Construction Regulation 22(a)	Assign a flag man, determine safe work area
			Lifting machine/crane falling over	3	3	13		Assign a flag man, determine safe work area
	L25	Road Marking/ Painting	Exposure to chemicals/ inhalation of fumes	3	2	8	Hazardous Chemical Substances Regulations 6(a)(b)(c)	PPE, Supervision
			Spillage/ pollution from paint	4	2	12		PPE, Supervision
			Flammable liquids - Accidental fire	3	3	13	Construction Regulation 25(a)(b)(e)(f)(g)	Proper storage facilities, Fire fighting equipment
			Unauthorized access to flammable liquids	3	2	8		Restricted access
	L26	Steel Fixing (Re-bar)	Injuries from tie wire	3	3	13	Occupational Health and Safety Act 24(2)	PPE, Induction Training
			Fall from heights	3	3	13		PPE, Fall Protection Plan
			Falling components	3	3	13		PPE, safe work area, catch nets
			Back injuries from manual handling	3	3	13		PPE, limit lifting weight
			Steel structure collapsing	3	3	13		PPE, Supervision
Metalwork	M1	Welding and flame cutting	Unsafe flame cutting/ welding equipment	3	5	22	General Safety Regulations 9(1)(a)(b)(c)(d)	Flame cutting equipment to be fitted with flashback arrestors, supervision
			Employees not competent to perform duty	3	3	13		Supervision
			Unsafe storage	3	3	13	General Safety Regulations 9(3)	Proper storage facility
			Injury / burns to person	3	3	13	General Safety Regulations 9(5)	Burn shield in First Air Box
			Accidental fire	3	3	13		Fire fighting equipment
	M2	Steel fixing	Injuries from tie wire	3	3	13		PPE, Induction Training
			Fall from heights	3	3	13		PPE, Fall Protection Plan

			Falling components	3	3	13	General Administrative Regulations 8(1)(a)(b)	PPE, safe work area, catch nets
			Back injuries from manual handling	3	3	13		PPE, limit lifting weight
			Steel structure collapsing	3	3	13		PPE, Supervision
Cladding	N1	Falls from MEWP	Injury	4	2	12	General Administrative Regulations 8(1)(a)(b)	PPE, Supervision, SOP's
		Striking body parts against overhead objects	Injury	3	3	13	General Administrative Regulations 8(1)(a)(b)	PPE, Training, SOP's
		Fall from height	Injury-Working of height	3	3	13		PPE, Harness, Training, SOP's
		Lifting and Handling of cladding- Manual cladding	Manual Handling- Repetitive movement	4	2	12	Occupational Health and Safety Act 24(1)(a)	PPE, Harness, Training, SOP's
		Power Tools-Electricity	Electrocution	4	2	12	Electrical Machinery Regulation	PPE, Training, SOP's, Lock out procedures
		Inhalation of Dust	Occupational Disease	4	2	12	Hazardous Chemical Substances Regulations 6(a)(b)(c)	PPE,

C	People	Health and Safety	Environmental or Community	Financial Impact
5	Could Kill or permanently disable		A Major event creating irreversible damage/loss	>R10m

4	Could cause serious injury or disease (Major LTI)	An event having substantial & permanent consequence to the environment	> R2.5m & < R10m
3	Could cause typical MTI / RWI / LTI	An event having substantial temporary or a minor permanent consequence to the environment	> R500k & < R2.5m
2	Could cause First Aid injury	An event having temporary or a minor consequence to the environment	> R5k & < R500k
1	Couldn't cause injury or disease	No detrimental impact on the environment	<R5k

Likelihood of the event occurring(L)

L	Description of probability or potential of event occurring		
5	Very High	Common regular occurrence	Almost certain to happen
4	High	Possibility of regular occurrence	Likely to happen / Known to happen
3	Moderate	Isolated incidents - Could happen	Has been reported from elsewhere so it could happen
2	Low	Not likely to occur	Unlikely: not likely to happen but not impossible
1	Very Low	Rare - Very unlikely	Practically impossible

Risk Rating Matrix

		Likelihood				
		5	4	3	2	1
Consequence	5	25	24	22	19	15
	4	23	21	18	14	10
	3	20	17	13	9	6
	2	16	12	8	5	3
	1	11	7	4	2	1

Actions

High 20-25	Immediate action to reduce risk. Introduce hard barriers and adequate controls to reduce risk. Control hazards. Monitor regularly
Moderate 11-19	Urgent attention to improve controls and reduce inherent risks. Monitor systems controls & audit quarterly & implementation of controls
Acceptable 1-10	Controls in place. Tolerable risk levels. Ensure monitoring is as per H&S Policy



INITIALS	SURNAME	DESIGNATION	CONTACT DETAILS	HIRA TRAINING	SIGNATURE	DATE
T	Mokgesi	OHS Manager	012 426 5086	Yes		