

RFQ 10409350 SAFETY, HEALTH AND ENVIRONMENT SPECIFICATION

FOR

Supply and Installation of AC Mitigation Zinc Ribbon, Earth Mat and SACP on the G20 Pipeline.

NOTE TO CONSULTANTS/SERVICE PROVIDERS AND THEIR SUB-CONTRACTORS

The SHE specifications are Rand Water's minimum requirements. The Consultant/Service Provider is expected to develop a SHE plan which meets these requirements contained herein, as well as all the relevant applicable legislation and methods to be used in the execution of the works. Rand Water in no way assumes the Consultant/Service Provider's legal responsibilities. The consultants/service provider is and remains accountable for the quality and the execution of his Safety, Health and Environmental programme, and that of any Contractors and Suppliers. This SHE specification reflects minimum requirements and should not be construed as all-encompassing or fixed in terms of this or other amendments made during the project. The Consultant/Service Provider 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. This SHE specification forms an integral part of the contract, and consultant/service providers shall make it an integral part of their Contracts with sub-contractors and suppliers.

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i. **LIST OF ABBREVIATIONS**

AIA	Approved Inspection Authority
BOQ	Bill of Quantities
BRA	Baseline Risk Assessment
CC	Compensation Commissioner
H&S	Health and Safety
CorrISA	Corrosion Institute Southern Africa
COVID-19	Coronavirus Disease 2019
CHSO	Construction H&S Officer
CR	Construction Regulations (Gazette 10113 of 7/02/2014)
DMR	Driven Machinery Regulations
DoL	Department of Labour
ECSA	Engineering Council of South Africa
ER	Engineer's Representative
FEMA	Federated Employers Mutual Association
GAR	General Administration Regulations
GSR	General Safety Regulations
HIRA	Hazard Identification Risk Assessment
NDoh	National Department of Health
NICD	National Institute of Communicable Diseases
NIOH	National Institute for Occupational Health
NDoh	National Department of Health
NICD	National Institute of Communicable Diseases
NIOH	National Institute for Occupational Health
SHE	Safety, Health and Environment
OH	Occupational Health
OHS Act	Occupational Health and Safety Act No. 85 of 1993 (as amended)
OHSAS	Occupational Health and Safety Specification
SHEP	Safety, Health and Environment Plan
SHESS	Safety, Health and Environment Specification
PM	Programme Manager
PPE	Personal Protective Equipment
RHCS	Regulations for Hazardous Chemical Substances
RE	Resident Engineer
RW	Rand Water
SABS	South African Bureau of Standards (Authority)
SACPCMP	South African Council for the Construction and Project Management Professions
SANS	South African National Standards (Authority)
SMME	Small, Micro, Medium Enterprise
SWP	Safe Work Procedure

ii. **OMISSIONS FROM THIS SHE SPECIFICATION**

By drawing up this SHE specification Rand Water has endeavoured to address the most critical aspects relating to SHE issues in order to assist the contractor in adequately providing for the health and safety of employees on site.

Should Rand Water not have addressed all SHE aspects pertaining to the work that is tendered for, the contractor needs to include it in the SHE plan and inform Rand Water of such issues when submitting the tender.

iii. **PROJECT GOALS**

Rand Water is determined that the highest H&S standards will prevail throughout the project and is committed to ensuring the following goals on the project is achieved:

- ZERO incidents for the duration of the Project.
- ZERO exposure of employees and visitors to Occupational Health Risks for the duration of the Project.
- ZERO harm to the environment.
- Good Quality Service and Quality End Product.
- Compliance to all applicable Legal and Client Requirements at all times.

Good and Transparent relations with the community and other interested parties around the Project

PART A – SITE SPECIFIC SHE REQUIREMENTS

1. PROJECT AND SCOPE OF WORK DETAILS

1.1 Project Title as per Tender Document:

Supply and Installation of AC Mitigation Zinc Ribbon, Earth Mat and SACP on the G20 Pipeline.

1.2 Project description/detailed scope of work:

1.3 Project description/detailed scope of work:

The scope entails the supply, and install AC mitigation zinc ribbon, gradient mat and sacrificial anode cathodic protection system. The scope of work for Ac mitigation shall include the following activities:

- a. Supply and install double zinc ribbon gradient control wire with length of 2X 223m.
- b. Supply and install DC decoupler (Zinc Ribbon) and consumables at the chamber.
- c. Supply and Install Valve Chamber Earth mats for G20 pipeline as per DRG RA_27375/2
- d. Supply and install Voltage limiting device.
- e. Supply and Install 2X35mm² black PVC/PVC pipe with a tail cable of 10m
- f. Supply and Install 2X35mm² black PVC/PVC for DC decoupling and voltage limiting devices connection.
- g. Supply and install 2X35mm² green/yellow PVC/PVC earth cables for Zinc ribbon termination on the DC-decouplers.
- h. Sacrificial Anode cathodic protection system shall include the following activities:
- i. Supply and install 2X10kg high potentials magnesium anodes surrounded by gypsum/bentonite clay backfill in a cloth bag with 10m long by 10mm² red PVC/PVC cable.
- j. Supply and install 2X35mm² black PVC/PVC pipe to anode with a tail cable of 5m
- k. Supply and install Schottky low voltage 10A diode
- l. Supply and Install PRE, Coupon and cabling
- m. Supply pipe coating repair material, cable lugs and other consumables
- n. Supply and install concrete bunkers with link panel for anode and pipe connection.

1.4 Programme details:

Time allowed for preparation of SHE plan/file after tender award	1 week
Approval date of SHE Plan	Within 3 days after submission but subject to content as per this requirement
Induction dates	To be advised after Approvals of SHE Plan/file
Anticipated Commencement date of work on site	TBA
Estimated Project completion date or project duration	TBA

1.5 Site Details:

Locality of the works: The Project site is situated between the Columbine Avenue and Lark Street (26° 16' 20.02''S and 27° 59' 19.45''E).

Access to the Project Site is via Lark Street.



2. PROJECT DOCUMENTATION

2.1 Project Lifecycle SHE Document Requirements

Documents Required at				
Evaluation stages		Awarding	Site access	Project Closeout
Commercial (Part A)	Functional (Part B)			

• Complete pricing schedule for Health & Safety • Letter of Good standing – COID Act	• Letter of Good standing – COID Act • Health & Safety System- ISO 45001 certification or in-house SHE Management system • Site Specific Health and Safety Plan • SHEQ Policy • DIFR Status • Base line Risk Assessment • Preliminary SHE File	• Baseline Risk Assessment • Site specific health & safety plan • Comprehensive SHE File • Appointments of key role players • Method Statements • Written agreements between RW & contractor (Section 37.2) including (CR 5k) appointment • Applicable permits and licences • Certificates of competencies • Appointment Letter of CHSO including proof of registration with SACPCMP • Proposed Project organogram • Designer Appointment and ESCA registration • Geological appointment specialist and registration • Surveyor appointments and registration.	• Medicals (CoF) – Annexure 3 • Operational Legal Appointments with certificate of competencies. This also is dependent on Works to be undertaken i.e. submissions to Client before start date of activity on site. • Safe Working Procedures / method statements as per Risk Assessment • Inductions • Activity based HIRA. • Staff list with ID Copies (4 copies for each employee) / Valid Passports with work permits. • All foreign nationals to be screened by the state security agency and be issued with a security clearance before being allowed on site	• Maintained detailed SHE File • Operational Legal Appointment s- submissions to Client before start date of activity on site • Method Statements/ Activity based HIRA	Detailed SHE File (hard and electronic copies)
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2.2 Format of the SHE Plan (SHEP)

The format of the SHEP is to follow the same Index as Part A of this SHE Specification. Each aspect is to be responded to in terms of the way the consultant/service provider will manage the scenario and is requested **not** to insert the supporting documentation within the plan. Each section is to cross reference where the information can be found in the supporting documentation provided that is contained within the SHE System of the consultant/service provider. The submission of 'generic' documentation is not acceptable. The appointed consultant/service provider will receive a full report on the appropriateness of the plan, and further requirements if any. The Plan is to consider the project and the operational requirements, including matching to the construction programme. It is preferable that a similar approach is followed in managing Contractors.

Part B of this specification is to be referred to for additional client information that must be complied with.

2.3 SHE File Contents

The Contractor must have a SHE file in which records of this specification and the SHE plan are kept as per **Section 7(2) (b)**. All information required in the specification and plan, for the duration of the consultant/service provider and sub-contractors contract, is to be recorded in the file.

The SHE file will be maintained will be for the project site and must be kept on site and must be available on request for audit and inspection purposes.

The completed SHE file (i.e. hard and soft copy) shall be handed over to the Client/Agent at the end of the consultant/service provider's contract.

2.4 Required SHE File Contents

Description		Evaluation Stage - Preliminary SHE File	After Award - Comprehensive SHE File
Company Profile		x	
Project Organogram		x	
SHEQ Policy		x	
Contact List including Emergency Numbers		x	
Rand Water Project Scope of Work			x (RW to issue)
Rand Water SHE Specification & Baseline Risk Assessment			x (RW to issue)
SHE Plan Approval Memorandum			x (RW to issue)
Workman Compensation COID: Letter of Good Standing		x	
Legal Permits: Notification to Department of Labour			x
37.2: Contractors Written Agreement			x (RW to issue)
Site Entry/ Access Certificate			x (RW to issue)
List of Sub-Contractors			x
Section 7(1)(c)(v): Agreements between Consultant/service provider and Subcontractors			x
Certificates of Competencies		x (key staff)	x(Operational)
Pre and Exit Certificates of Medical Fitness (Annexure 3)			x
Annual Medical Records			x
Staff List with Copies of valid certified ID/Passport Documents & work permits			x
Client Induction Registers (SHEQ/Risk Control and or EMS)			x (RW to issue)
Contractors Tools and Equipment Inventory			x
SHE Plans: SHE Management System aligned to the RW SHE Spec to be implemented on site. Refer to DOL website for sample of a SHE Plan. Include specific operational requirements as stated below. Emergency Plan, Fall Protection Plan and Environmental Management Plans to be submitted as separate documents.		x	
Fall Protection			x
Construction Vehicles and Mobile Plant			x
Housekeeping		x	x
Existing Services			x (RW to issue)
Legal Appointments: As required by the OHS ACT & Other Regulation (Dependant on Works to be undertaken i.e. submissions to Client before start date of activity on site)			
Reg.	Appointment		
Section 16(1)	Top Management i.e. MD or CEO	x	
Section 16(2)	Assistant to Chief Executive Officer	x	
Section 17	Health and Safety Representative		x
GSR 3	First Aider		x
GSR (2) ER9(1)	Fire Fighter		x
GAR 9 (2)	Incident/Accident Investigator		x
Legal Appointments- Required as per Construction Regulations			

<i>(Dependant on Works to be undertaken i.e. submissions to Client before start date of activity on site)</i>			
Reg.	Appointment		
6	Designer		x
9(1)	Person to carry out risk assessment		x
10(1)(a)	Fall protection planner		x
23(1)(d)(i)/(k)	Constr. vehicle and mobile plant operator/Inspector.		x
27 (h)	Fire equipment inspector		x
Risk Assessments – Baseline and activity-based HIRA		x (Baseline)	x (Activity based)
Covid 19 Risk Assessment			X
Safe Work Procedures and Method Statements		x	x
Mandatory Registers Required for All Contracts:			
	Incident recording Register	x	
	Consultant/service provider SHE Induction Register	x	
	First Aid Box Inspection Register	x	
	PPE Issue Register	x	
	Risk Assessment Communications Register	X	
Contract Specific Registers/Checklists:			
	Fall Protection Inspection Register		x
	Hazardous Chemicals Inspection register		x
	Ladder Inspection Register		x
	Construction Vehicles and Mobile Plant Inspection Register Plant		x
	Fire Precaution Register		x
	General Housekeeping Register		x
	Incident Management	x	
	Emergency Response and evacuation Procedures	x	
	SHE Toolbox Talks/DSTI's		x
	Job Observations		x
	Material Safety Data Sheets		x
	Training Records		x
	Non-conformance Reports (Work Stoppages & Penalties /Spot fines)		x(during project execution)
	Contractor SHEQ Reports i.e. Contractor weekly report, Monthly Statistics		x(during project execution)
	Site Clearance Certificate		x (RW to issue)
	Temporary Site Closure Checklist		x(during long breaks)
	Copy of the OSHACT		x

2.5 Project and Site Requirements

In addition to the requirements stated in 2.5, work taking place within a National Key Point will have the following additional requirements:

Item	Requirement:
1. Site Risk Control Documentation Requirements (Where Applicable)	List the required Site Risk Control documentation to be completed by the Contractor: • Written Agreement • Verification of the approved PC SHE plan and file by Rand Water Risk Control. • Verification of the approved contractor SHE plan and file by PC. • Security clearance of all foreign nationals • Site induction • Site access certificate • Work permits as and when required.
2. General Project Site Rules	ALL employees may NOT: • Partake, possess or sell drugs or alcoholic beverages on site including cannabis. • Indulge in practical jokes, horseplay, fighting or gambling • Destroy or tamper with safety devices, symbolic signs, fire extinguishers. • Bring onto site or have in your possession a firearm, lethal weapon. • Assault, intimidate or abuse any other person. • Operate construction equipment (vehicles or plant) without the necessary training and authorization. • Enter any area unless authorized to do so by the person in charge

	• Negligently, carelessly or wilfully cause damage to property of others. • Refuse to give evidence or deliberately make false statements during investigations. • Smoke on site unless in a designated smoking area. • Use cell phones on site • Take site photos with electronic device unless permission is given • Engage in horseplay or fail comply with COVID-19 associated regulations such as maintaining social distance reporting for duty if they feel ill.
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2.6 General Aspects

In summary, the statement made early in the H&S Specification that the SHEP is to follow the same outline as this document. The SHEP requires demonstrating management's commitment to SHE and shall, as include the following elements as support documentation and references to where the information can be found for verification:

- The SHE Policy;
- Competent supervision arrangements on site (CV's, training certificates and appointments);
- Section 37.2 appointments and appointments of Contractors;
- Duties and safety responsibilities of all appointed persons on the project;
- Method Statements, Induction training, Toolbox talks, and on-going SHE training arrangements for employees;
- Occupational Health and Safety communications and meeting arrangements, including daily safe task instructions and project safety meetings;
- Safety awareness promotions;
- Nomination of personnel to carry out SHE audit and inspections. The task may be shared with other duties;
- Contractor Senior Management involvement with Company's staff in consultative processes and daily management SHE walkabouts;
- Occupational Health and Safety Workplace Environment, including provision for monitoring employee exposures to noise, dust, etc.;
- Rules and regulations including safe work procedures the consultant/service provider has in place for recurring work activities;
- Fall protection plan (where applicable);
- Control of dangerous and hazardous substances;
- System of hazard identification and risk control, such as Risk assessments, Daily Safe Task Instructions and communication;
- Inspection of plant, tools and equipment prior to introduction to site and regularly thereafter;
- Accident incident reporting, recording, investigation and analysis, which ensure that corrective and preventative actions are taken;
- Medical and first aid arrangements;
- Evacuation and emergency planning;
- Substance abuse programme;
- Record keeping, including details of what is to be kept and for how long;
- Detailed financial allocation for SHE;
- Personal Protective equipment rules and arrangements;
- Selection, procurement and management of other Contractors;
- Maintenance arrangements of machinery and equipment;
- Workers welfare facilities, and
- Letters of good standing with a compensation insurer.

2.7 SHEQ POLICY

The consultant/service provider shall have a SHEQ Policy authorised by their OHS Section 16(1) appointee that clearly states overall SHEQ objectives and commitment to improving Safety, Health, Environment and Quality performance in the Project specific SHE plan. A copy shall be in the site office and included in induction programmes. Rand Water has a SHEQ Policy attached to this document that clearly states the guiding principles by which Rand Water operates and the commitment to SHEQ excellence and is authorised by the Chief Executive.

A zero tolerance approach will be taken to any non-conformances or non-compliance throughout the project. This is to ensure that **every person** who works on or visits RW work site **returns home safely to their families**.



SAFETY, HEALTH, ENVIRONMENTAL AND QUALITY MANAGEMENT (SHEQ) POLICY STATEMENT

As a provider of sustainable and universally competitive water and sanitation solutions, Rand Water promotes sustainable development and accountability whilst meeting the needs and expectations of customers and stakeholders. This SHEQ policy statement sets out Top Management commitment with respect to SHEQ processes. To deliver this commitment, Rand Water shall:

- Conform to and maintain the Rand Water SHEQ Management Systems based on ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 and ISO 17025:2017 requirements.
- Manage SHEQ risks and opportunities in a manner that strives for compliance to legal requirements and is competitive with industry best practices.
- Set and review objectives, targets and programmes to achieve continuous improvement
- Comply with legal and regulatory requirements relevant to Rand Water processes.
- Consult and seek participation of workers and worker's representatives.
- Implement appropriate programs to prevent occupational injuries, ill health and environmental impairment including pollution as well as non-conformities to our own standards.
- Provide the resources to improve the SHEQ Management System and its performance.
- Provide for adequate maintenance of infrastructure, equipment and machinery.
- Provide training and awareness to ensure competence of Rand Water personnel.
- Implement a life-cycle approach for all inputs used and for products/material produced.
- Continually improve Rand Water processes to enhance SHEQ performance.
- Achieve stakeholders' satisfaction by addressing the needs and expectations of relevant Rand Water stakeholders.
- Communicate the SHEQ policy within the organisation and be available to interested and affected parties as appropriate.
- Review SHEQ performance and correct underperformance on regular basis.

Sipho Mosai Digitally signed
by Sipho Mosai

CHIEF EXECUTIVE

Rev No: 08

05 April 2023

DATE

Effective date



2.8 SHE FILE submission at the end of the project

The SHE file will commence once the consultant/service provider is on site and be maintained. The SHE file must be kept on site and must be available on request for audit and inspection purposes. Regular scanning of documents and records is required as a form of archiving for inclusion in the consolidated SHE file at the end of the project.

A list of critical information to be included in the SHE file on completion of the project will be provided.

The SHE file (i.e. hard and soft copy) is to be handed over to the RW PM, and include the entire close out SHE files for Contractors. Further requirements regarding the content of the consolidated SHE files will be provided to the consultant/service provider during the project.

3. ROLES AND RESPONSIBILITIES

3.1 Client

The Client for this project is Rand Water. The client shall ensure that the contractor is afforded time to conduct work during the contractual period. The project representative will supply the successful Tenderer with a complete monthly programme at least one week prior to commencing of work as well as the scheduled times for completion.

If work is to be performed within a National Key Point, all scheduled work should then be done to the relevant site's requirements within the predetermined times in order to meet the operational requirements.

Rand Water Responsibilities:

RW Site /Project representative	Slondile Moatshe	The RW Site representative is responsible for the overall management of the project, on and off-site. The RW Site representative will ensure that all the statutory requirements, RW requirements are adhered to by the consultant / service provider and their contractors at all times.
SHEQ Representative(s)	Thokozani Magagula	The overall management and coordination of work systems of H&S on the project including inspections and audits on contractors and issuing penalties / work stoppages for non-compliance.

3.2 Consultant/service provider Responsibilities:

The consultant/service provider carries primarily accountability and responsibility for ensuring full compliance to the provisions of the OHS Act as contemplated by the Section 37(2) written agreements.

2.2.1 Appointments and Competencies

The consultant/service provider shall appoint adequate, resourced, competent persons in all the areas of work that are experienced in such areas, and are aware of their CHS accountabilities and responsibilities. All appointment letters and competency certificates, CVs etc. are to be approved by Risk Control in terms of technical and CHS competence prior to commencement of work. Where persons are replaced or added to the project, the aforementioned is required prior to appointment. The project Organogram is to be updated accordingly.

- **Site Supervision**

A competent supervisor appointed to manage the works must have had training and/or experience in their area of responsibility. The supervisor must show evidence of basic training in OHS, and an understanding or training in areas of responsibility (i.e. risk assessments, method statements etc.). The supervisor will be held responsible for the safety of the working team and subordinates and housekeeping in the work area.

- **Health and Safety Representatives**

A SHE Representatives shall be appointed. The SHE representative should not be responsible for OHS duties unless appropriate training has been provided and the CHSO deems such labour competent to do so.

- **Appointment of Competent Suppliers**

Suppliers are those organisations who deliver, test, remove or supply material but do not conduct any construction work by definition, but who are required to be managed in terms of access to site, as well as being responsible for specific SHE requirements when on site. The CHSM/CHSO will keep an up to date list of all Suppliers, and ensure that a list of SHE requirements that relate to the activities are available. Site rules in terms of security and induction apply to Suppliers as well as Mandatory (37.2) agreements between parties to be in place. COIDA letters of Good Standing and appointments, registers and certificates for equipment are to accompany the Suppliers employees to site. The consultant / service provider shall include specific requirements in their SHEP, and indicate the type of suppliers and state how the Suppliers will be managed on a day-to-day basis.

Failure to do so will be a serious offence.

- **Appointment of Competent Contractors**

The consultant/service provider is to ensure compliance with at least the Client's minimum standards and all legislative requirements. The same OHS standards required of the consultant/service provider are to be applied to all Contractors.

An index of all Contractors and Suppliers is to be on file and kept updated at all times. The consultant/service provider is to ensure there is sufficient funding for OHS compliance by each Contractor.

The following minimum aspects are applicable to any Contractor appointed:

- The CHSO is to ensure a Contractor's appointment and approval of OHS documentation at least seven (7) working days prior to commencing work.
- No Contractor may work under the consultant/service provider Compensation registration number. If required, the consultant/service provider may assist SMMEs with their registration with the Compensation Commissioner. However, such Contractors will not be able to commence work until proof of registration or Letter of Good Standing has been received.
- No work may commence without Mandatory (37.2) agreements between parties in place.

All contractor SHE plan/file approvals are subject to Client's verification before commencing on site.

The following aspects are applicable to Suppliers or short-term works (Cathodic protection (CP), surveying, repairs, servicing, deliveries etc.). Cognisance is to be taken of the level of risk involved and the CHSO is to ensure the level of OHS documentation is appropriate:

- Mandatory agreements in place
- Letter of Good Standing
- Method statements and Risk Assessments
- Available information relative to:
 - Cathodic Protection Technician level 1 and/ or level 2
 - Medical certificates of fitness
 - Material Safety data sheets (MSDSs)

Failure to provide written approval of OHS documentation will be considered a serious offense, and could result in aspects of, or all of, the activities being stopped.

2.2.2 Consultant/service providers

The SHES forms an integral part of the Contract, and the consultant/service provider is required to make it an integral part of their Contracts with Contractors and Suppliers. A SHES is to be made available for each level of Contract and the Contractor shall comply as instructed. No contractor may commence work without written approval of the SHEP by each consultant/service provider or contractor when appointing their Contractors.

The SHES must be read in conjunction with the OHSA, its Regulations (as amended) and any other standards relating to work being done, and ensure a minimum of statutory compliance. The information relative to the scope of the project, the works etc. is detailed in the tender document (but not limited to), is to be taken into account when developing the SHE plan (SHEP) and associated documentation. The BRA is to be included, as is a summary of risks identified as attached.

If any person **transgresses any H&S site rules, policies or procedures**, the person shall **be removed from site and their site access revoked**. The appropriate employer must follow a process of disciplinary action which shall include re-training/inducting the employee (at the cost of the appropriate employer) and provide proof thereof to the RW PM for review prior to allowing the person to resume duties. Site risk may impose penalties on any other person where such transgressions were overlooked by colleagues and supervision.

The appointed consultant/service provider is to ensure their own and contractors site organograms are kept up to date throughout the project. Organograms are to reflect the statutory references.

Failure to comply will be noted as a serious offence.

4. Hours of Work

The hours of work for the site are:

- Mon - Friday. (07h00 – 17h00)

All work conducted on site shall be in accordance with the Basic Conditions of Employment Act. The PC are required to timeously notify their RW Site representative of any work that needs to be performed after **hours**. **Application forms for working after hours including breakdown/emergency projects can be acquired from the site or RW Representative.**

5. RISK MANAGEMENT

The aim of this section is to:

- Highlight the construction site SHE risks and hazards

- Request the consultant/service provider and his/her subcontractors to identify hazardous and potentially hazardous work operations. The consultant/service provider needs to demonstrate that the site hazards and the contractor's activity risks and the mitigating measure have been considered in his risk assessments.
- There must be method statements and written safe work procedures for all the activities. Method statements and Risk Assessments should be available as per the project/investigations programme/schedule. In addition, both of these documents are to be comprehensive and aligned to one another.
- Where there are scope changes, the risk register and the SHE plan must be revised in consultation with the project team.
- Method statements and risk assessments are to be used in all DSTI activities and or when communicating to employees during pre-brief meetings. Records for all activities are to be kept that will be verified during auditing / inspection processes.
- Emerging risks and hazards must be managed during the duration of the investigative work.

Activity based risk assessments must be conducted by an appointed and competent person of the consultant/service provider.

Preliminary hazard identification shall be conducted by the consultant/service provider prior to work beginning on site.

A risk management plan / procedure must be developed and implemented to clearly demonstrate how the risks identified on site will be managed. A detailed risk assessment methodology must be included in the plan/ procedure and this plan /procedure must be kept in the SHE file and be available for inspection by any authority/ RW Representative.

A. Site Specific Health and Safety Hazards

In complying with the requirements of Regulation 5(1) (a) of the Construction Regulations of the OHS Act, the Rand Water Site/ Project Manager, Relevant Site Risk Control/SHERQ team and design team that will outline the site specific health and safety hazards pertaining to the environment and physical conditions that the contractor will be exposed to in performing his work on site.

The Rand Water Site representative / PM will make all reasonable efforts to ensure that the information provided is complete and correct. However, the Consultant/service provider shall make his own assessment of the hazards and risks associated with the work under the Contract.

The **Baseline Risk Assessment is attached to this SHE specification** in order to make potential Contractors/service providers/consultants aware of the hazards:

It is however pointed out to the consultant/service provider that the list may not be totally comprehensive and it is the duty of each consultant/service provider to ensure that all the hazards are identified, before and during the project, and the necessary activity-based risk assessments are carried out. These risk assessments shall form part of the SHE Plan which will be passed on for scrutiny and approval by both the Client/Agent's representative and/or the Relevant Site Risk Control/SHEQ team.

During construction work, the consultant/service provider, his/her sub-contractors or the Rand Water Representative may identify emerging hazards and risks. For each such newly identified hazard or risk, the site shall review the baseline Risk Assessment and the relevant section(s) of the SHE specification. The revised SHE specification and baseline Risk Assessment shall be submitted to the consultant/service provider who will review his own risk assessments and relevant sections of the SHE plan, as well as those of the sub-contractors. The consultant/service provider will prepare and submit to the Rand Water Site representative, both documents for approval.

The consultant/service provider and his subcontractors shall not proceed with the work/operation in hazardous areas until the Client/Agent's representative has reviewed the Risk Assessment and has approved and signed the revised SHE plan and issued a valid permit to work.

The consultant/service provider shall on a daily basis and for every task to be performed, conduct a pre-task risk assessment with all employees involved with the task(s). The pre-task risk assessment will form the basis of the daily pre-job brief/toolbox talks prior to the start of work. Proof of communication as well as confirmation that it was received and understood by all will be noted on a standard form, which will be kept at the job site during the job execution. The completed signed pre-task risk assessment form will be filed in the consultant/service provider's SHE file.

Additionally, consultant/service provider must review relevant risk assessment when an incident has occurred as contemplated in (OHS ACT – CR 9(7)(b) and submit for approvals.

Potential site specific hazards and risks

- The radioactive sources used in these gauges are generally sufficiently radioactive to constitute a significant health hazard unless adequately shielded and handled with proper care.

- Standards have been set to limit the risk of radiation over-exposure to operators as well as to the public. The standards also ensure that radiation doses are kept as low as reasonably achievable.
- The radiation protection officer shall ensure that all persons handling the gauge/s are familiar with the correct operating procedures. Proof of training for all operators must be filed.
- It is important to note that the National Road Traffic Act (Act 93 of 1996) is applicable for the transport of all dangerous goods including radioactive sources, as used in soil/moisture/asphalt gauges. Compliance with this act is therefore essential.

6. ERGONOMICS AND OCCUPATIONAL HEALTH

Ergonomic factors need to be considered during all stages of the work. Lifting heavy loads, and repetitive work, while synonymous with the work, are to be considered a high risk and mechanical aids and the hierarchy of control are to be considered and applied. Where a design issue exists, the client is to be approached to consider alternatives. Method statements, HIRA and DSTIs are to include ergonomic and health issues.

7. MANAGEMENT OF ALCOHOL AND SUBSTANCE ABUSE

No person (employees, Contractors, consultants, visitors) shall report for duty or continue with his/her duties, if under the influence. No person may consume or have in possession alcohol or drugs/controlled substances while on the project site. Employees, Contractors, consultants or visitors shall comply with any reasonable request to undergo random or specific alcohol testing.

8. COMPLIANCE

All parties on site are to comply with legal and other requirements as part of the contract. Expenses which result from compliance with this legislation as well as other requirements specific to the site, will be for the PC or Contractors account. Where there are major and / or repeat SHE deviations, the Client or Agent will impose the necessary penalties as per the contract document and/ or the SHES as described.

Should the consultant/service provider appoint a sub-contractor, the Consultant/service provider would then have the same role and responsibility in relation to the sub-contractors, in a similar way as the Client has in relation to the Consultant/service provider .

The requirements within this specification should not be considered to be exhaustive and the Client/Agent reserves the right to add, delete or modify conditions where it is considered to be appropriate.

No claim will be accepted as a result of any costs or delays being incurred due to the consultant/service provider or his sub-contractors not complying with legislation, this SHE specification or their SHE plan approved by the Client/Agent.

Additionally, no claim will be accepted as a result of any costs or delays being incurred due to pending Client permit approvals from DOL or other government bodies.

8.1 Legal Compliance

The following legislation has been identified, but is not limited to, potentially having an impact on the project:

- Agricultural Pests Act 36 Of 1993;
- Basic Conditions of Employment Act No. 75 of 1997 (as amended);
- Constitution of the Republic of South Africa (Act 108 of 1996);
- Conservation of Agricultural Resources Act (Act 43 of 1983);
- COID Act 130 of 1993;
- Disaster Management Act (Act 57 of 2002);
- Employment Equity Act No. 55 of 1998 (as amended);
- Environment Conservation Act (Act 73 of 1989);
- Fencing Act (Act 31 of 1963);
- Hazardous Substances Act (Act 15 of 1973);

- Health Act (Act 63 of 1977);
- Labour Relations Act No.66 of 1995 (as amended);
- Mineral and Petroleum Resources Development Act (Act 28 of 2002);
- National Building Regulations and Building Standards Act 103 of 1977;
- National Environmental Management Act (Act 107 of 1998);
- National Environmental Management: Waste Act 59 of 2008;
- National Environmental Management: Air Quality Act 39 of 2004;
- National Environmental Management: Biodiversity Act 10 of 2004;
- National Environmental Management: Protected Areas Act 57 of 2003;
- National Forest Act (Act 84 of 1998);
- National Road Traffic Act (Act 93 of 1996);
- National Water Act (Act 36 of 1998);
- National Veld and forest fire Act (Act 101 of 1998);
- Occupational Health and Safety Act (Act 85 of 1993) and its Regulations;
- Water Services Act (Act 108 of 1997);
- Any other applicable South African legislation at a national, provincial and local authority level;
- Applicable South African National Standards (SANS);
- Applicable international standards;
- ISO 9001 –Quality Management Systems requirements;
- ISO 14001 –Environment Management Systems requirements;
- ISO 45001 – Occupational Health and Safety Management Systems Requirements;
- National Key Points Act (Act 102 of 1980), and
- Applicable By-laws.
- Guidelines and directives issued by the DEL and NDoH

The consultant/service provider shall compile their own lists of all applicable legislation and standards that may have an impact on the scope of work that they are performing on the construction project. The list shall be updated on a regular basis.

8.2 Non Conformances / Work Stoppage

The RW Site representative reserves the right to stop work and issue a work stoppage non-conformance report whenever safety, health or environmental violations are observed for consultant/service provider and/or their sub-contractors. Expenses incurred as a result of such work stoppage and standing time shall be for the consultant/service provider account. Any non-conformances/findings/observations found in these audits/inspections on sub-contractors shall be raised and discussed with the relevant consultant/service provider (with whom the sub-contractor is contracted with).

The conditions that lead to work stoppages are based on:

- Management of change – this is when there are changes to the work environment (e.g.: climatic changes) and/construction work (e.g.: modifications to the design), in any phase of the construction project, and/or amendments with regards to Rand Water rules and regulations and/or legislative amendments;
- Unsafe acts/behaviours;
- Unsafe conditions;

The process to be followed to ensure the worksite is rendered safe:

- The relevant activity must be stopped;
- The Rand Water site/project manager and/or consultant/service provider and his subcontractors shall immediately remove the workforce from the work area and correct the health and safety or environmental deficiencies by allowing only the people in the area that are competent to make the area safe.
- Consultant/service provider and his subcontractors shall ensure that no other work is being performed during this time. Should the estimated time from the outset to make the area safe where life threatening/imminent danger situations exist, then the area will be barricaded and a sign placed with the wording “Unsafe Area – Authorized Access Only”.
- The Rand Water Site/Project Manager shall review the affected parts/sections of the SHE specification with the purpose of providing sufficient SHE information to the consultant/service provider when necessary.
- The consultant/service provider shall then revise the relevant sections in the SHE plan to accommodate the changes.
- The Rand Water Site/project manager must ensure that the revised provisions in the SHE plan are adequate and must approve it before the work activity is commenced.

Before the workforce is allowed back in the area, consultant/service provider and his subcontractors shall ensure:

- Investigation of the work stoppage and the area is to re-inspected by Contractor Safety Officer and supervisor and corrective actions taken documented on the work stoppage form;
- Sign off of the "Work Stoppage report" issued by the Rand Water Site/Representative/SHEQO to declare the area/activity/person/plant/or equipment safe for work.

Refer to requirements of Construction Regulation 5(q) of the OHS Act.

8.3 Penalties

The Client, SHEQ Representative or anyone observing an unsafe act or practice reserves the right to stop work, and issue non-conformances when SHE violations are observed, for both consultant/service provider and/or their suppliers. Expenses incurred as a result of such work stoppage will be for the consultant/service provider's account.

Penalties shall be enforced on the consultant/service provider for SHE related non-conformances identified for both the consultant/service provider and/or his/her supplier(s) pertaining to Rand Waters SHE requirements.

Penalties applied will be according to the following tables and where issued, the amount indicated on the non-conformance will be deducted from the certificate of the consultant/service provider. Failure or refusal on the part of the consultant/service provider or their suppliers to take the necessary steps to ensure the safety of workers and the general public in accordance with these specifications or as required by statutory authorities or ordered by the engineer, shall be sufficient cause to apply penalties.

SHEQ-Contractor Management	Value Of Contract (Excl. VAT.) in millions R				
DELAYS ON ITEMS ATTRACTING PENALTIES	<1	≥1<5	≥5<20	≥20<50	≥50
a)SHE non-conformances, corrective and preventative actions not resolved within the agreed target dates exceeding 5 days (Rands /per day delay)	1,000	5,000	10,000	10,000	10,000
b)Non-reporting of SHE incidents and statistics within the required timeframe within 24 hours (Rands/per day delay)	1,000	5,000	10,000	10,000	10,000
c) Repeat SHE non-conformances (Rands /per day delay)	2,000	10,000	20,000	20,000	20,000
d) Overtime Work without the required approvals (Rands)	2,000	10,000	20,000	20,000	20,000

Over and above the details relating to the penalties noted in the RW SHE Management System, and Tender document, spot fines will be issued as follows, according to 'minor', 'medium' or 'severe' non-conformances.

MINOR:			MEDIUM			SEVERE		
Value of Contract (Excl VAT.) in millions R			Value of Contract (Excl VAT.) in millions R			Value of Contract (Excl VAT.) in millions R		
<1	≥1<5	≥5<20	<1	≥1<5	≥5<20	<1	≥1<5	≥5<20
Penalty: R5/count			Penalty: R/count and a non-conformance			Penalty: R/count, a non-conformance and/or activity stoppage		
R 10	R 25	R 50	R 25	R 250	R 500	R 250	R 2500	R 5000
<i>Non-use of PPE supplied</i>			<i>Toilets not supplied or regularly serviced; lack of drinking water</i>			<i>Contractors working without Health and Safety Plan approval</i>		
<i>Non completion of registers for plant and equipment on site</i>			<i>Contractors not audited</i>			<i>Workers transported in contravention of the OHS plan or legal requirements</i>		
<i>Lack of H&S signage at work areas</i>			<i>Working without training or the appropriate, approved H&S method statements</i>			<i>Invalid Letters of Good Standing</i>		
<i>Tools and equipment identified in poor condition during inspections</i>			<i>Legal non-conformances identified during the previous audit and not addressed within the agreed time frame</i>			<i>Non-compliance with traffic accommodation requirements: layout or physical conditions</i>		
			<i>No monthly OHS report at site meeting to report on</i>			<i>Any serious breach of legal requirements</i>		
			<i>No certificates of fitness for workers as required</i>					

Absence of the reference to a possible penalty for non-conformance does not mean one cannot be issued. All aspects will link to legal non-compliance or risks identified in the SHE Specification or work being done at the time. The 2 forms of penalties will be used together, with immediate penalties issued as they apply.

Failure to comply with any/all of the above will result in a penalty being issued as indicated in the table. The details of the penalty issued shall be recorded on form SAM SHE 01033 F Notice to Penalise Contractor due to SHE Non-

Conformances by the relevant SHEQ representative, signed off by the Project Manager, SHEQ Manager, Construction Services Manager and finally approved by the Programme Manager.

9. CLIENT SITE INDUCTION /SITE

The consultant/service providers shall ensure that all employees, accessing RW sites have undergone the relevant SHEQ induction programme prior to commencing work on site. On-site induction training will be completed by RW. Consultant/service provider shall also conduct its own internal induction.

The relevant RW site Risk Control/SHERQ Officer shall keep a database of all records pertaining to induction and will inform consultant/service provider of pending expiry though the overall responsibility of maintaining current induction cards still lies with the consultant/service provider. All induction cards issued must be returned on completion of the project to the Issuer.

Note:

- No work shall commence without the required inductions provided by the Client and consultant/service provider.
- Client will rearrange for inductions for consultant/service provider employees and re-approve SHE File where consultant/service provider is not on site for more than 1 month.
- COVID19 related information shall be included in induction training done for contractor employees on site.

10.1 Other Training

All Operators, Drivers and users of vehicles, mobile plant and other equipment must be competent and in possession of valid proof of training and experience. All employees in jobs requiring training in terms of the OHSA and Regulations must be in possession of valid proof of training (code 14 drivers licence and PDP). All records to be kept in the SHE file and kept up to date.

10. ACCESS CONTROL TO THE CONSTRUCTION SITE

• Site Access

All consultant/service provider is to strictly adhere and are subjected to all security requirements on the premises, as laid down by the Client/Agent or relevant contractor. Security requirements shall be highlighted at the induction given by the Client/Agent or Site Risk Personnel / contractor.

All personal consultant/service provider items to be declared at entry and pass-out to be obtained for non-declared items by Site personnel are required when exiting the premises.

Upon completion of a job, firing or leaving the consultant/service provider s organisation, the induction cards issued where applicable to a specific site to the contractors must be returned to the Client/Agent's Representative and or the protective services office. Under no circumstances is the card allowed to be used by another person other than the person issued with the card.

All those who access site are required to strictly adhere to all security requirements on the premises, as laid down by the Client / relevant contractor.

Security requirements shall be included at Client and relevant contractor's induction training.

11. COMPENSATION ISSUES

The consultant/service provider must submit proof of registration and letter of good standing (LoGS) with the compensation fund or with a licensed compensation insurer for his company and each of his suppliers. Record of validity must be maintained. Work is to be stopped where consultant/service provider s / suppliers are identified with expired LoGSs).

The Letter of Good Standing must reflect the name of the consultant/service provider and/or supplier Company and the nature of business. No one organization may carry the liability or cover for another.

Failure to comply with the requirements will be regarded as a serious offence.

12. MEDICAL SURVEILLANCE PROGRAMME

The consultant/service provider must ensure that all persons coming to site to work shall be in possession of a valid medical certificate of fitness (CoF). The CoF is also required that is relevant to the type of work (risk based) that the employee will be conducting. CoFs will be placed in the SHE File and be able to at all times cross reference with lists of those authorised to make deliveries to site.

An employer shall not permit an employee who has been certified unfit for work to work until deemed fit by the Occupational Health Practitioner (OHP).

Note: RW will only accept medical certificates of fitness issued by an Occupational Health Practitioner (means an occupational medicine practitioner or a person who holds a qualification in occupational health recognized as such by the South African Medical and Dental Council as referred to in the Medical, Dental and Supplementary Health Service Professions Act, 1974 (Act 56 of 1974), or the South African Nursing Council as referred to in the Nursing Act, 1978 (Act 50 of 1978). An example of an approved medical certificate can be requested from SAM SHEQ)

Failure to comply with the requirements will be regarded as a serious offence.

13. HEALTH AND OCCUPATIONAL HYGIENE

The requirement to measure and monitor levels of hazards that affect the health of workers. Consultant/service provider shall monitor dust, noise, vibration, lighting, and any other risks caused by mobile equipment, generators and other equipment used during construction. Factors such as weather can affect the intensity to which these impacts are experienced. The use of dampening of noise and vibration produced by equipment or processes is to be applied. Other appropriate mitigation measures are to be implemented as required / agreed upon with the RW PM and SHERQ.

All plant and equipment is to come to site pre monitored, irrespective of source. Dust suppression measures must be in place to reduce the dust caused by the movement of heavy vehicles and plant.

Failure to comply with the requirements will be regarded as a serious offence

14. SITE FACILITIES

All personnel are to be afforded decent, clean, hygienic facilities at all times. Respect for people irrespective of status is to be afforded to all at all times.

Ablution facilities are to be in accordance with statutory or generally acceptable standards. Separate facilities (sanitary and changing) are required for each gender. All facilities to be kept clean, hygienic and in a good state of repair. Temporary toilets moved around site are not to use formaldehyde, and alternative bacterial products are to be used. Temporary toilets are further to be available with each team, and for each gender.

Dining/eating areas are to be made available, that are sheltered, accessible to all, be kept clean, hygienic and in a good state of repair. General Waste bins to be provided.

No living quarters will be allowed within the site, in line with the ILO conventions. Suitable living quarters are to be found for those who are required to be accommodated. Such sites could be inspected by the CHSOs for hygienic assessment.

15. EMERGENCY PREPAREDNESS AND RESPONSE

The relevant consultant/service provider at the project site where pipes are delivered will provide and co-ordinate an overall emergency plan should the emergency take place within their site. This will be communicated during the induction training. The consultant/service provider will develop their own emergency response plan submit this plan as part of the SHE Management System. The emergency plans will be adapted to complement the RW emergency plan once on site should the delivery trucks / drivers trigger the emergency situation. The consultant/service provider will ensure that their employees and service providers are trained on the emergency plan. The plan is to detail how emergencies will be managed, taking into account the risk of the works emergency cover and responses.

16. SHE INCIDENT MANAGEMENT

A procedure for reporting, investigation and record keeping of incidents and accidents is to be provided in case an incident occurs at a Rand Water project site or within a RW operational site. The consultant/service provider shall report and investigate all incidents/accidents within 7 days including near miss incidents, fatalities occurring on the RW site.

All corrective actions shall be closed out within 1 month. If this is not practicable within the time frame, then it is to be submitted at a later date agreed to by the RW PM.

Note:

- Providing the accident/incident investigation report does not exempt the consultant/service provider from providing accident reports required by Statutory Authorities, in particular, the consultant/service provider's responsibility for reporting accidents in accordance with the requirements of the OHS and COIDA Act. The Client shall participate in any accident/incident investigation if the accident/incident is directly linked to any activity within the scope of the construction project. RW further reserves the right to conduct an independent investigation in any incident and a RW SHEQO should be included on the team.

17. SHEQ APPROVAL PROCESS AND SUBMISSIONS

The SHEQ representative will provide a letter and report after the file has been assessed, with amendments to be made if needed prior to approval.

18. COST OF HEALTH AND SAFETY

The payment items for Occupational Health & Safety are contained in the Commercial Part of the Tender Document i.e. Bill of Quantities. A pro-forma BOQ is attached to this SHE Specification as a guide to the items the Contractor should allow for in his pricing.

Item	Description	Unit
Preparation of Project Specific Health and Safety Plan /file	The rate for this item must cover all expenses incurred in preparing the consultant/service provider 's project specific Health and Safety Plan as required by this document	Lump Sum
Provision of Personal Protective Equipment (PPE)	The rates for these items shall include for the procurement, delivery, storage, distribution and all other actions required for the supply of PPE to the employees of the consultant/service provider, full or part time, requiring them. Items listed will include, among others which may be noted, are: hard hats, reflective vests, reflective bibs, high visibility overalls, protective foot wear, fall arrestor harness and tethers, gloves, ear muffs, earplugs and dust masks of appropriate type. Normal items such as standard overalls, waterproof clothing, gum boots and standard workshop safety equipment such as welding masks and goggles.	Lump Sum
Costs of Medical Surveillance	This item shall covers all costs in involved in the obtaining of certificates of fitness	Lump Sum
Provision of First Aid Boxes including emergency safety equipment such as fire extinguishers	The rate for this item shall cover all costs incurred in the provision and maintaining of first aid boxes as well as other emergency safety equipment which includes, but will not be limited to the provision of fire extinguishers for all delivery vehicles.	Unit
Safety notices and signs	The lump sum tendered under this tem shall cover all costs associated with erecting highly visible site signage to help prevent injuries on-site and ensure that all staff and visitors are aware of any hazards.	Lump Sum
Waste bins	Costs include waste bins to be provided for all waste that will be generated on site including Biohazard waste	Lump Sum
Spill kits	Costs include spill kits equipment and tools	Lump Sum
Barricading	The lump sum tendered under this tem shall cover all costs involved with erecting the appropriate solid / hard / soft temporary physical barriers to restrict the entry of persons to an area and/or prevent personnel from being exposed to hazards associated with unprotected openings on surfaces, floors, edges, slabs, hatchways and stairways. Barricades adjacent to a public road shall equipped with appropriate lights or reflectors for clear visibility at night.	Lump Sum

Submission of the Health and Safety File (hard and soft copies)	Expenditure under this item shall be made in accordance with the general conditions of contract. This amount will be paid only once the Consultant/service provider has met all his obligations in respect of the Occupational Health and Safety Act and the has submitted his Health and Safety File complete as envisaged on this specification to the Client's satisfaction.	Lump Sum
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Annexure A: BILL OF QUANTITIES FOR HEALTH AND SAFETY

This is an example, the bill and **rates must appear in the Main Bill of Quantities**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	TOTAL
C.01	Preparation of the consultant/service provider 's site specific Health and Safety Plan	lump sum	1		
C.02	Provision of Personal Protective Equipment (PPE)	lump sum	1		
C.03	Cost of medical certificates of fitness	lump sum	1		
C.04	Provision of First Aid Boxes to GSR requirements and other emergency safety equipment such as fire extinguishers.	lump sum	1		
C.05	Safety notices and signs	lump sum	1		
C.06	General Waste bins	lump sum	1		
C.07	Spill kits	lump sum	1		
C.08	Barricading	lump sum	1		
C.10	Submission of the Health and Safety File (hard and soft copies)	lump sum	1		

PART B – GENERAL CLIENT REQUIREMENTS

1. SERVICE PROVIDER/CONSULTANT RESPONSIBILITIES

Service Provider/Consultant	a) In the event that the consultant/service provider needs to introduce a new supplier the consultant/service provider must first inform the Client/Agent's and obtain his approval. Such suppliers must, in every respect, meet the Client's/Agent's SHE requirements. b) Should the consultant/service provider appoint a supplier, the consultant/service provider would then have the same role and responsibility in relation to the suppliers, in a similar way as the Client/Agent has in relation to the consultant/service provider. c) The consultant/service provider is directly accountable for the actions of his suppliers. The consultant/service provider will also be responsible for initiating any remedial action (recovery plan) that may be necessary to ensure that the supplier complies with all requirements. d) The consultant/service provider shall ensure that the suppliers appointed have the necessary competencies and resources to perform the work safely. e) The consultant/service provider shall provide any supplier who is making a bid or appointed to perform work, with the relevant sections of the documented SHE
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	requirements, who would in turn provide the client/agent with a SHE file for approval. f) discussed with the relevant Consultant/service provider (with whom the sub-contractor is contracted with). g) Where suppliers appoint another supplier to perform construction work, the duties determined in sub regulation (1) (b)-(g) that apply to consultant/service provider apply to the supplier as if he or she were the consultant/service provider .
Employees On The Project	a) The consultant/service provider is responsible for adequately informing his employees and suppliers of all relevant information of the Rand Water issued SHE requirements. b) Employees are responsible for their own health and safety and that of their co-workers in their area. They must be made aware of their responsibilities during induction and awareness sessions some of which are: • Familiarising themselves with their workplaces and SHEQ procedures. • Working in a manner that does not endanger them or cause harm to others. • Keeping their work area tidy. • Reporting all incidents/accidents and near misses. • Protecting fellow workers from injury. • Reporting unsafe acts and unsafe conditions. • Reporting any situation that may become dangerous. • Carrying out lawful orders and obeying SHEQ rules. c) It must be highlighted to all employees, that anyone who becomes aware of any person disregarding a safety notice, instruction or regulation shall immediately report this to the person concerned. If the person persists, stop the person from working and report the matter to the Rand Water Project Manager/Agent and the consultant/service provider immediately. d) No person shall damage, alter, remove, render ineffective, or interfere with anything that has been provided for the protection of the site, or for the health and safety of persons. e) No person under the influence of alcohol, drugs or medication (in a state of intoxication) or any other condition that may render him incapable of controlling himself or of other persons under his charge shall be allowed to enter the site. Any person required to take medication shall notify the relevant responsible person as well as the potential side effects of the medication. f) Employees shall not wear an ear plug intended for music or use a cell phone whilst performing work activities. g) All safety and warning signs must be obeyed at all times. h) Entering or leaving the Site may only be done via the official designated walkways, do not take short cuts. Follow designated walkways to and from your work place. Walk, do not run, and be alert for motor vehicle traffic and mobile equipment. i) All employees must adhere to the SHE and other site specific rules. j) If any of the consultant/service provider employees or his supplier employees has transgressed any of the requirements of the SHE requirements, or site rules, then the employee will be removed from site and his/her site access revoked. The consultant/service provider must follow a process of disciplinary action which shall include re-training/inducting the employee (at the cost of the consultant/service provider) and provide proof thereof to the Rand Water site/Project Manager and upon the satisfaction of the Rand Water Site/Project Manager will the employee be allowed back on site.

2. EMERGENCY PREPAREDNESS AND RESPONSE

The consultant/service provider is to adhere to the RW / Consultant/service provider's project site emergency plan. The consultant/service provider and his suppliers are to develop their own emergency response plan should an event arise when delivering pipes to site.

Using the Rand Water **Site** specific emergency plan where applicable, the consultant/service provider together with his suppliers will develop their own emergency response plan (as a guideline) and submit this plan to the Rand Water Project Manager for approval. It may be decided that one site specific emergency response plan be used for all suppliers. Consultant/service provider will ensure that employees and sub-contractor employees are trained on this plan.

Emergency Care

- A list of emergency numbers must be available to the driver in every truck. The consultant/service provider must ensure that his employees and suppliers employees are familiar with the emergency numbers.
- Consultant/service provider s shall have one first aid box for every truck.
- Minimum contents of a first aid box as per OHS Act as per (OHS ACT-GSR 3)
- The consultant/service provider and suppliers shall ensure that alternative arrangements shall be made for possible incidents occurring after normal working hours.
- Where services are not available from the medical centre or where there is no medical centre, the consultant/service provider shall make alternative arrangements for any medical assistance.
- Emergency hospital care must be accessed preferably in a private hospital, but at the nearest hospital.

3. SHEQ INCIDENT MANAGEMENT

The consultant/service provider shall compile and implement procedure for Reporting and investigation of incidents – This document sets out the procedures to be followed when reporting, recording and investigating incidents that occur on a RW /construction site.

The consultant/service provider shall report all incidents/accidents as required in terms of legislation including near miss incidents, first aid, medical treatment, lost time incidents (lost time injuries and fatalities); Section 24 and 25 incidents; electrical contact; property damage; crime, chemical spillage and other environmental incidents immediately.

Where a **fatality or permanent disabling injury occurs** at a construction site, consultant/service provider must provide the **Provincial director with a report contemplated in section 24 of the Act**, in accordance with regulations 8 and 9 of the General Administrative Regulations 2013 and that the reports included measures that the contractor intends to implement to ensure a safe construction site as far as is reasonably practicable.

All fatal incidents, employee and contractor incidents, shall be reviewed by the committee within one week after the incident and the members of the Project Progress meeting notified of corrective actions taken. Preliminary investigation information/report for major incidents shall be submitted within 24 hrs to RW.

An incident portfolio of evidence and a comprehensive and detailed investigation report shall be submitted to the Rand Water project manager/ SHEQ Officer within 7 days after the incident which shall include: Date, time and place of incident; Description of incident; Root cause of incident/accident; Type of injury (if any); Medical treatment provided (if any); Persons involved; Names of witness/s; Corrective action to prevent recurrence (with clear deadlines and responsible persons). It is required that all corrective action is closed out within 3 months. If this is not practicable within the time frame, then it is to be submitted at a later date agreed to by the Rand Water Project Manager.

The consultant/service provider shall ensure that all accidents/incidents are investigated by him/her and are discussed at the SHE committee meeting held on site. Accidents/incidents shall be investigated and recorded in terms of the requirements of the Occupational Health and Safety Act, the National Environmental Management Act and National Water Act as applicable.

Please note that providing the Accident/incident investigation report does not exempt the consultant/service provider from providing accident reports required by Statutory Authorities, in particular, the Contractors' responsibility for reporting accidents in accordance with the requirements of the OHS Act and COID Act.

The Client/Agent shall be allowed to participate in any accident/incident investigation if the accident/incident is directly linked to any activity within the scope of the construction project

The consultant/service provider shall keep on site/workplace a record of all accidents and incidents reported in the form of the OHS Act Annexure 1 investigation form as referenced in the OHS Act. (Incident Investigation Report)

Rand Water reserves the right to conduct an independent investigation in any incident

Investigation Teams below are expected as a minimum for the consultant/service provider to establish for incidents and accidents. In addition to the consultant/service provider and his sub-contractor investigations, Rand Water will also, separately, conduct its own separate investigation especially for disabling injuries, fatalities, serious environmental legal contraventions and damages to Rand Water property. The consultant/service provider and sub-contractor would be required to co-operate with the Rand Water investigation Team.

Parties to be involved in the investigation are as follows:

Incident Type	Definition	Chairman:	Attendees:
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First Aid Injuries	An incident in which an injured person is treated at the incident scene by the first Aider and released back for duty	Supervisor of Injured Person / Consultant/service provider Relevant Supervisor	Consultant/service provider /s and their sub-contractor/s • SHE representative • Construction Safety Officer • Injured
Medical Treatment Injuries	An incident in which an injured person is treated by the OHP/Medical doctor and released back for duty	Consultant/service provider's OHS Act Section 16(2) appointee	<u>Consultant/service provider /s and / or their sub-contractor/s</u> • SHE representative • Construction Safety Officer • Injured (if possible) • Witness (if any) • Supervisor of the injured <u>Rand Water</u> • RW Project Representative
Disabling Injuries Including Occupational Diseases	Incident which arises in the course of duty which results in any occupational illness/ injury/ diseases, and giving rise to any related temporary or permanent disablement as determined by the Medical practitioner. The DI will be further classified as disabling in the event of one or more of the following criteria are applicable: – The injured person is unable to continue performing his normal duties and tasks for which he/she was employed for 14 days or more, – The loss or more than one day or shift following the day or shift during which an incident occurred, inclusive of weekends, and schedule off-duty days, – All fractures and amputations – A person becomes unconscious, irrespective of the duration, as the results of workplace exposure or any incident, – An occupational illness which necessitates medical treatment and or restricted work and /or days/shifts off-duty, – Compensable occupational diseases recorded as a single DI on the day of diagnosis. – Any damage to the bone such as closed fracture, amputation of the fingertip etc.	Consultant/service provider's OHS Act Section 16(2) appointee	<u>Consultant/service provider /s and / or their sub-contractor/s</u> • SHE Representative • Construction Safety Officer • Injured (if possible) • Witness (if any) • Supervisor of the injured • OHS Act Section 16(2) of the injured <u>Rand Water</u> • Rand Water Site Project Manager • Rand Water SAM SHEQ Representative • Rand Water Site Risk Representative • Corporate SHEQ Representative
Fatalities	An incident that occurs at work or arising out of, or in connection with the activities of persons at work, or in connection with the use of plant or machinery, in which, or in consequence of which a person dies,	Consultant/service provider's OHS Act Section 16(2) appointee	<u>Consultant/service provider /s and / or their sub-contractor/s</u> • SHE Representative • Construction Safety Officer • Injured (if possible) • Witness (if any) • Supervisor of the injured • OHS Act Section 16(2) of the injured <u>Rand Water</u> • Rand Water Program Manager • Rand Water Project Manager

			Rand Water SAM SHEQ /Corporate Risk/Site Risk Representative
Near Miss Incidents	An incident that has the potential of causing an injury or negative impact to the environment	Consultant/service provider /s Construction Supervisor 6.1 appointee	<u>Consultant/service provider /s and / or their sub-contractor/s</u> - Person/s affected by near miss - SHE representative - Construction Safety Officer - Supervisor of the area - Consultant/service provider 's OHS Act Section 16(2) appointee
Environment Incidents	An event resulting in temporary or permanent cumulative or immediate adverse effects on the environment, e.g. an oil or chemical spillage, or release of toxic gas	Consultant/service provider /s Construction Supervisor 6.1 appointee	<u>Consultant/service provider /s and / or their sub-contractor/s</u> - SHE representative - Construction Safety Officer - Witness (if any) <u>Rand Water</u> - Site Project Manager/Representative - ECO where applicable - Rand Water SAM SHEQ Officer/Corporate Environmental Advisor (in the event of major environment incidents)
Damage To Rand Water/ Third Party Property	Property damage is damage to or the destruction of Rand Water property, caused either by a person or by natural phenomena.	Consultant/service provider /s Construction Supervisor 6.1 appointee	<u>Consultant/service provider /s and / or their sub-contractor/s</u> - SHE representative - Construction Safety Officer - Witness (if any) <u>Rand Water</u> - Rand Water Site Project Manager - Rand Water SAM SHEQ Officer - SAM SHEQ Risk Control Investigator
Crime	An action or omission that constitutes an offense that may be prosecuted by the state and is punishable by law	Consultant/service provider /s Construction Supervisor 6.1 appointee	<u>Consultant/service provider /s and / or their sub-contractor/s</u> - SHE representative where applicable - Construction Safety Officer - Witness (if any) <u>Rand Water (Where applicable)</u> - Rand Water Site Project Manager - Rand Water SAM SHEQ Officer - SAM Risk Control Investigator - Detective (SAPS) - Suspect(s) - Witness (if any) - Protective Services Official (if possible) - Consultant/service provider and / or their sub-contractor

- All investigation teams must include at least 1 person (from both the Rand Water and Consultant/service provider) that is competent in Incident Investigation.
- Consultant/service provider s shall ensure the incident/accident scene is not disturbed until after the investigation unless it is done to prevent further injury or for rescue purposes (OHS Act, Section 24(2) applies). Investigation shall begin promptly after the incident/accident. Where applicable and with proper authorization, photographs may be taken of the scene of the incident as well as any equipment involved in the incident. The investigation report shall be submitted to Rand Water Project Manager, within 3 days after the incident occurred unless proof can be given that due to technical or other difficulties, more time is needed.
- It is essential that the Consultant/service provider demonstrate that corrective action has been taken and that correction action is communicated to all consultant/service provider s staff affected.

- Feedback on the status of close out of corrective actions must be communicated at the following forums: Site Progress Meeting, Project Progress Meeting and at consultant/service provider s SHE Meetings.

4. OPERATIONAL CONTROL REQUIREMENTS

a. Notices & Signs

All symbolic safety signage, that the Consultant/service provider or his/her sub-contractors are to use/display are to conform the requirements of SANS 1186.

The display of the following signs is mandatory:

- For Contractors with Site Establishment: The Contractor Company sign must be posted at their site offices to reflect the name and contact details of the: Construction Supervisor; Health and Safety Manager/Officer; First Aider; Health and Safety Representative and Evacuation Warden. Sign to also include site specific number as per the construction work permit where applicable.
- “Radio-Active Material” symbolic signs at radioactive storage areas.
- The location of every first aid box; fire extinguisher and emergency exit is to be clearly indicated by means of a sign.
- At the entrance to premises where machinery is used: Restricted access i.e. **“Authorised Person Only”** signs on entry.
- When in use, an Explosive Power Tool shall have a sign, warning people of its use.
- The Contractors shall provide the signage where work is conducted and where unauthorised entry is prohibited and/or where alerting and cautioning passers-by to be aware of potential dangers.
- Notices & Signs at entrances / along perimeters indicating “No Unauthorised Entry”.
- Notices & Signs at entrance instructing visitors and non – employees what to do, where to go and where to report on entering the site/yard with directional signs. E.g. Visitors to report to Site Office”
- Notices & Signs posted to warn of overhead work and other hazardous activities. E.g. **General Warning Signs**.
- All equipment brought onto the construction site, (including motorised equipment, e.g. bobcat) that requires PPE to be worn during operation, must have the relevant PPE mandatory sign/s attached. The type and use of PPE will be placed at all entry points to the construction site.

Note: Signage to be adequate to ensure after hour safety.

b. Fire Safety

Contractors must develop a fire safety plan/procedure for the specific construction site prior to commencing work. The procedure must take into consideration the size of the site, type of work being done (e.g. cutting, welding, grinding, etc.) and amount of combustible materials. All workers entering and working in the construction site need to be trained in fire safety and any duties they are required to perform. Pre-existing fire systems in buildings shall be maintained during construction whenever possible. Any changes must be approved by the Client/Agent.

The fire safety plan shall include:

- The designation and organization of site personnel to carry out fire safety duties, including fire watch service if applicable.
- The emergency procedures to be used in the case of fire, including: Sounding the fire alarm, notifying the fire department, instructing site personnel, Firefighting procedures and integrating with existing emergency procedures.
- The control of fire hazards in and around the building.
- Maintenance of firefighting facilities.

Fire Guidelines:

- Fire alarm shut downs: Contractors must inform the Client/Agent in writing 7 days prior to any part of a fire system being shut down.
- Fire Warning: A suitable means of alerting site personnel to a fire shall be provided, and capable of being heard in all areas of the building.
- Portable Extinguishers: suitable extinguishers must be available in the construction site and in cases of hot work, be readily available at the location.
- Combustible Liquid and Flammable Liquid Storage: storage of combustible and flammable liquid in the construction site is not permitted unless stored in approved flammable cabinets or outdoors away from the buildings.
- Smoking Restrictions: Smoking is not permitted indoors, at entrances to buildings or near air intake systems as per Rand Water Smoking Policy and legislation requirements

c. Construction Vehicles and Mobile Plant

- a) The Contractor shall implement a site traffic plan (circular movement) to ensure the safe movement of all Construction related mobile plant.
- b) Contractors shall implement pedestrian and vehicle routings as part of the site traffic plan to demonstrate the route employees may proceed when coming on or going off shift
- c) All motor vehicles operated by Contractors within the area shall, in all respects, comply with the Road Traffic Ordinance and Road Traffic Act. Designated drivers shall be in possession of a driver's licence, valid for the class of vehicle as well as an operator certificate where applicable. The driver's license shall be kept by the person so authorised and shall produce such card on request.
- d) All drivers of construction vehicles and mobile plant to have medical certificates of fitness. Each Project site will have system/ process to manage vehicle access to site.
- e) The contractor shall attach identification markers on all of his/her vehicles that are permitted to enter the site.
- f) The speed limit within the bounds of the construction site is 30 km/h. (To be completed by the project team). A consolidated traffic plan must be in place where there are many vehicles within a project site.
- g) No drivers or operator may talk on cell phones or two way radios whilst driving, unless a hands free kit is used.
- h) It is the responsibility of the driver to ensure:
 - He/she and his/her passengers wear seat belts whilst the vehicle is in motion.
 - Comply with all safety, direction and speed signs.
 - Ensure that vehicle loads are properly secured and loaded onto vehicles.
 - Ensure that vehicles are not overloaded.
- i) All requirements with regard to the transportation of tools/equipment/material and persons on the back of construction vehicles must be adhered to:
 - No Personnel to be transported in the back of construction vehicles with tools.
 - Tools, equipment and material to be secured in order to prevent movement;
 - Fixed and firmly secured seats with seat belts – adequate for the number of passengers being transported;
 - The driver and all passengers to be seated with seatbelts fastened whilst the vehicle is in motion. (National Road Traffic Act no 93 of 1996).
- j) The Consultant/service provider shall ensure that his employees and those of his subcontractors do not.
 - Ride on back of elevators, cranes or other mobile plant equipment.
 - Leave vehicles unattended with the engine running.
 - Park vehicles in unauthorised zones/areas.
- k) Rand Water reserves the right to search any vehicle on the premises or when entering or leaving the premises.
- l) The Contractor shall be solely responsible for the safety and security of any of his vehicles (including private vehicles) on the premises.
- m) A current maintenance logbook is required for all cranes and large plant equipment, and shall be available for inspection at any time. The logbook shall be located in the cabin of the crane or plant equipment.
- n) Consultant/service provider is to ensure that visibility (e.g.: switching on of lights, reflectors, barricades equipped with lights, etc.) is enhanced on all Construction Vehicles and Mobile plants in order to identify the location of the vehicles or plant.
- o) The Contractor must maintain his vehicles in roadworthy condition and a valid license. These vehicles shall be subject to inspection by the Client/Agent's representative. Vehicles which are not roadworthy will not be allowed onto the site. If mobile plant equipment is used on the public road, the same requirements as for vehicles apply and should be adhered to.
- p) In the event where the consultant/service provider and his sub-contractor do not own the equipment, the consultant/service provider is still responsible for ensuring all conditions are complied with by all of his subcontractors or hire companies.
- q) Drivers/operators shall be responsible for the travel-worthiness of all loads conveyed by them. Precautions shall be taken to lash all loads properly. Loads projecting from vehicles shall be securely loaded and in daytime a red flag and during darkness a red light or red reflective material shall be attached to the extreme end of such projecting material.
- r) All servicing and repairs must be carried out by the Contractor in a designated area.
- s) All waste from servicing must be disposed of in accordance with the environmental legislation.
- t) Every mobile machine whose vision is impaired when reversing must have a siren/hooter, which sounds, when the machine is reversing. This includes trucks, cranes, loaders, etc.
- u) Operators have great difficulty in seeing light vehicles behind their machines. Drivers of light vehicles must avoid stopping or parking in the vicinity of machines. At least 30 (thirty) meters must be left clear between such a vehicle and such a machine.
- v) Drip Trays to be placed under the vehicles where are possible leaks to avoid soil and ground pollution.

d. Personal Protective Equipment

In terms of Section 8 of the OHS Act, the duty of the employer is to take steps to eliminate or mitigate (hierarchy of control measures) any hazard or potential hazard to the safety or health of employees before resorting to PPE. Consultant/service provider's employees and his sub-contractor employees at the construction site, including visitors, shall use the following SANS or the relevant internationally recognised authority approved risk based PPE at all times, as a minimum:

- Head protection (Hard hat).
- Steel toe capped safety boots.
- Eye protection.
- Long sleeved and long pants protective clothing. *NB: At least two of each to be issued to each employee.*
- High visibility vests.
- Refer to General Safety Regulation 2 of the OHS Act- if there are particular activities/areas/risk assessments that require a specific type of PPE, then that specific PPE requirement must be adhered to (e.g.: for dusty environments – eye goggles; for welding – welding helmet; etc.).

The Contractor shall ensure that his employees understand why the personal protective equipment is necessary and that they use them correctly.

Strict non-compliance measures must be administered to any employee not complying with the use of PPE and shall be removed from the Site.

PPE shall be worn in any designated area requiring such a PPE.

Issue, Replacement and Control of PPE: The Consultant/service provider must provide a detailed programme on the issuing, maintenance and replacement of PPE for all his employees and subcontractors on site. The Consultant/service provider is required to keep an updated register of all PPE issued to staff, including that of his sub-contractors

e. Housekeeping

Consultant/service provider s and Sub-contractors

- The Consultant/service provider and his sub-contractor shall maintain a high standard of housekeeping within the site. Ensure prompt disposal of waste materials, scrap and rubbish is essential. Also refer to what the requirements are in the EMP

Scrap/Waste Removal System

- Scrap management as per agreement with Project Manager.
- All items of Scrap/Unusable Off-cuts/Rubble and redundant material removed from working areas on a regular basis.
- Scrap/Waste disposed of in designated containers/areas
- Removal from site/yard on a regular basis.

Stacking & Storage

- Before stacking any material, the Contractor, sub-contractor or their employees must consult the Rand Water Project/site Manager for allocation of a stacking area, General Safety Regulations 8 of OHS Act.
- Adequate care must be taken by the Contractor to ensure that storage and stacking is correctly and safely carried out.
- Materials/objects shall not be left unsecured in elevated areas –falling objects may cause serious injuries/fatalities
- All packaging material including boxes, pallets, crates, etc. to be removed from the work area immediately.

Waste Control/Reclamation

- Re-usable off-cuts and other re-usable material removed frequently and kept to a minimum in the work areas.
- All re-usable materials neatly stacked/stored in designated areas. (Nails removed/bent over in re-usable timber).

After job completion

- On completion of his work, the contractor is responsible for clearing his work area of all materials, scrap, temporary buildings and building bases to the satisfaction of the Client/Agent.

Inadequate standard of housekeeping

- The Rand Water Project/Site Manager has the right to instruct the Consultant/service provider and his sub-contractor to cease work until the area has been tidied up and made safe. Neither additional costs nor extension of time to the Contract shall be allowed as a result of such a stoppage. Failure to comply will result in site cleaning by another cleaning contractor company at the cost of the Consultant/service provider

Regular safety/housekeeping inspections

- The Consultant/service provider shall carry out regular safety/housekeeping inspections (at least weekly) to ensure maintenance of satisfactory standards. The Consultant/service provider shall document the results of each inspection and shall maintain records for inspection.

f. Permit to Work

Contractors must adhere to the approved Rand Water Permit to work system to control identified high risk activities. There will be only **one Permit to Work system (Rand Water)** on the construction site.

If the type of work requires that contractors must be trained, competence assessed and authorised in writing to perform the duties of an authorised or responsible person as contemplated in the applicable Rand Water regulations e.g. Hot Work, Radiation, confined space work, excavation, blasting etc.

The RW Project Manager is to provide more details on the permit to work system for the specific work to be conducted by the Consultant/service provider .

g. Hazardous Materials/Chemicals Management

The aim of this section is to outline to the Consultant/service provider s and his sub-contractors how hazardous substances, as defined in the Hazardous Chemical Substances Regulations (OHS Act), should be managed.

- Prior to any HCS being brought onto the site or produced on the site, the Consultant/service provider shall supply the Rand Water Project Manager with the following: Material Safety Data Sheets (MSDS) in accordance with the requirements of the OHS Act – Regulations for Hazardous Chemical Substances; Purpose for bringing the hazardous substance onto the site; Proposed arrangements for safe storage; Proposed methods for handling/usage; Proposed method of disposal; and Hazard communication / training plan.
- The information is to be provided at least **two (2) working days** prior to the expected delivery on site.
- The Rand Water Project Manager shall approve the use of any hazardous substance after receiving the above information.
- No HCS are not to be brought onto the site until the Rand Water Project Manager approval is received.
- All HCS containers to be clearly labelled. Containers that are not marked will not be allowed. No HCS to be stored in food or drink containers.
- Users of HCS to wear/use the correct PPE as per the HCS material safety data sheet.
- Users of HCS to be adequately trained in the HCS that they are handling.
- The Contractors to have and maintain a register with all the HCS that they have on site
- Site Risk Control/SHEQ Teams **must** be notified of any HCS, explosive, and radiation sources that may enter the premises.

Flammable and Combustible Liquids

- Proposals to store fuel on site must have written approval from the Rand Water Project Manager.
- The volumes of fuel allowed to be stored will depend on site conditions and Statutory Regulations. A maximum storage of 40 litres of fuel is allowed to be stored. Anything greater than 40 litres to be stored in a licensed flammable/combustible liquid store.
- Adequate numbers of dry chemical fire extinguishers shall be provided, installed and maintained.
- Before a machine is refuelled, the motor must be stopped. Refuelling shall take place at designated safe areas and appropriate warning signs installed. Suitable drip trays must be used to prevent spillage at the filling nozzle.
- All fuel storage areas must comply with the following requirements: -
Storage should be well clear of buildings; Storage areas must be kept free from all combustible materials. All danger signs must be prominently displayed, i.e. Flammable Liquid, No Smoking, No Naked flames. Hazchem identification. Adequate firefighting equipment must be available. Diesel tanks will be installed in a bund area; bund area must be able to contain 110% of tank capacity. Bund area shall be of a concrete or steel construction. Bund area shall have a lockable drain valve. No other material/equipment shall be stored in the bund area. See Construction Regulation 23, of the OHS Act.

Compressed Gas Cylinders (General Safety Regulation 9) and SABS 1548

The following requirements apply to all gas cylinders' storage:

- Contractors shall establish storage areas as approved by the Rand Water Project Manager.
- Storage areas should be well clear of buildings.
- The storage areas shall be fenced, shaded, stable, and solid surfaces.
- For security and ventilation purposes, a wire mesh fence should surround the storage area. Keep the enclosure locked.
- All danger signs must be prominently displayed at storage area; e.g.
- No Smoking and naked flames.
- A protective covering must be provided.
- Adequate ventilation must be provided.
- Storage areas must be kept free from all combustible materials; no other materials must be stored in cylinder enclosure.

- Full cylinders must be kept apart from empty cylinders so that it will not be necessary to open valves to check whether cylinders are empty or full.
- Cylinders must always be chained separately in an upright position and special stands must be used for cylinders.
- Cylinders must be stored in rows with aisle in-between for easy removal in event of fire.
- Mark empty cylinders clearly and move to approved storage areas.
- Adequate firefighting equipment must be available.
- Cylinders for different gasses must be stored separately.
- Flammable and oxidising gasses must not be stored together; greases and oils must never be allowed to come in contact with oxygen.
- Only flame-proof electrical lighting should be used, if required.
- Cylinders will only be allowed on site in an approved trolley, properly secured and with a chain.
- All gas cylinder torches to have flashback arrestors fitted on both sides.
- Clamps are to be used to separate cables

h. Falling Risk Positions

Whenever persons are required to work in a fall risk position where their potential exposure to falling either from, off, or into, a fall protection plan (which includes fall prevention) will be compiled, implemented and reviewed and every possible and practicable means shall be adopted to provide such persons with effective training and safeguards.

All persons required to work in fall risk positions shall be declared medically fit.

Working on fall risk positions shall only be carried out under the supervision of a competent person.

Safety belts are not allowed to be used in Rand Water. An appropriate full body safety harness will be worn when working at an elevation of 2 (two) meters or more.

Mitigation measures to be put in place:

- All tools in fall risk positions must be attached to lanyards, attached to person or structure or effectively prevented from falling.
 - Equipment in fall risk positions must be tied back to the structure.
 - Loose items in fall risk positions. E.g. Bolts and nuts to be kept in tins or similar robust containers and not in paper boxes.
 - When working at fall risk positions, nets and/or other suitable material should be used catch falling debris and sparks directly below where the task is being performed
 - Roof work discontinued when there is bad/hazardous weather
 - Fall protection measures (including warning notices) when working close to edges or on fragile roofing material
- Fall protection includes: Safety harnesses and double lanyards; approved lifelines; and other approved means.
- Fall protection equipment to be implemented where fall prevention is not possible and shall comply with SANS Standards - : SANS 503&508 Series and other recognised international standards.

Ladders (Portable)

- All ladders used on the site shall be in compliance with the OHS Act and Regulations.
- All Ladders shall have an identification tag, logged in a register, and inspected on a monthly basis and prior to use.
- Damaged ladders shall be marked as “DAMAGED” and removed from the project site.
- Prior to work being performed, a risk assessment must be conducted, and work must be conducted as per General Safety Regulation 6 and 13A and Construction Regulation 10 of the OHS Act.

i. Barricading (Guarding of Excavations, Trenches and Floor Openings)

Areas where the restriction or prevention of unauthorised persons/members of public/passers-bys is required

- Name and contact detail of person and Contractor Company that is responsible for the barricading shall be posted on the actual barricading.
- *All barricading shall be of the rigid type. Chambers are to be fenced off, on residential and industrial areas; diamond mesh fence of at least 1.5m height with overhanging orange net will be used on all sides. All openings and edges must be barricaded with solid barricading to withstand an impact of at least 100 kg and adequately maintained.
- Only solid (scaffolding or stand-alone) barricading with Orange “Snow Netting” will be allowed.

- Physical barriers to prevent persons falling into openings in floors, stairwells, staircases, open-sided buildings and any structure in the course of erection, where dangerous openings exist.
- Contractors must pre-plan the delivery of floor grating, stair treads, landings and handrails to ensure safe access and protection for persons working on structures.

j. Machinery, Tools and Equipment

The aim of this section is to outline the process used by Rand Water project management team to ensure that all equipment brought onto site by the Consultant/service provider and their sub-contractors is appropriate to the task being performed and in good condition.

The Contractor shall ensure that all machinery, tools and equipment are identified, safe to be used and is maintained in a good condition.

- All machines driven by means of belts, gear wheels, chains and couplings shall be adequately guarded. A machine is guarded when persons cannot gain inadvertent access to the moving parts.
- The Consultant/service provider shall ensure that all machinery, tools and equipment to be listed on an inventory list and handed to security with a copy kept on site.
- All machinery, tools and equipment to be regularly inspected at least monthly or as required by legislation and risk assessments, registers of tools shall be kept in the SHE file. The equipment should be numbered or tagged so that it can be properly monitored and inspected.
- All machinery, tools and equipment must have the necessary approved test or calibration documentation where applicable prior to being brought onto the premises and the records shall form part of the SHE plan.
- All fuel driven equipment must be inspected by the Rand Water SHE Practitioners/Officers prior to mobilizing it onto site.
- All fuel driven equipment must be properly maintained in accordance with the consultant/service provider's recommendations and legal requirements.
- The Contractor shall supply, at his cost, all items of plant and equipment necessary to perform the work else otherwise indicated.
- The Client/Agent reserves the right to inspect items of plant or equipment brought to site by the Contractor for use on this Contract. Should the Client/Agent find that any item is inadequate, faulty, unsafe or in any other way unsuitable for the safe and satisfactory execution of the work for which it is intended, the Client/Agent shall advise the Consultant/service provider in writing and the Consultant/service provider shall forthwith remove the item from the site and replace it with a safe and adequate substitute. In such cases, the Consultant/service provider shall not be entitled to extra payments or extensions of time in respect of delay caused by the Client's/Agent's instructions.
- The Consultant/service provider /sub-contractor will ensure that he has all the necessary registers to record all tools and equipment.
- All employees shall be competent when operating or using machines and tools i.e. have a valid certificate. And proof of any form of task related training.

k. Hand Tools and Pneumatic Tools/Explosive Actuated fastening Tools

- All hand tools (hammers, chisels, spanners, etc.) must be recorded on a register and inspected by the supervisor on a monthly basis as well as by users prior to use.
- All pneumatic tools (tools driven by gas, usually compressed air) should be numbered, recorded and inspected at least monthly as well as by users prior to use. And the revolutions per minutes measured in accordance with the consultant/service provider's specifications.
- Tools with sharp points in tool boxes must be protected with a cover.
- All files and similar tools must be fitted with handles.
- It is illegal for a pneumatic tool to be operated by using a compressed gas cylinder. Pneumatic equipment shall only draw supply from mobile air compressors or from compressed air lines installed within the premises after gaining permission from the Client/Agent Representative.
- When using the interlocking type of connection of an airline, connectors shall be secured with wire clips through holes provided to prevent accidental disconnection.
- Compressed air shall NOT be used for any purpose other than that for which it is provided. Compressed air should not be used to remove dust from clothing.
- Hoses to be orderly routed and elevated if required in order to prevent tripping hazards.

Records:

- Check list for hand tools
- Check list for air tools including records of the measurement of revolutions on grinders
- Gas cylinder trolley checklist
- Register