

Document No	S-BRA-001-00	HEALTH, SAFETY, ENVIRONMENTAL & QUALITY MANAGEMENT	
Revision	01		
Appointment date	24-Jul-26		
Draft Baseline Risk Assessment AS PER CONSTRUCTION REGULATION 5(1)(a), 2014 OCCUPATIONAL HEALTH AND SAFETY ACT, NO. 85 OF 1993 (Latest Edition)			

ANNEXURE B

RFP088/2026: APPOINTMENT OF A PROFESSIONAL SERVICE PROVIDER FOR THE STABILISATION OF WATER RETICULATION AND ELECTRICITY IN THE THABA TSHWANE MILITARY AREA WITHIN THE GAUTENG PROVINCE

(DETAILS)

This document is prepared in terms of
Construction Regulation 5(1)(a). The Baseline Risk Assessment is conducted to obtain a
benchmark of type and size of potential hazards pertaining to the project.
The aim is to identify all major and significant risks.

SUPERVISION BY THE CLIENT
DBSA – DEVELOPMENT BANK OF SOUTHERN AFRICA

SUPERVISION BY THE PROFESSIONAL SERVICE PROVIDER
(TBA)

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1. OBJECTIVE

The objective of this baseline risk assessment is to identify and categorize the significant health, safety, environmental and quality hazards and risks associated at a high level. This Baseline Risk Assessment is a draft and will be made more specific to the scope of works by the Construction Health and Safety Agent once the PSP is appointed.

The Baseline Risk Assessment is developed in accordance with the requirements of Construction Regulation 5(1)(a) of the Construction Regulations, 2014 issued under the Occupational Health and Safety Act 85 of 1993.

The evaluation of results will assist management to eliminate, minimize or control risks to workers associated with the tasks performed or exposure to the working environment.

The Baseline Risk Assessment will provide input into the preparation of the project Health and Safety Specification and will inform designers, Professional Service Providers, and the Principal Contractor of the significant risks associated with the project.

The assessment also supports the implementation of the “Safety in Design” principles as required in terms of Construction Regulation 6 to ensure that hazards are eliminated or reduced during the design stage as far as reasonably practicable.

2. SCOPE

The Baseline Risk Assessment is prepared in accordance with the requirements of Construction Regulation 5(1)(a) of the Construction Regulations, 2014 promulgated under the Occupational Health and Safety Act 85 of 1993.

The Baseline Risk Assessment shall assist in:

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- Identifying hazards associated with the project.
- Evaluating the potential risks to workers, the public, property and the environment.
- Determining appropriate control measures to eliminate or reduce risks to an acceptable level.

The findings of this Baseline Risk Assessment will inform the preparation of the project Health and Safety Specification and must be communicated to designers, Professional Service Providers and the Principal Contractor to ensure that the identified risks are addressed throughout the project lifecycle.

2.1 PROJECT SPECIFIC SCOPE OF WORKS

This Baseline Risk Assessment is pertaining to the stabilisation of water reticulation and electricity in the Thaba Tshwane Military area within the Gauteng Province

The Baseline Risk Assessment will be reviewed and updated should significant changes occur in the project scope, design or construction methodology.

3. ABBREVIATIONS & DEFINITIONS

DEFINITIONS	
Purpose of the Act	- to provide for the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith
the Act	- means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)
Agent	- means a competent person who acts as a representative for a client
AIA	- means an Inspection Authority approved by the chief inspector: Provided that an inspection authority approved by the chief inspector with respect to any service shall be an Approved Inspection Authority with respect to that service only
Asbestos	- means the following fibrous silicates: ➤ Asbestos actinolite

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	➤ Asbestos grunerite (amosite) ➤ Asbestos anthophyllite ➤ Chrysotile ➤ Crocidolite ➤ Asbestos tremolite ➤ Any mixture containing these fibrous silicates
Asbestos-containing material	- means asbestos as well as any material that contains asbestos and includes asbestos cement products, asbestos coating, asbestos insulation board, asbestos insulation, asbestos textured decorative coatings, asbestos contaminated soil and other asbestos-containing material
Asbestos Demolition Work	- means demolition, alteration, stripping, removing, repair, gleaning of any spilt asbestos, or high-pressure water jetting of any structure containing asbestos lagging or insulation, but does not include work performed on asbestos cement sheeting and related products and asbestos cement products that form part of the structure of a workplace, building, plant or premises.
Asbestos dust	- means airborne or settled dust, which contains or is likely to contain regulated asbestos fibers
Asbestos Waste	- means an undesirable or superfluous asbestos-containing by-product, emission or residue of any process or activity that has been – ➤ discarded by any person ➤ accumulated and stored by any person with the purpose of eventually discarding it with or without prior treatment connected with the discarding thereof; or ➤ stored by any person with the purpose of recycling, re-using or extracting a usable product from such matter
Asbestos Work	- means work that exposes or is likely to expose any person to asbestos dust.
Client	- means any person for whom construction work is performed
Competent Person	- means any person having the knowledge, training, experience and qualifications specific to the work or task being performed.
Construction manager	- means a competent person responsible for the management of the physical construction processes and the coordination, administration and management of resources on a construction site
Construction site	- means a workplace where construction work is being performed
Construction supervisor	- means a competent person responsible for supervising construction activities on a construction site

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Construction work	- means any work in connection with - ➤ the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or ➤ the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work.
Contractor	- means an employer who performs construction work
Designer	- means ➤ a competent person who- ○ prepares a design. ○ checks and approves a design. ○ arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or ○ designs temporary work, including its components. ➤ an architect or engineer contributing to, or having overall responsibility for a design ➤ a building services engineer designing details for fixed plant ➤ a surveyor specifying articles or drawing up specifications ➤ a contractor carrying out design work as part of a design and building project; or an interior designer, shopfitter or landscape architect.
DBSA	- Development Bank of Southern Africa
DSTI	- Daily Safety Task Instruction
Excavation work	- means the making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping
Fall protection plan	- means a documented plan, which includes and provides for ➤ all risks relating to working from a fall risk position, considering the nature of work undertaken ➤ the procedures and methods to be applied to eliminate the risk of falling; and ➤ a rescue plan and procedures.
Fall arrest equipment	- means equipment used to arrest a person in a fall, including personal equipment, a body harness, lanyards, deceleration device, lifelines or similar equipment
Fall prevention equipment	- means equipment used to prevent persons from falling from a fall risk position, including personal equipment, a body harness, lanyards, lifelines, or physical equipment such as guardrails, screens, barricades, anchorages or similar equipment

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Fall risk	- means any potential exposure to falling either from, off or into
Health and Safety File	- means a file, or other record containing the information in writing required by the Construction Regulations 2014
Health and Safety Plan	- means a site, activity or project specific documented plan in accordance with the client's health and safety specification
Health and Safety Specification	- means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work
HCS	- Hazardous Chemical Substances
HBA	- Hazardous Biological Agents
HIRA	- Hazard Identification Risk Assessment
Method Statement	- means a document detailing the key activities to be performed to reduce as reasonably as practicable the hazards identified in any risk assessment
MSDS/SDS	- means material safety data sheet / safety data sheet for hazardous chemicals
National Building Regulations	- means the National Building Regulations made under the National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977), and promulgated by Government Notice No. R. 2378 of 30 July 1990, as amended by Government Notices No's R. 432 of 8 March 1991, R. 919 of 30 July 1999 and R. 547 of 30 May 2008
PSP	- Professional Service Provider
PPE	- Personal Protective Equipment
PTO	- Planned Task Observation
Risk Assessment	- means a program to determine any risk associated with any hazard at a construction site, to identify the steps needed to be taken to remove, reduce or control such hazard.
Shoring	- means a system used to support the sides of an excavation and which is intended to prevent the cave-in or the collapse of the sides of an excavation or trench

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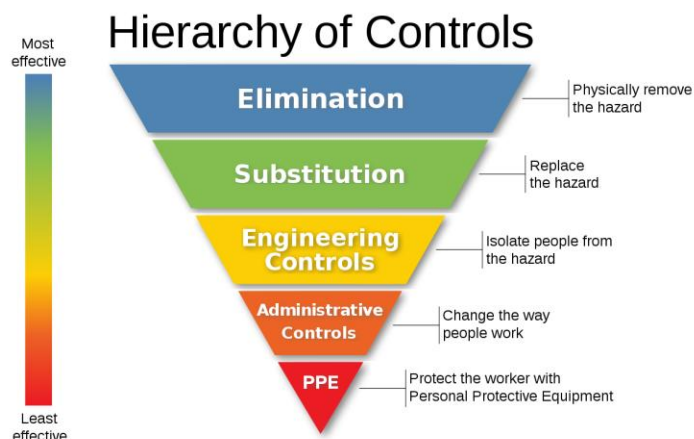
Structure	- means ➤ any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure ➤ any falsework, scaffold or other structure designed or used to provide support or means of access during construction work; or ➤ any fixed plant in respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling
Service Provider	- means an employer appointed by the client to perform construction work
SACPCMP	- means the South African Council for the Project and Construction Management Professions
SOP / SWP	- Standard Operating Procedure / Safe Working Procedure
Temporary works	means any falsework, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction work
Definitions to understand under Control Measures	
Elimination	The Most satisfactory method of dealing with hazards is to remove it in complete (get rid of it). Once a hazard is eliminated the potential for harm is removed
Substitution	This involves substituting a dangerous process or substance with one that is not as dangerous
Isolation	Separate or Isolate the Hazards from making contact with people
Engineering	Implement Engineering controls to eliminate or reduce the risk
Administrative	Administrative control usually involves modification of the likelihood of an accident happening. This is done by reducing the number of people exposed to the hazard, and ensuring those that remain exposed to a hazard understand the hazard and the best way to manage the hazard. Administrative controls include – Procedures, Signages, Permits etc.
PPE	Provision of Personal Protective Equipment should only be considered if all the other control measures are impractical.

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4. RISK METHODOLOGY

This risk assessment methodology is used to systematically identify hazards, evaluate associated risks and determine appropriate control measures to eliminate or reduce the risks to an acceptable level.

The methodology follows the principles of hazard identification and risk assessment in accordance with the Occupational Health and Safety Act 85 of 1993 and the Construction Regulations, 2014.

The purpose of this methodology is to:

- Identify hazards associated with project activities
- Determine the potential consequences of these hazards
- Evaluate the likelihood of the risk occurring
- Determine the risk rating
- Implement appropriate control measures

The risk assessment process also supports the application of the hierarchy of controls to eliminate or reduce hazards at source where reasonably practicable.

4. RISK METHODOLOGY

ASSESSMENT				RISK MATRIX					RISK CALCULATION	PRIORITY OF ACTION			
I	INJURY SEVERITY	C	FINANCIAL IMPLICATIONS	26	27	28	29	30	SUM OF: INCIDENT / FINANCIAL / DAMAGE / ENVIRONMENTAL / FREQUENCY / PROBABILITY = RISK VALUE	RISK VALUE		25 - 30	Immediate
1	No injury	1	No [Zero] financial implications	21	22	23	24	25				24 - 21	Within 1 week
2	Minor laceration, contusion or wound (first aid case)	2	R1000 - R9999	16	17	18	19	20				20 - 17	Within 1 month
3	Injury requiring medical assistance <14 Days recover	3	R10 000 - R99 999	11	12	13	14	15				16 - 09	Within 6 months
4	Serious injuries, trauma >14 Days recovery	4	R100 000 - R499 999	6	7	8	9	10				08 - 05	Within 12 months
5	Loss of life [Fatality]	5	>R500 000	1	2	3	4	5				01 - 04	As reasonable
D	POTENTIAL DAMAGE / LOSS	E	ENVIRONMENTAL IMPACT	ACTION REQUIRED							CONSIDER		
1	No damage	1	No effect	Critical					Terminate operation / Competent Supervision / Specialist training / Method Statement / Risk assessments / Safe work procedures / Permits		Intolerable: Change method / Terminate Risk		
2	Minor damage	2	Minor effect										
3	Med. damage/loss, short stoppage (repaired on site)	3	Serious effect (Short Term)	High					Competent Supervision Training / Certification Method Statement / Risk assessments / Safe work procedures Planned task observations / Toolbox talks		Change method Transfer Risk Mitigate		
4	More serious damage/loss & delay	4	Very serious effect (Long Term)										
5	Severe damage/loss & long-term delay	5	Catastrophic effect										
P	PROBABILITY	F	FREQUENCY OF OCCURRENCE	Medium					Competent Supervision / Training / Certification / Method Statement / Risk assessments / Safe work procedures / Planned task observations / Toolbox / Safety talks		Change method Mitigate		
1	Event has never occurred probability of <1%	1	No occurrence										
2	Events have probability of between 1% and <25%	2	Occurs very seldom [5 Years]										
3	Event has probability of between 25% and <50%	3	Occurs occasionally [1 Year]	Low					Supervision / Training / Certification / Method Statement / Risk assessments / Safe work procedures / Training / Toolbox / Safety talks		Written Instructions		
4	Event has probability of between 50% and <90%	4	Occurs often [Monthly]										
5	Event occurs frequently & >90% of re-occurring	5	Could / Has Happened [Weekly/Daily]										

6. BASELINE RISK ASSESSMENT

ACTIVITY (Work to be performed)	POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK									
			I	C	D	E	P	F	R			I	C	D	E	P	F	RR			
Stage 1 – Project Initiation and Briefing																					
S1-01	Appointment of competent Pr. Construction Health and Safety Agent	Unable to identify Health and Safety Risks or challenges during the design phase. Contravention of Legislative requirements.	Project disruption due to risks not identified during stage 1-3 of the project									Appointment of competent Pr. Construction Health and Safety Agent as per Legislative and SACPCMP requirements. Implementation of all safety-related functions into manageable systems, subsystems, processes, and procedures. Competency verification to be done through the SACPCMP registered Professionals platform DBSA tender process to ensure the correct OHS professional is appointed based on the specific project	• DBSA Procurement process • Construction Regulations • Appointment letter • SACPCMP Certificate • Construction Regulations 2014 (CR5 – Client Duties) and Section 18(1)(c) of the Project and Construction Management Professions Act, 2000							13	
			Financial implications if the required OHS requirements were not budgeted for																		
			Not appointing a Health and Safety Agent	1	4	3	1	3	4	16											
			Construction would lead to contravention of Section 18(1)(c) of Project and Construction Management Professions Act, 2000																		
			Time restrictions to commence with the next stage / project																		
S1-02	Client project brief, scope, contracts, and related documents	Insufficient information concerning the agreed-upon scope of the construction project, deliverables from key stakeholders, and contractual obligations. Inadequate practices for managing project requirements. Changes in project scope and other requirements No clear statement of intent Roles and Responsibilities not defined	Project Disruptions due to poor communication and decision making									Client (DBSA) must ensure that the necessary support and resources are appointed to manage requirements of this project. Agreed on scope of work, responsibilities/accountabilities, and deliverables for all key stakeholders. DBSA should establish safety objectives and targets, along with a commitment to effectively managing and resourcing the project, to continuously improve the safety of systems, employees, assets, and overall performance. Compile legal contracts for professional services, engineering, etc. and general	• Clear Construction project health and safety brief • Agreed Scope of work • Agreed Objectives and targets • Construction Regulations 2014 (CR5 – Client Duties) and Section 18(1)(c) of the Project and Construction Management Professions Act, 2000							14	
			Financial impact due to non-compliance with legal requirements that might be taken to court																		
			Environmental impact due to not being able to identify the impact of the project on to the environment such as Fauna and Flora in the community	1	4	4	1	4	3	17											
			Undefined roles and																		

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK						
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR
			responsibilities could lead to miscommunication, delays in decision making, increased costs due to “reworks”, legal and contractual issues and stakeholder disengagement No clear statement of intent addressed in the project brief could cause lack of direction for the project, misaligned stakeholder expectations, poor decision making and inefficiently allocation of resources								construction contracts to secure commitment, compliance, traceability of decision making, deliverables, etc. Implement and agree to clear communication channels for all professionals All professionals to ensure Health and Safety principles and legal requirements are identified and addressed								
S1-03	The process, validation and approval of works by DBSA, regulatory bodies and interested parties.	Exclusion criteria (legal requirements) for current and future DBSA infrastructure causing changes in technical and operational requirements	Project Disruptions/delays if all approvals were not done during this stage Unnecessary funding from stakeholders if all approvals are not done	1	5	4	1	2	3	16	The exclusion criteria for DBSA infrastructure should be properly defined and agreed with interested parties before any final decision and approvals. Agreements must be signed and approved by all interested parties	- Signed agreement - Project Plan - Construction Regulations 2014 (CR5 – Client Duties) and Section 18(1)(c) of the Project and Construction Management Professions Act, 2000	1	5	3	1	2	2	14

ACTIVITY (Work to be performed)	POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK						
			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
S1-04	Appointment of the necessary and appropriately qualified consultants, designers, and other specialists who possess the required competency, statutory registrations, and adequate resources to fulfil their respective roles and responsibilities	No adequate technical safety knowledge, experience, skills, and resources for addressing occupational hazard and risk, technical/structural failures, human factor limitations/behavior and foreseeable misuse during the design/redesign processes.	1	5	4	1	3	3	17	DBSA must consider competency requirements and verification of designers, engineers and other appropriate specialists as required in legislation. Registrations to be verified with certain bodies. Design risk management training for designers if required. Records of other professionals must be submitted and recorded to ensure competent professionals are appointed for the project	- Appointment letter - Competency / Registration / Qualifications - Construction Regulations 2014 (CR5 – Client Duties) and Section 18(1)(c) of the Project and Construction Management Professions Act, 2000	1	5	2	1	2	2	13
S1-05	Legal and regulatory compliance.	Non-compliance with Legal and Regulatory requirements range from penalties and fines to imprisonment, withdrawal of licenses, lawsuits and reputational risk, impact on the project objectives and organizational sustainability. Project Disruptions/delays Financial Impact Reputational Damages	1	5	4	1	2	3	16	Compile and maintain a legal register for the project. Identifies all the legal obligations impacting directly or indirectly on the infrastructure facility. Comply/evaluate compliance with the requirements contained in legislation and national standards applicable to the project. Monitors changes in legislation and national standards and communicate with relevant stakeholders.	- Legal Register - OHS ACT and its Regulations - Building Regulations - SANS Standards - Construction Regulations 2014 (CR5 – Client Duties) and Section 18(1)(c) of the Project and Construction Management Professions Act, 2000	1	5	2	1	2	2	13
S1-06	Unknown site and environmental restrictions/conditions.	Inadequate site health, safety, environmental restrictions/conditions information available. Unable to identify conditions where the project is planned to commence could lead to Project Disruptions/delays Financial Implications if funds are made available but due to conditions,	1	5	3	3	2	2	16	Professional team to identify required site surveys, site tests, analyses of reports, and other investigations where such information will be required in the interest of health and safety and/or legal compliance.	- Surveys Scheduled report - Construction Regulations 2014 (CR5 – Client Duties) and Section 18(1)(c) of the Project and Construction Management Professions Act, 2000	1	5	2	2	2	2	14

ACTIVITY (Work to be performed)	POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK						
			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
S1-07	Preparation of draft risk profile	Unable to identify high level risks during this stage	1	5	4	2	3	3	18	Draft risk profile to be drafted by Professional Registered Construction Health and Safety Agent with consultation with all appointed professionals identify risk that might be associated with the potential project	- Draft Risk Profile - Construction Regulations 2014 (CR5 – Client Duties) and Section 18(1)(c) of the Project and Construction Professions Act, 2000	1	5	2	2	2	2	14
S1-08	Needs and expectations of local community/public and road users.	Inadequate lines of communication between local community and project activities/construction can lead to civil unrest and other legal and social factors/issues.	1	3	3	1	3	3	14	Social Facilitator to identify and managing community needs and expectations, and to ensure engagements are held with local communities to understand specific needs and expectations of the certain communities.	- Appointment of Social Facilitator as part of the professional team - Stakeholder engagement meetings	1	3	2	1	2	3	12
Stage 2 – Concept and Feasibility																		
S2-01	Feasibility	No feasibility studies conducted	1	5	3	1	3	3	16	DBSA and Professional team appointed should prepare a detailed infrastructure business/project plan that addresses current financial condition, capital, project and operating budget, and cash flow projections for the DBSA infrastructure project.	- Feasibility Study - Construction Regulations 2014 (CR5 – Client Duties) and Section 18(1)(c) of the Project and Construction	1	5	2	1	2	2	13

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK							
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR	
			challenges and a lack of stakeholder buy in No Studies done or approved scope of works/project plan that defines the goals and objectives, and how the project will be managed in terms of financial requirements could result in the cancelation of the project. This could result in loss of confidence by stakeholders and reputational damages									Management Professions Act, 2000								
S2-02	Demand and capacity analysis of DBSA infrastructure.	Failure to study and address higher volumes and operational activities in and around DBSA infrastructure.	Non approval of the concept could cause delays as the project cannot move to stage 3 of the project life cycle. The revising or reworking of a non-approved concept could cause increased costs as professionals would claim more during this stage	1	5	3	1	3	3	16	Conduct a study and simulation to address and evaluate DBSA infrastructure capacity to address operations and service quality issues.	- Feasibility Study - Concept approval	1	5	2	1	2	2	13	
S2-03	Commercial/ residential activities in and around DBSA infrastructure	Reasonably foreseeable misuse of DBSA infrastructure in a way not intended in the original design for example, uncontrolled formal/informal facilities in and around the infrastructure precinct, etc.	The misuse of DBSA infrastructure will result in financial losses and reputational damage Project delays/disruptions could occur if planned infrastructure is built in areas that might be protected or where the surrounding properties might have an impact on	1	5	3	3	2	2	16	Exploitation by formal/informal facilities/needs to be regulated and controlled to prevent their unrestricted/uncontrolled expansion within and around the DBSA infrastructure.	- Feasibility Study - Concept approval	1	5	2	2	2	2	14	

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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				I	C	D	E	P	F	R			I	C	D	E	P	F	RR		
			Unavailability of water and electricity to the area would result in financial losses to source these resources								of electricity in the area and if not currently available determine if Eskom would have electricity available in the specific area in the future. Assessment of temporary construction services requirements to ensure adequate provision of water and electricity during the construction phase.										
Stage 3 – Design Development																					
S3-01	User requirements and specifications for a modern, functional and sustainable DBSA infrastructure.	User requirements were not fully defined by DBSA or Client and the designers, nor properly communicated or understood by all stakeholders.	Unable to build infrastructure as per client needs could result in financial losses and client dissatisfaction. Building infrastructure not according to requirements could result in Project delays/disruptions if works have to be redone	1	5	4	4	2	2	18	Constraints of all types should be taken into account during the design and requirements specification stage. A whole life approach should be taken to the design of mechanical, electrical and other systems/equipment, using appropriate analyses for the failure modes of applicable systems.	- Approved design reports - Construction Regulations 2014 (CR5 – Client Duties) and Section 18(1)(c) of the Project and Construction Management Professions Act, 2000	1	5	3	3	2	2	16		
S3-02	Product Specifications	No specifications to cover operating parameters, performance, test and quality requirements of the proposed project over the life cycle. inadequate specifications	The use of poor quality or non-SABS approved products/materials could result in poor quality workmanship this causes financial losses or cost variations to procure approved products or materials during construction. Not planning or designing according to specifications could cause new infrastructure to be unsafe and non-occupiable. This will lead to delays in completing the project and could result in major or	5	5	4	4	2	2	22	Ensures that DBSA infrastructure equipment and systems are defined in the system specification to address sustainability. Determine the precise limits for the full set of requirements in the DBSA infrastructure being designed. Design Specifications must be reviewed against all standards by all relevant parties with approval if requirements are met.	- SANS Standards - SABS Approved products - Design Specifications	1	3	3	3	2	2	14		

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
S3-03	Process Specifications																	
		Poor design risk management, health, safety and environmental and quality systems	4	4	4	3	2	2	19	Implement controls to manage transparency, accountability, etc. between project development and the construction phase delivery process. Ensure that applicable human factors in design/safety in design", "physical environmental factors" and "organizational and psychological factors" are address in the product specifications.	- Approved process specifications - Health and Safety Specifications	1	3	3	3	2	2	14
S3-04	Signed-off technical specifications and drawings for DBSA infrastructure.	Drawings done by incompetent person without required knowledge and experience required for the specific scope of works could result in design risks that might lead to unsafe building of infrastructure. This can have a catastrophic event if building or new infrastructure collapses								Ensure that the correct structures and appointments are in place to assign accountability, authority, responsibility and roles. Ensure traceability, responsibility and accountability are clearly defined and documented.	- Signed off / approved Drawings - Approved technical specifications - Change Management Procedure	1	3	3	3	2	2	14
		Drawings not approved Drawings done by incompetent person Drawing not approved could result in financial losses / Cost variations to redo the drawings	5	5	4	4	2	2	22	Design team not to deviate from concept design baseline without written approvals from DBSA. Implement change management procedure								
S3-05	Documented evidence for the mitigation and control of occupational health, safety, environmental and regulatory risks in the design, redesign and construction processes.	No documented evidence provided during the design process of compliance with regulatory and technical requirements impact negatively on project delivery, commissioning and functionality	1	5	3	3	2	2	16	Addressing and documented occupational safety, health and environmental obligations in the design and redesign process to prevent or reduce risks associated with the total life cycle of the DBSA infrastructure. Provide schedules of surveys, tests, analyses, site and other investigations conducted during stage 2	- Records of Surveys conducted - Final Health and Safety Risk Profile - Updated Health and Safety Specification - Final Baseline Risk Assessment	1	5	2	2	2	2	14

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				I	C	D	E	P	F	R			I	C	D	E	P	F	RR				
S3-06			requirements The delays or stoppage of the project will lead to financial losses when paying service providers and contractors No considering the environmental Impact or Fauna and Flora requirements for the area could result in major fines and work stoppages									Develop and provide preliminary construction project risk profile. Health and Safety Specification to be updated by appointed Pr. CHSA for the project Final Baseline Risk Assessment to be prepared or updated by Pr. CHSA for the project Pr. CHSA to review and approve design risk information and ensure incorporation into the Health and Safety Specification.											
	External and internal Stakeholder involvement to take part in the opportunity to identify safety, security and technical related issues during the design process of new or modified DBSA infrastructure.	Failure to be transparent and inclusive in the design process. Not considering internal and external stakeholders' input	Failing to consider input from internal and external stakeholders could lead to project disruptions during construction with associated cost implications Community disruptions Failing or stopping of project could result in damages to stakeholders, client and DBSA reputations	1	5	2	2	2	2	14	Ensure that the knowledge, skills, experience, insight, and creativity of people (Internal/External) close to the risks are utilized in the design and risk assessment process. Keep record of all engagements with internal and external stakeholders and design risk management processes. Ensure that the inclusion of referenced related standards and requirements of designers be included in the health and safety specifications for project/contractors.	- Stakeholder engagements (minutes of meetings) - Design and Consultants meeting minutes - Design risk management procedure	1	5	2	2	1	1	12				
S3-07	Design Risk Assessment and Safety in Design Review	Failure to identify and eliminate hazards during the design phase	Design-related hazards not addressed may result in unsafe construction methods, increased risk of incidents during construction, maintenance and operation, project delays and increased costs	5	5	4	3	3	3	23	Conduct formal design risk assessments and safety in design reviews in consultation with designers, engineers and the Pr. CHSA to identify, eliminate or mitigate risks as far as reasonably practicable	- Design Risk Register Design Review Meeting Minutes - Updated Health and Safety Specification - Approved Design Documentation	4	4	3	2	2	3	18				
S3-08	Temporary works design considerations	Failure to consider temporary works requirements during	Collapse of temporary structures such as	5	5	4	2	3	3	22	Ensure temporary works requirements are considered during design and that designs	Temporary Works Design Documentation	4	4	3	2	2	3	18				

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
		design								accommodate safe construction methods, sequencing and support systems for all temporary structures	- Design Specifications - Approved Drawings - Method Statements (to be developed by Contractor)							
S3-09	Design for safe maintenance and access	Design does not consider safe access for maintenance activities								Incorporate safe access provisions such as walkways, platforms, ladders, edge protection and safe working areas into the design to ensure maintenance can be performed safely	- Approved Design Drawings - Design Specifications - Maintenance Access Plans - Health and Safety Specification							
			4	4	3	2	3	3	19			3	3	2	2	2	2	14
Stage 4 – Tender Documentation and Procurement																		
S4-01	Detailed documentary evidence to demonstrate that the key safety and environmental constraints or issues are addressed at DBSA infrastructure procurement and tender stage	Unable to identify health, safety and environmental risks during bidding stage could result in financial implications when contractors submit variation orders as they did not price to attend to certain risks. No methods and procedures to indicate that the key safety issues are addressed at DBSA infrastructure projects. Unclear Procurement plan / process Final Health and Safety specification and final Baseline Risk Assessment not integrated with tender documents Unethical Procurement Not addressing key risks could result in project delays/disruptions when bidders did not budget for certain requirements to be met An unclear procurement plan creates significant risks, potentially leading to missed opportunities, decreased efficiency, unexpected costs, and damaged customer relationships Unethical procurement could result in Audit findings, that would lead								Designers must ensure that designs are accompanied by a report as required in terms of the construction regulations (6. (1)(c)) for inclusion in the Health and Safety Specification/Safety Plan/Budget. Designers must have record that they have considered the Health and Safety Specifications when designing Ensure a project plan is tailored to the specifications/performance of DBSA and consistent with best practices and agreed. Final health and safety specifications and baseline risk assessment conducted by Pr. CHSA must be issued with all tenders to ensure the bidders are aware of risks associated with the project to ensure they budget for certain requirements.	- Design Report - Final health and safety specifications - Final baseline risk assessment - BSC approved tender documents - Final Construction project health and safety cost estimates							
			1	5	3	2	2	2	15			1	5	2	2	2	2	14

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				I	C	D	E	P	F	R			I	C	D	E	P	F	R
			to investigation that could result in delays of construction																
S4-02	Preliminary Construction methodology and planning for tender purposes.	Failure to consider construction methodology requirements during tender stage.	Inadequate planning for construction methods may result in unsafe execution, project delays, cost overruns and variations during construction.	4	4	3	2	3	3	19	Ensure that high-level construction methodology considerations are included during tender stage to inform planning, costing and sequencing without detailing contractor-specific methods	- Final Health and Safety Specification - Final Baseline Risk Assessment - Project Execution Plan (or equivalent project planning documentation)	3	3	2	2	2	2	14
S4-03	Tender Documents and Health and Safety Annexures	Failure to identify Health and Safety requirements in tender documents Unable to identify Health and Safety Resource and competency required for the bidder Health and Safety annexures not specific to the project Health and Safety annexures not specific to the project	Unable to identify health and safety legislative requirements in the tender could result in an Audit finding by Auditor General. This will also result in the successful bidder unable to identify the legislative requirements that could result in financial Implications so that the successful bidder can be able to comply to certain requirements. Health and Safety Annexure, not specific to the project could lead to certain risks not being identified as per scope of works. This can have a financial implication and delays in the kickoff of the project Unable to identify the required competent resources required for the project could result in poor health and safety management of the	1	5	3	3	2	2	16	All tender documents must be reviewed by appointed BSC members to ensure requirements are met and the tender includes the required resources BSC appointments to be made for specific technical experiences to ensure certain requirements are met by different professionals Pr. CHSA to prepare the final SHEQ Annexures to ensure all requirements are met.	- Approved and signed off DBSA Tender documents - DBSA SHEQ Policy - Final Health and Safety Specification - Final Baseline Risk Assessment - BSC appointments	1	5	2	2	2	2	14

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				I	C	D	E	P	F	R			I	C	D	E	P	F	RR					
S5-02		approved as per required Client Spec and OHS act.	Contractors with no valid COID could cause injured employees not to be covered by the compensation fund, this will lead to direct and indirect cost for the company								Principal Contractor with valid LOGS will be allowed to commence with Site Establishment. LOGS must be presented at tender stage to prohibit a contractor to be awarded with a tender if LOGS is not available. Principal Contractor to provide updated list of employees, with competencies, ID's, Medicals and work permits if required													
	Construction Work Permit Application	Successful bidder is unable to provide Construction Work Permit application documentation on time.	Contractor unable to provide required documentation and competencies for the CWP will result in further delays for the CHSA to submit the application to DoEL								Contractor should submit all health and safety related information upon appointment so that the process of Construction permit can start. Client to provide all information pertaining to Permit application upon appointment of contractor, as per permit schedule requirements Tender requirements to stipulate the required OHS resources required for the project	- Annexure 1 - DBSA CWP Deliverable checklist - Approved Health and Safety Plan - Approved Health and Safety BOQ - OHS Resource appointment, competencies and SACPCMP registration - Construction Manager appointment, competency and SACPCMP registration - Final Site-Specific Health and Safety Specifications - Final site-specific Baseline Risk Assessment - Final approved drawings 37(2) Written Agreement - CR5(1)(k) Appointment letter - Letter of Goodstanding												
		No competency available for CHSA	The delay in preparing the CWP application will result in delays for the construction activities to commence	1	3	3	3	3	4	17	Competencies to be evaluated at BEC at tender award to ensure the successful bidder has the required resources Appointed registered CHSA to prepare the Annexure 1 and to review all permit application documentation to ensure requirements are met. CHSA will compile the file and submit it to DoEL at least 30days before planned commencement. Construction works can only commence once the Construction Work Permit has been issued.		1	3	2	2	2	3	13					
No OHS resources available from the bidder		Contravention of the OHS Act and its Regulations could result in fines and Work Stoppages. This will have cost implications.																						
S5-04	Risk Identification	Risk assessments not conducted, not site-specific, or performed by an incompetent person	Failure to conduct suitable and sufficient risk assessments may result in hazards not being identified, leading	4	4	4	4	3	3	22	Issue based Risk Assessment must be drafted by risk assessment team that includes the risk assessor, construction manager and supervisor, SHE Rep and skilled employee.	- Client Health and Safety Specification - Baseline Risk Assessment - Method Statement of	4	4	3	3	2	2	18					

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				I	C	D	E	P	F	R			I	C	D	E	P	F	RR
S5-05			to serious injuries, fatalities, inadequate control measures and unsafe working conditions								All risk assessments, method statements and safe working procedures must be communicated to the required employees conducting those activities. Record of communication / training must be kept in Safety file. No Activity to commence if risk assessment and method statement has not been approved by the relevant person. All risk assessments and method statements must be reviewed if any changes occur, such as change of management, changes to conditions, changes to scope, incidents etc. Competent Risk Assessor to use hierarchy of controls when identifying controls to be implemented. No work may commence unless a suitable and sufficient risk assessment and method statement has been developed, approved and communicated to all affected person	Tasks • Risk Assessor competency • Issue based risk assessments • Training / communication records • SOP/SWP • Risk Assessment training							
	Site Establishment - Setting up Camp & Storage Facilities & Project Mobilization of Plant and Equipment	Abnormal loading of trucks Traffic congestion / unwanted(unauthorized) members of the public walking in risk zone Containers placed on uneven surfaces. Using defective / incorrect equipment to offload containers. Fatigued operators Unsafe / uncontrolled Truck Crane Operations	Unsafe or abnormal loading could cause accidents that could lead to multiple fatalities. Loaded truck uncontrolled movement on site can cause an accident resulting in serious injuries to operators and members of the public and damages to surrounding property. Containers falling over or off from stands/bricks could cause property	5	5	4	3	3	4	24	Trucks must only be loaded according to its safe load capacity. Appointed spotter (flag person) to be in position wearing reflective vest and whistle to assist Truck driver or Plant operator with movement on site. Traffic Management Plan must be communicated to all relevant parties to ensure controls are implemented. Clear all bystanders away from operations – Barricade area and post warning signage – Only Authorized workers/persons to enter construction area. Appointed competent Banksman (Rigger) to	• Safe Workload Certificate or Certificate of Compliance for Lifting equipment • Traffic Management Plan • Lifting Plan • Appointment letters • Competencies – Operators, truck driver, flagperson, riggers • Pre-lift checklists • Safe Working Procedures • Issue based risk assessment • Approved method	5	5	3	2	2	2	19

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			I	C	D	E	P	F	R	I			C	D	E	P	F	RR		
	Unsafe and poor manual offloading practices from delivery vehicles / plant Operators under the influence of Alcohol or other substances while transporting machinery and equipment to site establishment area. Theft of material, equipment, and machinery Community unrest	damage.									oversee all lifting operations.	statement								
		Load / construction materials falling during lift could cause property damage or serious injuries or even fatalities.									Pre-lift checks to be done on lifting material, and recorded on a Checklist, any deviations must be recorded and reported to Construction manager.	- DSTI - Emergency contact numbers								
		Fatigued operators could lead to accidents resulting in damage to plant or vehicles and serious injuries or fatalities.									Slings and chain blocks to be checked prior lifting operations and have valid load test certificate. Lifting truck to also be in possession of a load test certificate and driver to be appointed in writing with valid competency.									
		Unsafe / uncontrolled lifting could result in load falling that could lead to property damage and serious injuries.									Social facilitators to ensure community are aware of Construction work before Site establishment.									
		Materials / Load falling could result in property damage.									Only Competent appointed Contractors or Service Providers will be authorized to work on the site.									
		Materials / Load falling on employees could lead to serious injuries and even fatalities.									Dust Control measures to be implemented continuously at the site laydown area, watering the areas and roads on site.									
		Project Interruption and even delays with cost implications									All operators must be appointed to operate and inspect the specific plant he is competent in operating, medical fitness and competencies for operators must be valid and available on site.									
											Site Establishment Risk Assessment and Safe working Procedure / Method Statement to be communicated to all workers									
											Construction Manager and Supervisors must ensure continuous monitoring and enforcement of all control measures on site									
											If it is a live site, provide a separate gate or access to the site.									

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
S5-06	Site Establishment - Site clearing / Grubbing									Excessive dust could result in Occupational illness such as hypersensitivity pneumonitis in the surrounding communities and even to all the employees on site.	Water Truck to be used to spray working areas in order to suppress dust.							
										Accidents causing property damage and Accidents causing serious Injuries or even fatalities.	Speed limit to be adhered to at all times while clearing the site.							
		Dust from plant used to clean and level areas.								Supervision on a continues basis with appointed flag persons assisting the operator while moving on site.								
		Poor Visibility								Workers to stand clear from moving machinery when clearing and grubbing takes place.								
		Collisions	4	4	3	3	3	3	20	Only competent operators with valid competency to be appointed with a valid Occupational Health Medical (Annexure 3) will be allowed to operate mobile plant.	- Operators' Competency - Roadworthy Certificates - Driver's License - PDP - Appointment letters - SOP/SWP - Issue based Risk Assessment - Medical Certificate of Fitness - Checklist - DSTI's	4	4	2	2	2	2	16
		Incompetent operator / not medically fit								Pre-start inspections to be conducted, records to be kept in safety file.								
		Unsafe / broken or mobile plant not roadworthy								All operators must be trained in the safe working/operating procedures and the issue-based Risk Assessment								
S5-07	Site Establishment - Installing Temporary services (Electrical,									Operating plant that is unsafe or not roadworthy could cause accidents that may result in serious disabling injuries or even fatalities	Only construction vehicles and mobile plant that are roadworthy (records must be available) may be used for construction activities and for transporting materials etc.							
		Damages to underground services could cause a delay in	3	3	3	3	4	4	20	Colliding with property or other plant or vehicles will result in financial losses and delays in production	Construction Manager and Supervisors must ensure continuous monitoring and enforcement of all control measures on site							
		Incompetent Electrical / Plumbing contractor installing temporary services.	3	3	3	3	4	4	20	All electrical installations to be conducted by a competent appointed person and COC's to be obtained when necessary.	- COC - Competencies / Registration	3	3	2	2	2	2	14

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S5-08	Plumbing)	production or commencement of the project. Damages to underground services or surrounding services Incorrect Location of Services Environmental contamination Damages to underground services could also affect surrounding areas services such as electricity and water. Installing services in the incorrect areas could result in financial costs (loss) Spillages from toilet waste due to poor plumbing or incorrect installation would result in environmental pollution								Power tools to be inspected by a competent person, pre-check inspections to be conducted, power tools to be recorded on inspection register. Drawings of underground services must be requested to identify location of services before commencing with works. Competent Plumbers conducting plumbing activities must ensure all fittings and plumbing installations are secured. Plumbing Contractor to issue CoC / CoA once installations are done	- Underground services report / drawings - SOP/SWP - Issue Based Risk Assessment - DSTI; s - CoC/CoA - Medical Certificate of Fitness							
	Excavation Works - Excavating by hand	Damages to underground services Poor ergonomics used. Unsafe damaged hand tools used. Exposure to Heat and Sun Dust generated from picks and shovels used when excavated Excavation Collapses Employees manually excavating and making contact with underground services could cause disruptions in services in surrounding areas. Damage to Property Employees manually excavating and making contact with underground services could lead to employees being electrocuted. Employees exposed to manual excavating for long periods could lead to minor to moderate back injuries.	4	4	3	3	3	4	21	Drawings must be utilized to identify existing services. All Excavation work must be supervised by a competent person appointed. Employees need to be trained in the ergonomics safe working procedure and Risk Assessment. Employees need to take regular breaks to prevent strain on their backs. All hand tools must be inspected, and the findings recorded in the safety file. Damaged tools must be removed from site. Employees need to take regular breaks when working in the sun to prevent sunburn. Employees need to drink enough water to stay hydrated.	- Checklists - Issue Based Risk Assessment - SOP/SWP - Method Statement - Toolbox talks - DSTI's - PTO - Underground services drawings - Medical Certificate of Fitness	3	4	2	2	3	3	17

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				I	C	D	E	P	F	R			I	C	D	E	P	F	RR						
S5-09			The use of unsafe or damaged hand tools could cause head, bodily and hand injuries. Employees exposed to working long periods of time in the sun could lead to long term/short term skin damage, this could include skin cancer, heat stroke and dehydration resulting in serious injuries. Excessive dust could result in Occupational illnesses such as hypersensitivity pneumonitis to the exposed employees excavating Excavation collapsing could result in employees excavating to be trapped by collapsed walls leading to serious injuries even fatalities								Employees manually excavating must be issued with the required PPE. All excavation walls must be shored or braced and must be approved by appointed / competent excavation supervisor. All excavated materials must be placed at least 1.5 – 2m away from any excavation edge Water truck to be used daily or as per issue-based risk assessment to spray all roads with water to suppress the dust														
	Excavation Works - Excavating by Machinery / Plant such as TLB's, Excavators, Ditch witch	Workers standing / walking or working near mobile plant operations. Operator incompetent and not appointed. Unsafe / damages Mobile Plant / machinery used to excavate. Mobile plant / machinery operating near unprotected	Employees working / standing or walking past operational plant / machinery could lead to being struck by or being driven over resulting in disabling injury or even fatality. Incompetent operators operating mobile plant / machinery could result in accidents, property	5	5	4	3	3	3	23	Traffic control is to be managed to prevent collision of mobile plant as well as collision with personnel. Appointed Flag person to control movement of plant within areas. Only competent / Appointed operators authorized to operate machinery (must have valid Competency, medical and PDP) will be allowed to operate mobile plant. Machinery must be inspected before use, findings to be recorded on a checklist, any deviations must be recorded and reported to	• Issue-based Risk Assessment • Method Statement • SOP/SWP • Appointment letters • Competency for operators, excavation supervisor • Underground services drawings • Checklists • Signages	4	4	3	2	2	3	18						

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			I	C	D	E	P	F	R	I			C	D	E	P	F	RR		
	edge of an open trench / excavation.	damages and even serious injuries and/ or fatalities to surrounding employees.									a supervisor. Service / maintenance schedule / history must be available for the specific machinery.	• DSTI's • PTO • Breathalyzer records / register • Medical Certificate of Fitness								
	Operator is intoxicated.										All operators must be breathalyzed daily to test if they are intoxicated.									
	Unsuitable ground conditions for excavation	The use of unsafe damaged mobile plant / machinery used could result in property damage and delays in production.									Before excavation work begins the stability of the ground must be evaluated by a competent person appointed (Excavation Supervisor).									
	Dust generation										Dust suppression methods to be used when required such as water truck spraying area									
	Excessive noise generation (especially during rock breaking)	Mobile plant / machinery operating near the edge of an open excavation could cause excavation / trench walls to collapse resulting in employees being trapped underneath that may result in disabling injuries and/or multiple fatalities.									Operators must be issued with the required PPE such as dust masks, earplugs if required.									
	Open Excavations left open or unattended.										Scanning devices to be used to identify underground services prior excavation works, in order to prevent cable damage and possible electrocution.									
	Damage to existing services during excavations	Mobile plant / machinery operating near the edge of an open excavation could result in mobile plant / machinery falling into the excavation / trench when walls collapse resulting in serious damage to mobile plant and even disabling injuries and or multiple fatalities.									All Deep trenches or excavations must be braced or shored to prevent collapse if mobile plant or machinery operates near the trench or excavation. Bracing and Shoring must be supervised and approved by appointed excavation supervisor									
											Mobile plant and machinery are not allowed to be operated within 5m of any open excavation or trench. Unless declared safe by appointed competent person and that the excavation or trench does not have any employees working in the open trench or excavation									
											Construction Manager and Supervisors must ensure continuous monitoring and enforcement of all control measures on site									

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK						
				I	C	D	E	P	F	R			I	C	D	E	P	F	R
			fatalities to surrounding employees. Operator excavating or breaking rock for an extended period are exposed to excessive noise, and this could cause minor to moderate short term hearing loss and even long-term hearing loss. Damage to existing services could result in financial costs and loss of production. Making contact with electrical underground services could cause operator to be electrocuted																
S5-10	Excavation Works - Barricading of excavated areas and warning signages posted	Deep open excavations, trenches or open edges left unprotected. No warning signages posted Unauthorized entry	Deep excavations / trenches left unprotected could result in employees / visitors falling into excavation / trench resulting in serious injuries. No warning signages posted could lead to employees, the public or even children not knowing of the open excavation, and this could lead to them falling into excavation resulting in serious injuries or even a fatality Unauthorized entry by members of the public / children could result in	5	4	4	3	3	3	22	Excavations guarded/barricaded/lighted after dark in public areas and when there is no work conducted. All excavations are subject to daily inspections by a competent appointed person. Excavations must be kept open to a minimum, do not leave them open for long periods. Warning signages to be posted at all excavated areas to warn the other employees or members of the public of the risk. Open trenches or excavations must be secured / closed off with a solid barricading. No Danger tape is allowed	- SOP/SWP - Issue based Risk Assessment - Toolbox talks - Checklist - DSTI's	4	4	2	2	2	2	16

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK								
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR		
			members / children / visitors falling into open trenches or excavations. This could result in serious bodily injuries. During raining season this could result in members, children or visitors to drown when falling into or playing in open trenches and excavations																		
S5-11	Lifting operations (Loading and offloading of materials) - Manual handling / loading and offloading (Ergonomics)	Employees lifting heavy uncontrolled materials. Employees not trained in safe manual lifting procedures. Materials / equipment falling. Walkways not clear of tripping hazards.	Employees manual handling materials / equipment exceeding 25kg per person could cause minor back strains and even long-term back injury.									Manual handling / lifting Safe work Procedure and Risk Assessment to be communicated to all workers on site. (Keep proof of communication in safety file) Workers assisting each other to lift must communicate with each other to ensure safe lifting and lowering of items. Before offloading or handling any materials, equipment or tools, ensure walkways are clear and free from tripping hazards. Workers to assist each other if intended load to be lifted exceeds 25kg (per person). Workers / Supervisors to ensure materials, equipment and tools are secure when offloading. When manual lifting the correct procedure must be used, workers to lift loads using their legs and not their back. Employees manually lifting equipment, materials must be issued with the required PPE such as gloves, hardhat, safety shoes, overalls	• Ergonomics Risk Assessment • SOP/SWP • Toolbox talks • DSTI's								
			Employees who do not understand the safe procedure to lift (Ergonomics) materials could result in injuries such as back injury or materials to fall resulting in property damages.	4	3	3	1	4	5	20	3			2	2	1	3	4	15		
			Materials / equipment falling when loading or offloading could lead to pinch point injuries to hands, fingers, and feet.																		
			Workers tripping over hazards when moving with load could cause load to fall and employees to fall over resulting in bodily injuries																		
S5-12	Lifting operations (Loading and	Operating of unsafe / Defective mobile plant	Operating of defective lifting plant could result	5	4	4	3	3	3	22	Mobile Plant must be inspected before use by appointed person, all deviations must be	• Safe Workload Certificate or Certificate	4	4	3	2	2	2	17		

ACTIVITY (Work to be performed)	POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK							
			I	C	D	E	P	F	R			I	C	D	E	P	F	RR	
Offloading of materials) - Mobile Crane / Tower Crane and or truck crane lifting operations	Incompetent Operator or not medically fit operating lifting machinery	in excessive carbon emissions, oil leaks that could result in environmental contamination.								recorded on the checklist and reported to the Construction manager. Service records must be available.	of Compliance for Lifting equipment								
	Severe weather conditions such as strong winds, rain and thunderstorms	Incompetent Operator will not be able to identify the SLL or the maximum loading capacity resulting in lifting machinery toppling over.								Only operators that have been appointed with a valid competency and medical certificate to operate plant.	- Traffic Management Plan - Lifting Plan - Appointment letters - Competencies – Operators, truck driver, flagperson, riggers								
	Operations near overhead powerlines	Operator with poor vision or hearing could result in the unsafe movement of a load resulting in load striking surrounding infrastructure.								No lifting or crane operation during strong winds, thunderstorms or when it is raining.	- Pre-lift checklists - Safe Working Procedures								
	Visitors / employees or members from public entering the lift zone	Strong winds can cause load to swing uncontrollable placing strain on lifting tackle and the stability of the lifting plant, this may cause lifting boom to fail or lifting tackle to break and even lifting plant to fall over.								Safe Working Procedure and Risk Assessment for working near powerline must be communicated to all relevant parties.	- Issue based risk assessment - Approved method statement - DSTI's								
		Striking of overhead power lines could result in electrocution of operator and or rigger.								All lifting operations must be accompanied by an appointed with valid competency rigger.									
		Striking overhead powerline could cause cable and pole to fall over resulting in property damage and loss of production in the specific								Guide ropes must be used for all lifting operations.									
										Lifting area must be closed off to prevent other workers or members of public to enter this area. No other works may take place within the lift zone.									
										Warning signages must be posted at this area.									
										Visitors and members of public entering the site must do site induction to inform them of all risk activities of the day.									
										Flag person / Rigger to guide the operator to ensure safe movement of load									
									Lifting plan to be drafted, to identify hazards and risks, locations of lift, lift capacity of lifting equipment or machinery										

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK							
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR	
S5-13			area that may also result in legal liability claims.																	
			Unauthorized members of public could be struck by moving load resulting in serious injuries																	
			Using of unsafe damaged lifting tackle could result in load falling when tackle breaks or snaps. Causing major property damages and financial cost to the company																	
S5-13	Lifting operations (Loading and offloading of materials) - Lifting Gear used for Lifting operations	Use of unsafe / damaged Lifting equipment such as slings, ropes and chains	Incorrect rigging could cause load to fall when lifting, lifting tackle to break resulting in serious injuries, possible fatalities, and property damages	4	3	3	2	4	4	20	All lifting gear/ tackle must be inspected before use, deviations must be recorded on the checklist and reported to the construction manager. CoC/SWL must be available for all lifting gear and its components. Rigging must only be done by a competent person appointed for the works. Safe Working Procedures and Risk Assessments to be communicated to all relevant workers	- Valid SWL / CoC - Checklist - Rigger Competency - Rigger appointment - SOP/SWP - Issue-based risk assessment - DSTI's	3	2	2	2	2	2	13	
		Rigging done by incompetent person or object not correctly hooked																		
S5-14																				
	Construction vehicles and mobile Plant Operations – TLB, Excavators, Bobcats, Telehandlers, MEWP's, Trucks, Site vehicles	Defective / unsafe Construction vehicles and mobile Plant used, or vehicles used that are not roadworthy. Speeding onsite, near the construction site and/or within restricted areas. Operators and drivers untrained / not skilled or not in position of the required license to drive. Construction Vehicles / mobile plant left unattended. Operators and drivers intoxicated or under the influence of Alcohol, Marijuana	The operation of unsafe / defective vehicles or plant could result in financial cost and accidents causing damages to property and serious injuries with a possibility of fatalities. Speeding onsite could result in running over employees or members of the public causing serious injuries and even fatalities. Incompetent operators could result in uncontrolled driving	5	5	4	3	3	4	25	All construction vehicles and mobile plant have to comply with Construction regulations and Driven Machinery Regulations. Other construction vehicles used must have a valid roadworthy certificate. Employees to be transported to and from work in a safe manner, never to be carried at the back of bakkies and trucks. Mobile plant operating on site to fully comply with CR 23. Maintenance / Service history must be available on site and used in accordance with their design and intention for which they were designed. Random alcohol and drug tests to be introduced and maintained.	- Maintenance / service records - Driver's License - PDP - Appointment letters - Valid Competency - Medical Fitness to work - Signages - Breathalyzer records - Checklists	4	4	3	2	2	3	18	

ACTIVITY (Work to be performed)	POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION								PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK								
			I	C	D	E	P	F	R	I			C	D	E	P	F	RR			
	(Cannabis) or other drugs. Failure to inspect vehicles	causing multiple accidents.									Ensure vehicles are isolated when not in operation, Construction vehicles and mobile plant left unattended after hours adjacent to roads and areas where there is traffic movement must be fitted with lights, reflectors or adequate barricades to prevent moving traffic from a sudden emergency, or to come into contact with the parked construction vehicles and mobile plant. In addition, construction vehicles and mobile plant left unattended after hours must be parked with all buckets, booms etc. fully lowered, the emergency brakes engaged and, where necessary, the wheels chocked, the transmission in neutral and the motor switched off and the ignition key removed and stored safely.										
		Unattended vehicle or plant could result in theft leading to financial costs.																			
		Intoxicated operators could result in uncontrolled driving causing multiple accidents, injuries and even multiple fatalities.																			
		Unable to identify unsafe vehicles or plant could cause vehicles or plant to fail / breakdown resulting in loss of production/time																			

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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											that pedestrians and other vehicles are not endangered. Traffic routes to be suitable, sufficient in number and adequately demarcated.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

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	Flammable and explosive chemicals stored near hot work area.	Conducting hot works without the required PPE could cause injuries to bodily part or face. No fire prevention controls could cause an uncontrolled fire resulting in damages to property (including neighboring property) and serious harm to the environment. Hot work area not controlled / closed off or no welding screens could cause injuries to unauthorized employees or members of the public. Operating machinery without the required fittings / attachments or components could cause the machinery to break, resulting in injuries to the operator. Overhead hot work activities could cause harm / injuries to employees below or cause a fire resulting in property damage No fire fighter or firefighting equipment on site could cause an uncontrolled fire resulting in damage to property									No Overhead Hot works will be allowed, if Hot work is required at height, it should be done from an approved scaffold or MEWP. Then the area below should be barricaded to prevent workers from entering that area. Hot work will not be allowed in wet conditions, electrical cables must be made safe and free/away from water sources. All cylinders used onsite must be fitted with the correct fittings and clamps when connecting the hoses. All gauges must be in good working condition. All new vessels must be checked for leaks, leaking vessels should NOT be used. Equipment must be identified/numbered and entered into a register. (Soap Test to be done) All workers conducting Hot work activities must be trained on the safe working procedures and issue-based risk assessments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														

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				I	C	D	E	P	F	R			I	C	D	E	P	F	RR	
S5-16			and harm to the environment																	
			Sparks from hot work activities could cause fire or even explosions at flammable storage area resulting in serious property damage and even fatalities																	
		Improper erecting of scaffold. Not as per SANS 10085:2004	Scaffold collapse due to improper erecting or shortage of scaffold materials could cause scaffold materials to fall on employees below resulting in serious head or bodily injuries.								Competent person with valid competency to be appointed to erect scaffold as per SANS 10085									
		Employees not trained in erecting and dismantling of scaffold.	Scaffold collapse could also cause scaffold erectors to fall from height resulting in serious injuries or even a fatality.								Scaffold must be inspected by a competent person (valid Competency) whom has been appointed every time before use.	• SANS Standards 10085-1:2004								
		Erecting scaffold on uneven or unstable ground	Scaffold collapse could also cause scaffold erectors to fall from height resulting in serious injuries or even a fatality.								Scaffold must be inspected before use, findings must be recorded on a checklist	• Issue-based risk assessment								
		Scaffold materials falling while erecting or dismantling.	Incompetent scaffold erectors could cause scaffold to be erected unsafe resulting in collapse, scaffold materials falling and scaffold erectors falling from height resulting in serious injuries or even fatalities.								Scaffold must be fully erected according to SANS 10085 Standards, if scaffold is not fully erected or components missing, it must be dismantled or declared unsafe to use.	• Method Statement								
		Unsafe stacking and storage of scaffold materials									No Scaffold works are allowed in inclement weather or near overhead powerlines. Weather conditions must be monitored by Health and Safety resource and Construction Manager	• SOP/SWP								
		Construction materials or tools falling from scaffold.		5	5	3	2	4	4	23	All employees working from Scaffold must be provided with the correct Safety Harnesses, they must be fully hooked at all times when working from scaffold	• Checklists	4	4	3	2	3	3	19	
		No Safe access to platform									Ground must be inspected for stability before scaffold can be erected. If ground is stable scaffold can be erected, base jacks must be used to level the scaffold.	• Appointment letter – Scaffold Erectors, Scaffold Inspectors, Scaffold Supervisor								
		Scaffold erected near overhead powerlines.										• Competencies								
	Working in inclement weather such as strong winds, rain and thunderstorms	Erecting scaffold on uneven surfaces could cause scaffold to fall over, resulting in property damage.									• Work at Height training certificate									
	No Signages available to indicate scaffold is safe or unsafe to use.										• Medical fitness to work at height									
											• SWL / CoC for fall protection equipment									
											• Fall Protection Plan									
											• DSTI's									

ACTIVITY (Work to be performed)	POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION								PREVENTATIVE MEASURES	CONTROLS (Registers , Policies, Procedure)	RESIDUAL RISK							
			I	C	D	E	P	F	R	I			C	D	E	P	F	RR		
	Employees falling from scaffold.	Unsafe stacking of scaffold components could cause pinch point injuries when stacked materials fall over.									All safety harnesses must be inspected before use, all findings must be recorded on a checklist, and any deviations must be recorded and reported to supervisor. COC for harness must be available in safety file.									
	Scaffold collapsing																			
	Fall Protection Equipment not available or damaged.	Tools, equipment or materials falling from height could fall on employees below the scaffold resulting in serious head or bodily injuries.																		
	Employees working at height not medically fit to work at heights	Scaffold making contact with overhead powerlines could cause employees to be electrocuted / shocked that could result in serious disabling injuries or even fatalities.																		
		Working on scaffold during inclement weather could cause employees to slip and fall due to slippery surfaces resulting in serious injuries or even fatalities. Working at height during thunderstorm could result in employees been struck by lightning.																		
		No warning signages or safe or unsafe signages posted at scaffold could cause employees to access a scaffold that is unsafe and could result in employees falling from scaffold.																		

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK								
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR		
S5-17	Work at Height activities – Working on edge of building or near openings		Employees who are not medically fit to work at height could cause employee to experience blood pressure issues that could result in the employee fainting/collapsing.																		
			Use of unsafe or damaged fall protection equipment could cause employees to fall resulting in serious disabling injuries or even a fatality																		
		Construction materials and tools falling from edge.	Falling tools and equipment could lead to damages to structures below or damages to the tools and equipment resulting in financial costs.	5	5	3	2	4	4	23	Comprehensive fall protection plan developed by a competent fall protection plan developer, plan to include all WAH activities, fall protection and fall prevention methods used; The fall protection plan must include but not limited: A Risk assessment of all work carried out from a fall risk position, procedures and methods used to address all the risks identified.	• Scope specific Fall Protection Plan • SOP/SWP • Issue-based risk assessment • Checklists • Signages • Work at height competency certificate • Medical fitness to work at height • Fall Protection Plan	4	4	2	2	2	2	16		
S5-18	Work at Height activities – Use of Trestles to work from	Trestle used on uneven / unstable surface.	Trestle used on uneven / unstable surface could cause trestle to fall over while employees are working from it, this	4	3	4	2	4	4	21	All trestles and its components must be inspected before use; findings must be recorded on a checklist.	• SANS1854:2023 • SOP/SWP • DSTI's • Checklist • Signages	3	2	3	2	3	3	16		
		Trestle not fully boarded (Platform)																			

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK						
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR
S5-19		Trestle platform not secured.	could result in lost time and even disabling injuries								Trestles used must be fully boarded that have been secured to prevent movement. Workers will not be allowed to work from trestle if platform is fully extended.	• Work at Height competency certificate • Medical Fitness to work • Issue-based Risk Assessment • Fall Protection Plan							
		Trestle platform damaged / bent or unsafe to use.	Trestle used not fully boarded could cause employees working from trestle to fall due to the small space to work from.								Employees must be trained on the Safe Working Procedures and Issue based Risk Assessment for trestle works								
		Workers and tools falling from trestle platform.	Trestle platform / boards not secured could cause employees or materials to fall from trestle when moving or conducting activities								No tools or construction materials to be left unattended on the trestle								
		Employee working on trestle not medically fit to work at height	Damaged or bent platform could cause employees, tools or materials to fall								All trestles may only be erected on level surfaces, bricks are not allowed to level the trestles. Baseplate with jack or solid wood slab to be used. Trestles must be erected as per SANS standards								
			Employees working from fully extended trestle platform could cause trestle platform to fall over								All trestles' activities must be conducted under supervision								
			Employees falling from trestle could cause serious injuries or even disabling injuries																
	Work at Height activities – Using ladder to work from or to use for access	Unsafe or damaged ladders used such as Self-made or wooden ladders.	Unsafe or damaged ladders used could cause ladder / rugs to break when accessing or descending the ladder resulting in the employee falling from the ladder	4	3	3	2	4	4	20	No Self-made ladders to be used	• SOP/SWP • Issue-based Risk Assessment • Checklist • DSTI's • Toolbox talks • Medical fitness to work • Fall Protection Plan	3	2	2	2	3	3	15
		Incorrect ladders used for specific activities.								All ladders to be inspected before use. Findings to be recorded on a checklist.									
		Employee falling from ladder.	Incorrect ladders used when accessing a								Employees working from ladders must be trained on the Issue Based Risk Assessment and Safe working procedure								

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK									
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR			
S5-20		Tools and equipment falling from ladder. Ladder unstable or surface uneven Ladder used is not secured. Employee working on ladder not medically fit to work at height	certain area or to work from could cause ladder to fall over Tools and equipment falling from ladder could cause head or body injuries to employees below. Tools and Equipment falling from ladders could result in property damages or damages to tools and equipment resulting in financial costs. Employee working from unstable / unsecured ladder could cause ladder to fall over Employee falling from ladder could result in serious injuries and even disabling injuries								If ladder cannot be secured when working from it, it must be held in position by an employee Employees working from ladder to make use of a tool bag to ensure tools are secured at all times. No tools to be left unattended on a ladder. Ladder to be used on a secure / stable surface. If work activities are required from ladder for a certain amount of time a scaffold must be used to conduct these activities											
	Work at Height activities – General Work at heights (Any fall risk position)	Employees not trained to work at height. Employees not medically fit to work at height. Work at Height activities in inclement weather such as strong winds, rain and thunderstorms Unsafe or damaged fall protection equipment used. Unsafe Fall Prevention equipment used	Employees who are not competent to work at height could result in the employee being unable to identify hazards associated with WAH activities, actions to be taken to prevent incidents. Employees who are not medically fit could cause drowsiness, dizziness or even blurred vision that could result in the employee collapsing.	5	5	3	2	4	4	23	All employees working at Height must be competent, they must be trained on working at height, identifying risk, the correct use of Fall Protection Equipment etc. All employees working at height must be declared medically fit to conduct work at height. Records in the form of Annexure 3 must be kept on site. No work at height activities to commence in inclement weather. Works must be stopped until declared safe. All Fall prevention / fall protection equipment must be inspected before use; all findings	- Fall Protection Plan - Work at Height Rescue Plan - SOP/SWP - Work at Height Competency certificate - Medical fitness to work - Issue-based Risk Assessment - DSTI's - Checklist - Signages - SWL/COC for fall protection equipment	4	4	3	2	3	3	19			

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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S5-21			Working at height in inclement weather could cause employees to slip and fall due to slippery surfaces or losing balance due to strong winds resulting in employees falling from height. Use of unsafe or damaged fall protection or fall prevention equipment could cause it to break resulting in employee falling from heights Employee falling from height could result in serious disabling injuries or even fatality								must be recorded on a checklist. All damaged equipment must be removed from site. CoC certificates must be available for all Fall prevention / fall protection equipment.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
		Unlabeled Containers								All flammable materials / containers must be clearly marked/labelled All employees must be trained in Risk Assessments, Safe working Procedures and MSDS's/SDS's on the HCA used on site. Employees need to be issued with the task specific PPE to handle and use HCA. No fires, smoking or Hot work activities can take place near HCA storages areas or at areas HCA are used. If specific activities are required while HCA are present a Gas test must be done to ensure the LEL level is safe. Warning Signages to be posted at HCA storage areas with the required demarcation Firefighting equipment must be made available near HCS storage areas All vehicle used to transport HCS must comply with legislative requirements, it must clearly be marked to certify the vehicle is allowed to transport HCS. The driver must hold a PrDP "D" certificate to transport HCS								
S5-22	Working near overhead powerline – Conducting construction activities	Sagging KV line Roof inclining near the KV line	5	5	4	3	3	3	23	Ensure Mobile Plant cab is fitted with insulators to prevent the operator to be electrocuted.	- SOP/SWP - Issue-based Risk Assessment - Competencies	4	4	3	2	2	2	17

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK							
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR	
S5-23	near overhead powerlines	Scaffolding erected close to the KV Line Untrained employees, temporary workers, or local laborer's (general workers) working near the KV line. Construction Vehicles or plant operations near overhead powerlines	employees or equipment to make contact with high voltage powerlines resulting in severe injuries such as burns and shock and could also result in electrocution of employees Mobile Plant making contact with high voltage powerlines could cause operators to be electrocuted if cab is not fitted with insulators.								If mobile plant has made contact with an overhead powerline the operator should reverse away from the contact area if this is not possible, the operator should remain seated until the line is de-energized. Only approved authority employees to work near overhead power line. Allowed distance to work near overhead powerline to be determined by relevant authorities including Eskom thereafter employees to be made aware of the hazards and risks associated No scaffolding to be erected close to the overhead powerline No Construction vehicles to be operated within 10m of overhead powerlines, unless declared safe by Competent Authority Safe working Procedure and Risk Assessment must be communicated to those employees exposed to working near overhead powerlines Trained and Competent Spotters / Flag person must be present at ALL times when plant is operational near overhead powerlines.	- DSTI's - PTO's								
	Use of portable electrical tools and hand tools (Including use of Portable lights) –	Unsafe, sub-standard and/or defective equipment used. Untrained employees using portable electrical tools. Operating electrical tools near flammable materials Unsafe stacking and storage of all electrical tools and hand tools	The use of unsafe or damaged hand tools could cause hand injuries such as cuts. Unprotected cables could result in employee being shocked Untrained employees operating power tools could cause employees to be unable to control	4	3	3	2	4	4	20	Portable electrical tools and equipment must be inspected regularly but at least on a weekly basis and maintained to the same standards as portable electrical tools and appliances. The use, inspection and maintenance of portable electrical tools and equipment must be governed by the following: - Regular inspections by a competent person appointed in writing.	- Checklists - Issue-based Risk Assessment - SOP/SWP - Competency - Appointment letter - Medical fitness to work - DSTI's - Signages	3	2	2	2	3	3	15	

ACTIVITY (Work to be performed)	POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION								PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK														
			I	C	D	E	P	F	R	I			C	D	E	P	F	RR									
		the equipment resulting in serious bodily injuries and even disability Unsafe stacking of portable electrical tools could result in tools falling and breaking, this could lead to financial losses to buy new equipment and delays if being unable to procure new tools									Inspection results must be recorded in a register. Only competent authorized persons are allowed to use portable electrical tools and equipment; and The correct protective equipment is worn/used whilst operating portable electrical tools and equipment. These equipment – Must be maintained in good condition at all times The main source should incorporate an earth leakage protection device or receive power through a double wound transformer or be double insulated and clearly marked as such; and All equipment must be fitted with a switch to allow for safe and easy starting and stopping. The following requirements to be applied with when portable lights are utilized Must be fitted with a robust non-hygroscopic non-conducting handle. Metal parts which may become live must be protected against contact. The lamp must be protected by a strong guard. The cable lead-in must withstand rough handling. A register be kept for each piece of equipment with findings of regular inspections undertaken to evaluate the condition of these lights. Inspections must be undertaken that concentrate on at least the plug, cord, switch, guard and any obvious faults; and When used in wet/damp/metal container conditions, it must be protected. Risk Assessment and Safe working Procedure for the operation of task specific Portable electrical tools must be																

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				I	C	D	E	P	F	R			I	C	D	E	P	F	RR				
											communicated to those operating and exposed to hazards when using portable electrical tools Gas cylinders when in use to be safely stored and secured, when not in use, in a cool place, upright position and locked storeroom. All hot works to be conducted in an enclosed place away from public and employees conducting other activities. Welding screens to be placed at welding areas and solid barricading used to close off areas. Firefighting equipment must readily be available in the designated area												
S5-24	Illumination during construction activities at night	Poor illumination at night / Poor Visibility Unauthorized Work at Night Poor Quality work	Conducting work activities at night could result in serious bodily injuries due to being unable to see hazards associated with the work activities. Poor visibility could cause Construction Plant and equipment accidents resulting in financial losses. Unauthorized work at night could result in poor quality standards resulting in loss of production and financial costs	5	5	3	3	3	3	21	If any Work requires to be conducted at night sufficient lighting should be supplied. All activities to be conducted at night must be internally approved by Construction Manager with guidance from competent Safety Professional. Night work must be approved by the Client Project Manager. Supervision must be available for all activities taking place after hours / at night Issue-based Risk Assessment must be communicated to all employees conducting work after hours or at night shift	- Approval Letter - Issue-based Risk Assessment - SOP/SWP - Appointment letter - Working at night procedure / Method Statement - Medical fitness to work - Checklist	4	3	2	2	2	2	15				
S5-25	Lack of communication between various parties involved.	Instructions not adequately followed through Information not transmitted as supposed to	Unable to identify instructions or delays could lead to loss of production Information not transmitted to the	1	2	2	2	4	4	15	Implement and ensure a proper communication system between various parties involved. Site meetings to be conducted on set intervals including integration between	- Minutes of meetings - Communication protocol/policy/procedure - Site attendance registers	1	2	2	2	2	2	11				

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
		Schedule slippage due to rework								various parties. Minutes of meeting to be kept for record of discussions								
S5-26	Temporary structure (Temporary works) – Formwork	Poor Temporary designs could cause structures to collapse resulting in multiple fatalities Inadequate designs Hand and finger injuries from being pinched when installing props Incompetent formwork erectors and inspectors Employees falling from heights could result in serious bodily injuries, disability and even fatality Temporary structure collapse due to poor design Unsafe access to elevated areas Poor stacking and storage of Form work materials Manual handling Pinch points Work at Fall Positions Medically unfit for work at height	5	5	4	3	3	4	24	A contractor to appoint a temporary works designer in writing, to design, inspect and approve the erected temporary works. Temporary works to be carried out under the supervision of a competent person appointed in writing. To be erected by competent persons. Temporary structure to be inspected by a competent person immediately, before, during and after the placement of concrete. After inclement weather or any other imposed load and at least on a daily basis until the temporary works has been removed and results recorded in a register. All temporary works to be carried out as per Construction regulations 12. Temporary work structures to be so designed, erected, supported, braced and maintained that they will be able to support any vertical or lateral loads that may be applied. No load to be imposed onto a structure that the structure is not designed to carry. Temporary work to be erected in accordance with the structural design drawings for such temporary work and if there is any uncertainty, the designer must be consulted before proceeding with the erection/use of the temporary work The foundation or base upon which the temporary work is erected to be able to bear the weight and keep the structure stable.	• Appointment letter • Competencies • Work at height competency • Medical fitness to work • Method Statement • Fall protection plan • PPE Issue register / checklist • Checklists • DSTI's • Issue-based Risk Assessment • Approved drawings for temporary works	4	4	3	2	3	3	19

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				I	C	D	E	P	F	R			I	C	D	E	P	F	RR									
											Employees erecting temporary work to be trained in the safe work procedures for the erection, moving and dismantling of the temporary work. Safe access and emergency escape to be provided for employees. Only employees trained to work at height with a valid medical fitness to work allowed to erect temporary works																	
S5-27	Steel Work – Steelfixing		Manual lifting and handling of heavy steel reinforcing could cause employees to lift with poor ergonomics resulting in back strains									Employees to be provided with proper walkways during steel erection and never to walk on erected rebar Workers to be supplied with the required PPE for Steel fixing and cutting of steel rebar. Truck drivers to ensure loads are sufficiently secured before transporting materials to site Workers to ensure to use correct lifting procedure when lifting steel rebar. SWP for manual handling / ergonomics to be communicated to workers. Cutting of Steel rebar to be conducted in a designated safe hot work area. All tools and equipment to be used must be inspected and registered on a checklist, deviations must be recorded and reported to appointed supervisor.	• SOP/SWP • Issue-based Risk Assessment • Checklist • PPE issue register • Ergonomics training • Toolbox talks • DSTI's															
		Manual handling and lifting of rebar at ground level and to elevated level.	Unprotected edges of steel reinforcing could cause cuts to the body of employees when walking past or handling the steel																									
		Transportation of rebar on trailers	Handling of steel rods or reinforcing when lifting and moving materials could cause pinch points leading to injuries to hands and fingers	3	2	2	2	3	3	15																		
		Sharp & pointed objects	The use of unsafe or damaged handtools could result in hand and finger injuries																									
		Cutting of Rebar - causing sparks and fire	Cutting of steel rods with a grinder could cause heat exposure leading to burns to hands																									
		Use of unsafe or damaged pliers	Cutting of steel with																									
		Handling of steel rods or reinforcing without the required hand protection																										

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK													
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR							
			grinder could cause debris to cause damage to eyes of the operator or surroundings employees																							
S5-28	Limited resources to conduct all task	Contractual non-compliance	Delays in the project could result in the PC not to achieve completion in time resulting in penalties – Financial Loss										Client to ensure that contractor is well aware of current scope definition as well as the requirements stipulated in the tender specifications.	• Approved Programme of works • Issue-based Risk Assessment • Basic Conditions of Employment Act												
		Schedule and cost over run on project	Lack of resources could cause employees to overwork that would make them tired resulting in incident and accidents at the workplace	4	3	3	2	2	2	16	Contractor to ensure compliance on set specifications from client Contractor to ensure workers comply to working hours guided by the Basic Conditions of Employment Act	3	2		2	1	2	2	12							
S5-29	Stacking and storage of material & Housekeeping	Unstable stacking of goods / materials / Unsafe Stacking Procedures	Unsafe or unstable stack of materials could cause the stack to fall over resulting in serious injuries and even fatalities when employees are trapped underneath the stack.										Sufficient space for stacking of material to be provided, housekeeping to be maintained and cleaning of areas to be maintained.	• Checklists • Issue-Based Risk Assessment • DSTI's • Toolbox talks • Stacking Procedure • Appointment letter • Signages												
		Stacking & Storage area not identified and demarcated											Stacking and storage areas to be barricaded to prevent unauthorized entry. Signages must be placed at designated area													
		Pinch Points	Not wearing the required PPE when stacking of materials could result in pinch point injuries to hands and fingers										All contaminated ground must be removed and disposed of at a registered waste facility. Waste Disposal must be available													
		Environmental contamination from spillages											Workers to be aware of snakes, toolbox talks to be done for the awareness of snakes in surrounding area, if snakes are found on site, a snake handler must be contacted to remove snakes safely.													
		Snakes																								
		No clear walkways at stacking and storage areas	HCS not sealed and not stored in a banded area could cause spillages resulting in environmental contaminations. This leads to financial losses due to the rehabilitation of the environment costs and fines by authorities												All walkways at stacking and storage area must be kept clean and free from tripping hazards											
		Unauthorized entry																								
		Poor waste removal																								
Unstable Aggregate or Sand												Waste must be removed on a regular basis to a registered waste facility, proof must be kept in the safety file on site.														

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				I	C	D	E	P	F	R			I	C	D	E	P	F	RR						
S5-30			Poor Housekeeping standards when stacking of materials could cause snakes to find shelter resulting in snake bites that could cause serious injuries, disability or even a fatality No clear walkways at stacking area could cause employees to trip and fall over materials resulting in bodily injuries								Housekeeping on site must be done on a daily basis, all rubble must be removed and placed in the designated waste area. Aggregate or soil should be stacked at a reasonable height and not close to any machinery or equipment. The principal contractor to ensure that: - A competent person is appointed in writing to supervise all stacking and storage on a construction site. - The height of any stack does not exceed 3 times the base unless stepped back at least half the depth of a single container at least every fifth tier or the approval of an inspector of the Department of Labour has been obtained to build the stacks higher with the aid of a machine. (The operator of the machine must be protected against items falling from overhead or off the stack and no items may overhang);														
	Emergency Preparedness (Fire Prevention, First aid)	Inadequate emergency planning Inadequate first aid. Inadequate fire prevention and protection measures Incompetent First Aider or Fire fighters appointed	Emergency services unable to respond to emergencies could cause serious injuries to lead to disabling injuries or even fatalities No first aid equipment could cause infections to minor injuries such as cuts if not cleaned immediately. This could increase the severity of any injury Incompetent First Aider could cause injured employees' severity of an injury to increase when applying incorrect	5	5	3	2	3	3	21	Emergency Preparedness The principal contractor to appoint a competent person to act as emergency controller and/or coordinator. The principal contractor to conduct an emergency identification exercise and establishes what emergencies (such as health, safety, environmental, third party or community related actions etcetera) could possibly develop. Contractor must then develop detailed contingency plans and emergency procedures, considering any emergency plan that the project/site may have in place. The principal contractor and the other contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarize	• Emergency Plan / Preparedness Plan • Emergency Evacuation Procedure • Checklists • Competencies / training records • Appointment letters • Emergency Contact details • Inductions • Communication records • Toolbox talks • Issue-based Risk Assessment	4	3	2	2	2	2	2	15					

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR					
		treatment									employees with them. Emergency evacuation points must be available, and signage displayed												
		Incompetent Fire Fighter could cause fires on site to become uncontrolled resulting in serious injuries, or even multiple fatalities. This will also have an impact on damaged property.																					
		No firefighting equipment available on site could cause a fire to become uncontrolled resulting in serious injuries, property damage or even multiple fatalities																					

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
										clear and clearly marked. f) Roll call is held after evacuation to account for all employees and to ensure that no-one including visitors and disabled persons have been left behind. g) A clear audible siren or alarm is fitted and regularly tested. If this is not practicable to the site, other method of warning employees must be used, for example whistles. All emergency procedures / plans must be communicated to all employees onsite								
S5-31	Site security and public protection									Principal contractor to ensure the project is always secure. Access control to be maintained and no unauthorized entry to be permitted to the project.								
		Public gaining access to the construction site.								When there are no activities on site and no personnel conducting works. The Project must be left in a safe manner so that the public can't gain access and that all hazards are attended to prior vacating the site.	• Site Rules posted • Signages							
		Theft	4	3	4	2	3	3	19	Security should be available due to valuable materials and equipment that might be stored on site. Security will also be responsible to monitor site access by unauthorized people / children	• Workers Register with certified Copy of ID's • Proof of Vetting	3	2	3	2	2	3	15
		Vandalism																
S5-32	Ablution and welfare facilities	Non-South African Citizens								Warning Signages must be posted to inform the community of hazards and risks								
										All workers, suppliers and service providers must be vetted prior to accessing the Naval Base								
		Inadequate provision of toilet facilities for each sex								Principal Contractor to provide toilets for each sex as required in terms of the National Building Regulations and Construction Regulation 30.	• Checklists • Waste Disposal Certificates • Issue-based Risk Assessment • Signages							
		No hand washing stations available	3	3	3	2	3	3	18	Chemical toilets are allowed only if they are cleaned on a regular basis by registered contracted company. Toilets must be		2	2	2	2	2	3	13
		No secured area for each sex to change clothing (Changing																

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		area)	Not providing toilet facilities for each sex is a legal offence and could result in DoEL to issue sanctions, fines or even site closure								provided at a ratio of at least 1 toilet per 30 employees. Disposal waste certificate to be obtained to ensure waste has been removed and dumped at a registered facility																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR		
	operator and flagman	term exposure to cement dust could result in asthma, silicosis and scarring of the lungs.								A flagman must be well trained in order for him to be able to provide proper signals thus preventing employees being hit by a mixer.										
	Mixer operating near excavation																			
	Incompetent Concrete Pump Operator	Oil spillages from concrete trucks or pump trucks could cause environmental pollution, contaminating the environment leading to water contamination								Operators to be well trained and no unauthorized employees must operate the mixer.										
	Unsafe operation or control of Concrete Pump - Hoses / pipes moving around uncontrolled									Only Competent / Appointed operator to operate concrete Pump, Ready-mix Truck. Competency must be valid and available										
	Inhaling of Cement dust and skin contact with wet cement	Concrete mixer operated by incompetent person could result in serious injuries to arms and hands if safe procedure is not followed								Dust mask must be provided to employees handling cement as a last resource when dust cannot be controlled. If exposed to cement dust for long periods a breathing apparatus must be used. Workers exposed to Dry Cement or Wet Cement must be supplied with the minimum required PPE (Overalls, Gumboots, Safety Boots, PVC Gloves, Safety Glasses, Earplugs, if exposed to wet cement raincoats can be used.										
	Incompetent or intoxicated truck driver																			
	Concrete Pump Blockages																			
	Concrete mixer truck unable to offload in time (Suppliers)	Operating concrete mixer without protective guard in place can result in serious hand and finger injuries								Concrete ready-mix truck, Concrete Pump Truck and Concrete Mixers must keep a safe distance from excavation edges, when pouring into excavation flagman have to be more vigilant and a regular toolbox talk must be held.										
	Noise from Concrete mixer	Concrete mixer operated near open trenches and excavation could cause trenches or excavation walls to collapse due to the vibrations								Issue-based risk assessment and safe working procedures for all activities must be developed and communicated to all relevant employees										
		Noise exposure from operating concrete mixer for long periods could result in long-term / permanent hearing loss								Housekeeping must be done after each pour, concrete waste should be disposed of at designated waste areas, Concrete Mixers, Ready-mix truck and Concrete Pump trucks to be cleaned after each use.										
	Poor communication between flagperson / supervisor and concrete trucks could cause								All plant or equipment used for concrete											

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				I	C	D	E	P	F	R			I	C	D	E	P	F	RR		
			accidents on site resulting in property damages								works must be inspected before use and findings recorded on a checklist, deviations must be reported to Construction Manager/ Supervisor. All guards must be in place before operations										
			Uncontrolled movement of concrete pump truck boom and hose could cause serious injuries to surrounding employees and damages to surrounding property																		
			Concrete blockages in Concrete pump truck could cause the sudden release of concrete that could result in serious injuries if employees are struck by the concrete that came out of the pipes by high pressure. This can also cause damages to surrounding properties																		
			Poor planning for concrete trucks not to dump concrete in time could result in delays of production and financial losses if concrete could not be used due to hardening																		
S5-34	Electrical Installations – New Infrastructure, replacing or installing of temporary electrical supply	Illegal connections	Unsafe electrical installations and open wires could result in employees and other persons being electrocuted with subsequent injuries or even fatalities as well as asset damage due to fire								Any electrical work undertaken as part of the project, including the installation of temporary electricity for construction use shall be in accordance with Construction Regulation 24 and the Electrical Installation Regulations The principal contractor to ensure that: - Existing services are to be located and clearly marked before construction commences and during the progress	• Issue-based Risk Assessment • SOP/SWP • Method Statement • Wireman's License • Competencies • Appointment letter • Medical Fitness to work • DSTI's									
		Substandard equipment																			
		Poor cable management		5	5	4	3	3	4	24			4	4	3	2	2	2	17		
		Incompetent Installer																			
		Unauthorized Access to DB's																			

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR		
		Fires and Explosions								thereof.	• Checklists • LOTO procedures									
		Improper grounding								- Electrical installations and -machinery are sufficiently robust to withstand normal working conditions on site.										
		Contact with live open wires								- Temporary electrical installations must be inspected at least once per week by a competent person and a record of the inspections kept on the occupational health and safety file.										
		Overloads and short circuits								Electrician with a Wireman's License must install, commission and inspect all electrical installations. Employee to be authorized, competent and appointed. COC must be available for electrical connections done.										
										All DB's to be locked. Key register to are established and proof of key use to be evident.										
										Lock out procedure to be communicated to all employees exposed.										
										Issue -based Risk assessments and method statement to be communicated to the relevant employees conducting or assisting with installations										
										All electrical components / parts to be used must be SABS approved.										

S34-BRA-0001-00
Baseline Risk Assessment

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK									
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR			
S5-37			Use of unsafe handtools and portable electrical tools could result in hand and arm injuries and being shocked if unsafe electrical tools are used Operators of tools, plant or machinery, not being competent could cause serious injuries if employees do not understand the hazards and risks								contractor overhead.											
	Demolition Work - Blasting	Defective explosives used	Failure to comply or issue required permits could cause work stoppages resulting in loss of production, and might have cost implications Blasting near unsafe infrastructure or poorly built houses could cause buildings or part thereof or surrounding houses to collapse. This will lead to cost implications and community unrests (Property damages) Employees, other contractors or members from public entering the danger zone during a blast could result in serious injuries or fatalities Uncontrolled debris striking employees, other								Only registered blaster appointed may apply for a blasting permit with Department of Employment and Labour	• Blasting Plan • Method Statement • Issue-based Risk Assessment • Checklist • Competency • Appointments • Permits • Public Notes • Signages • Wayleaves • DSTI's • Medical Fitness to work										
		Incompetent Blaster / Explosives Supervisor / Unregistered person											Site Plan / blasting plan to be prepared by competent, appointed person to identify risks, methods to be used and control measures to be implemented.									
		Danger area not identified or closed off											Competent person to inspect explosives to be used to ensure it is safe and comply to requirements									
		Unsafe transportations of explosives											Method Statement and Safe Operation Procedures, risk assessment and blasting plan to be communicated with other contractors, employees, surrounding businesses and members of the public									
		Excessive Noise																				
		Dust		5	5	5	5	3	3	26												
		Excessive Vibrations																				
		Unsafe Surrounding structures or houses												Company conducting the blasting may only transport explosives if they were issued with a permit to transport the explosives. In transit, transportation vehicle may not be left unattended at any time. Vehicle must be road worthy.								
		Unauthorized blasting / no permit																				
Uncontrolled ejection of rock and debris when blasting																						
	Fire									Public Notices must be done at least 24 hours in advance before blasting takes place.												

ACTIVITY (Work to be performed)	POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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	Incorrect charging of holes	contractors, visitors or members from the public against the head could cause serious head injuries								Emergency contacts must be shared with all surrounding public members, businesses, houses, schools etc.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										

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				I	C	D	E	P	F	R			I	C	D	E	P	F	RR		
											Only competent appointed persons to operate hydraulic jack hammers. These employees must be medically fit to operate machinery / plant.										
S5-38	Exposure to poisonous / Venomous or other dangerous animals, reptiles or insects And exposure to animals, insects, birds reptiles, amphibians in their natural habitat	Snake bites Spider bites Scorpion Sting Bee sting Wasp sting Uncontrolled removal of Fauna and Flora in an area. Habitat destruction / habitat loss and fragmentation	Venomous snake bites could cause person to hyperventilate, vomit and even paralysis. If not treated in time could result in disabling injuries or even a fatality Non-venomous snake bite could cause injury to body, tissue damage, swelling and severe pain Scorpion Sting could cause difficult breathing, muscle twitching, sweating and vomiting. Uncontrolled removal of Fauna and Flora could result in the loss or destruction of native plants and animals from a specific area. This can have an impact on biodiversity, ecosystem stability and the well-being of humans	4	2	2	3	4	4	19	The principal contractor to ensure that the following are duly adhered to: - the emergency procedure to be expanded to provide for the effective treatment of employees or other persons visiting exposed to bites or stings from poisonous animals and insects, i.e. the contact details of the nearest medical unit that could treat employees exposed to bites or stings be obtained and arrangements be made with this service provider on the procedures to be followed to ensure swift response when required. - confirmation to be obtained or made available from the nearest medical unit that they have anti venom reserved to treat employees or other persons visiting that may be exposed to snake bites or scorpion stings. - competent / appointed first aiders to be available to facilitate the treatment of employees or other persons visiting exposed to stings or bites. - the potential exposure posed by poisonous or venomous animals or insects and awareness thereof to be discussed with all employees as part of the toolbox talks and general awareness training and other persons visiting as part of the pre-site visit induction process If Snakes are located on site, contact nearest snake handler to assist with removal of the snake. Do not attempt to remove snake if not trained. Emergency contacts to be freely available on site and in safety file.	• Inductions • Medical fitness to work • Toolbox talks • Posters and Signages	3	2	1	2	2	2	12		

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers , Policies, Procedure)	RESIDUAL RISK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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S5-39											Environmental impact assessment to be conducted to ensure the project does not have an impact on the Fauna and Flora to the specific location of the project																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR				
		stage									conditions.											
		Working in rain could cause cold stress and hypothermia if low temperatures. It could also cause slip and fall injuries on wet surfaces. If working with electrical tools equipment could cause electrical shock and damages to tools and equipment resulting in financial losses.																				
		Working in dust storms could cause skin irritation and short-term eye / vision impairment.																				
		Working at heights during extreme weather condition such as rain and strong winds could cause scaffold to fall over if not secured and employees falling from heights resulting in serious injuries even fatalities																				

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK											
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR					
S5-40											working at heights during inclement weather are identified and reasonably mitigated. - Be cautious of slip/trip hazards when performing activities during inclement weather.													
	Working in Confined areas	Poisonous gas, fume or vapor present in confined space. Lack of oxygen for employees working in confined space area. The presence of flammable gasses in confined space can lead to fire or explosion. Employees being exposed to excessive high noise levels in confined space. Employees being exposed to extreme temperatures / changes in temperature in confined space. Insufficient safe access for employees in and out of work area. Risk of exposure to hazards associated with lack of adequate ventilation for activities in confined spaces. Employees not medically fit Poor visibility	Working in confined area with lack of oxygen could cause dizziness, nausea, loss of awareness or judgement and can even result in a fatality Working in a confined space where chemical fumes or vapors are present could cause asphyxiation and poisoning resulting in the employee to become unconscious and suffocating that could lead to a fatality Noise levels can be amplified in confined area causing noise levels to exceed the safe exposure limit. This could result in short-term hearing loss and even long-term hearing loss if exposed for long durations Working In confined space during extreme temperatures could cause a heat stroke/ stress, severe dehydration and fainting Workers unable to gain access into and out of	5	5	3	2	3	3	21	Principal Contractor to ensure confined space works comply with the following - Ventilation a) The confined space to be opened and allowed to ventilate for at least 15 minutes before entering the manhole. All open manholes to be barricaded and manned at all times. A gas monitor to be lowered to the bottom of the confined space with a rope to test the presence of any toxic/flammable gas. If any gas is detected, the space to be force ventilated by means of a blower for at least 15 minutes where after the air should be tested again. Under no circumstances may any space be entered while there is a toxic/flammable gas present. After the undertaking of the necessary work, the person in charge of the activities to confirm that all the employees are accounted for. - Entering a confined space a) When entering a confined space, the person entering the space to wear a safety harness and fully operational gas detector. A lifeline should be attached to the safety harness and a person on the surface should be in continuous contact with the person in the confined space. At least one person on the surface to be trained in basic first aid (level 1) with proof of such training as well as a fully equipped first aid box available on site. b) No person shall remain within a confined space for a period of more than one hour at a	• SOP/SWP • Issue-based Risk Assessment • Method Statement • Toolbox talks • DSTI's • Gas testing results • Gas tester competency • Gas testing machine calibration certificate • Medical Fitness to work • Entry register • Checklists	3	3	2	2	2	2	2	14				

ACTIVITY (Work to be performed)	POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK												
			I	C	D	E	P	F	R			I	C	D	E	P	F	RR						
		the confined space could cause employees to gain access unsafely by climbing in and out this could result in slip and fall injuries. Being unable to gain access out of the confined space could result in suffering from claustrophobic could accelerate heart rate and shallow breathing to trembling limbs and a profound sense of an impending death Working in confined spaces with poor visibility could cause tripping and falling injuries, being struck by structures causing head and body injuries								time. A minimum of 5-minute rest periods on the surface to be taken after this period before re-entering. c) Should the alarm sound on the gas monitor, all employees to exit the confined space and the immediate area should also be evacuated immediately. The area to be properly ventilated and re-tested before re-entering the confined space. Professional support should be called for if necessary. D) Employees to be provided with flameproof lighting when entering a confined space with the possibility of flammable gases. No naked lights, smoking or unprotected electrical apparatus which may cause sparks, shall be permitted in any confined space or in its vicinity. - Training a) All employees that have to enter a confined space to be formally trained and confirmed competent before being required to enter such areas (new employees to complete this training and be declared competent before allowed to work in a confined space). b) Refresher courses to be attended by employees at least once every 2 years or immediately if new methodologies or equipment are adopted or acquired. c) Continuous onsite training (Safety moments / toolbox talks) and support by supervisory staff to be undertaken and enforced where required d) Competent person to conduct continues gas monitoring of confined spaces Task Specific Risk Assessment / Safe														

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers , Policies, Procedure)	RESIDUAL RISK												
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR						
S5-41											working Procedure and Method Statement for Work activities in Confined space to be communicated to relevant employees. (Proof of communication to be available in safety file)														
	Public health & safety and Pedestrians access to site		Members of public or children entering a construction site could cause serious injuries, even fatality as these members would not understand hazards and risks associated with construction activities or being exposed to heights, confined areas, noise, dust, trip and falls, moving objects and plant etc.									The principal contractor will be responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimize those dangers. This includes among others: - Non- employees entering the site for whatever reason. - The surrounding community. - Public bystanders													
		Uncontrolled Access by members of public and children										Appropriate signage must be posted to this extent and all employees on site must be instructed to ensure that non-employees are protected at all times.													
		No site hoarding																							
		No warning signages																							
		Unprotected trenches and excavations																							
	Uncontrolled Access to heights		excavation resulting in serious injuries, if water in trench or excavation could result in drowning of members or children																						
			Uncontrolled access to heights by members of the public and children could cause individuals to fall from unprotected edges resulting in serious injuries and even fatality																						
			No warning signages																						

[illegible]

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers , Policies, Procedure)	RESIDUAL RISK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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			fibers to be spread to surrounding areas such as communities if strong winds occur Illegal dumping of Asbestos could result in reputational damage, financial losses and fines. This is a major risk for communities where asbestos is illegally dumped as the members and children of that community will be exposed to health risks associated with asbestos Unidentified asbestos containing materials could cause health risks to end user and other stakeholders, contractors and even visitors.								Monitor wind speeds and stop work when wind is above 30km/h blowing in a certain direction that might spread the asbestos particles. All asbestos works must be supervised by competent person Areas where asbestos were stored on site must be rehabilitated after asbestos has been removed from site. Asbestos AIA must identify all asbestos containing materials on site and determine the type of asbestos. Once asbestos has been removed a clearance certificate must be issued to the client / end user that included records of visual inspection conducted, air sampling test results and clear declaration for the purpose of the clearance certificate Asbestos Management plan must be drafted specific to the project, asbestos containing materials and type of asbestos noted on site. The Asbestos management plan must clearly identify the procedures to follow to handle, remove and transport asbestos containing materials Registered Asbestos contractor must provide proof of medical surveillance plan																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
										assistance from end-user or property owner to identify potential services								
Stage 6 – Project Close-out																		
S6-01	Site Demobilization	Unsafe disconnection of temporary services Unsafe disconnection of electrical services by incompetent person could cause the person to be shocked or even electrocuted resulting in a fatality. This could also have an impact on electrical supply to existing and new structures Improper loading of materials, equipment, offices and storage containers Improper loading of Mobile Plant on to trucks Improper loading of items could cause the load to fall from the truck resulting in damage to property with cost implications. Items falling could also result in serious injuries to persons body, disability injuries and even fatalities Transporting of equipment, machinery, plant, offices or storage containers with unsafe (not roadworthy) truck Incompetent person disconnecting temporary services Transporting of items with unsafe truck or vehicle could cause an accident to happen resulting in multiple serious injuries or fatalities Exposed to open excavations or trenches Exposed to open / unsafe electrical wires Open excavations and open trenches could cause members of the public or end-user to fall into the opening resulting in leg injuries (bodily	4	4	3	3	3	3	20	All disconnections to be made by a competent person appointed for the specific activity. Lifting operations to be conducted by Competent operator, with assistance of a competent rigger to assist with the rigging and loading of items. Risk Assessment and Method Statements must be available and communicated to team conducting the demobilization. Only roadworthy trucks or vehicles to be used for transportation of items removed from site. Driver must have a valid driver's license specific to the type of vehicle. Truck or vehicle must be inspected before leaving site for any defects, if defects are noted, it must be reported and attended to before driving All trenches and Excavation opened to disconnect services must be closed and compacted to its original state. No open wires, or piping must be left unattended.	- SOP/SWP - Issue-based Risk Assessment - Method Statement - DSTI's - Toolbox talks - Checklists - Appointment letter - Competencies / Driver's license / PDP - Medical Fitness to work - SWL/COC for lifting equipment - CoC - Registration (Electrical Contractor)	4	4	2	2	2	2	16

[illegible]

ACTIVITY (Work to be performed)		POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION							PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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		Unsafe working practices	file not to be maintained on a daily basis this could result in Prohibition notices issued by DoEL. This will result in delay of taking Final Completion									Issue-based Risk Assessment for maintenance works must be available and communicated to the team conducting snags	time																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

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			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
S6-05	Exit Occupational Health and Safety Fitness to work medicals	Unidentified illnesses, injuries or health risks contracted from working on this construction project	4	4	2	2	3	3	18	All employees who conducted construction activities on the project must undergo an exit medical to ensure the employee has not contracted any illnesses or health concerns from working on the project. Records of Exit Medicals must be submitted to DBSA in the copy of the Consolidated Health and Safety file	- Consolidated Health and Safety file - Exit Medicals	3	3	1	1	2	2	12

7. DECLARATION OF ACKNOWLEDGMENT AND COMPLIANCE

I, _____, hereby confirm the following:

- I have read and understood the Draft Baseline Risk Assessment.
- The appointed Construction Health and Safety Agent would still be required to prepare his/her own Baseline Risk Assessment specific to the scope of works once all assessments and survey have been considered.
- I confirm my intention to comply with all relevant legislative requirements.
- I acknowledge and accept the responsibilities and duties assigned to me and confirm my understanding thereof.

This declaration is made and agreed to at _____, on this _____ day of _____, 2026, in the presence of the undersigned witness.

Signature: _____

Date: _____

Witness Name: _____

Witness Signature: _____

Signed on behalf of (TBA) (PROFESSIONAL SERVICE PROVIDER)