Document No	S-BRA-001-00	**HEALTH, SAFETY, ENVIRONMENTAL & QUALITY MANAGEMENT**	DBSA DEVELOPMENT BANK OF SOUTHERN AFRICA Building Africa's Prosperity
Revision	01		
Appointment date	15-Oct-26		

Baseline Risk Assessment

AS PER CONSTRUCTION REGULATION 5(1)(a), 2014
OCCUPATIONAL HEALTH AND SAFETY ACT, NO. 85 OF 1993 (Latest Edition)

ANNEXURE B

TENDER NO. RFP000/2026
APPOINTMENT OF APPOINTMENT OF CONTRACTOR/SFOR THE REFURBISHMENT AND INSTALLATION OF PRESSURE REDUCING VALVES (PRVs) WITHIN THE ROODEPOORT, SOWETO AND ENNERDALE DEPOTS REGIONS OF THE JOHANNESBURG WATER NETWORK

(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 PRINCIPAL CONTRACTOR
(TBA)

Baseline Risk Assessment

AS PER CONSTRUCTION REGULATION 5(1)(a), 2014
OCCUPATIONAL HEALTH AND SAFETY ACT, NO. 85 OF 1993 (Latest Edition)

TABLE OF CONTENTS

1. OBJECTIVE……...3
2. SCOPE……...4
3. ABREVIATIONS AND DEFINITIONS……...5-9
4. RISK METHODOLOGY……10-11
5. RISK ASSESSMENT PROCESS……...12
6. BASELINE RISK ASSESSMENT……..……13-64
   6.1 PROJECT STAGE 5……..…..11-61
   6.2 PROJECT STAGE 6……..…61-64
7. ACCEPTANCE……..…65

Baseline Risk Assessment

AS PER CONSTRUCTION REGULATION 5(1)(a), 2014
OCCUPATIONAL HEALTH AND SAFETY ACT, NO. 85 OF 1993 (Latest Edition)

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 with the planning, procurement and construction activities of the project.

This 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 assessment further aims to identify hazards that may arise throughout the lifecycle of the project, including the design, construction, operation, maintenance and decommissioning phases of the infrastructure.

This risk assessment was also conducted to assist management in identifying training needs in order to concentrate efforts where they are mostly needed.

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

This Baseline Risk Assessment considers the full project lifecycle including project initiation, concept and feasibility, design development, procurement, construction, commissioning and project close-out phases.

The purpose of this assessment is to identify and evaluate potential health, safety, environmental and operational risks that may arise during the planning, design and construction of the infrastructure project.

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:

- 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 ***TENDER NO. RFP000/2026 APPOINTMENT OF APPOINTMENT OF CONTRACTOR/SFOR THE REFURBISHMENT AND INSTALLATION OF PRESSURE REDUCING VALVES (PRVs) WITHIN THE ROODEPOORT, SOWETO AND ENNERDALE DEPOTS REGIONS OF THE JOHANNESBURG WATER NETWORK***

The Scope of works will include the following.

3.2.2 Overview of the works

The 30 PRV and one (1) system valves installations are distributed across three JW depot regions — Roodepoort (12 sites), Soweto (12 sites) and Ennerdale (7 sites) — and comprise a range of valve types, including Grove, Clayton, Baker, Rollseal, Singer, Premier, Hay-day, Phoenix and Seal PRVs, in diameters ranging from 100 mm to 400 mm. Table 6 below summarises the distribution of installations by depot region and indicative scope category; the full site-by-site listing, including PRV type, size, location and expected works at each installation, is provided in the Bill of Quantities.

Depot Region	No. of Sites	Notes
Roodepoort	12	Includes 400 mm PRV/RSV installation at Usuthu & Mbetswa, Chiawelo, and back-to-back 150 mm PRVs at Chris Hani & Nicolas
Soweto	12	Includes replacement of critical system valves at Orlando East Sofasonke and new 200 mm installation at Sagewood & Unity
Ennerdale	7	Includes new chamber construction at Orange Farm Ext 2 and Drieziek Ext 9
Total	31	

. Across the 31 sites, the predominant scope items are:

- complete or refurbished PRV installation with cast slab, ladder and Smartlock security fitting;
- construction or extension of chambers where the existing structure is inadequate or absent;
- replacement of reflux/reverse flow valves (RSVs);
- installation of i2O or advanced flow controllers; and,
- installation of two PRVs configured back-to-back. at two sites with large upstream/downstream pressure differentials

3.3 SCOPE OF WORK & WORK DONE

The scope of works is presented in two categories reflecting the nature of works required at each site: Scope Category A, comprising new/complete PRV installations, and Scope Category B, comprising refurbishment or partial upgrade of existing PRV installations. Both categories would be delivered concurrently, on a site-by-site basis, within each depot-level contract

3.3.1 Scope Category A — New / Complete PRV Installations

3.3.1.1 Civil and Chamber Works

- Site establishment and excavation for new or extended PRV chambers
- Construction of new below-ground chambers at sites where no adequate chamber currently exists (e.g. Brigatyn & Johan; Galena & Veronica Str; Bara Emergency Supply; Orange Farm Ext 2; Drieziek Ext 9)
- Extension of existing chambers to accommodate upgraded or additional PRVs/RSVs (e.g. Strubens Valley Makro PRV; Chris Hani & Nicolas; Poortjie_A)
- Casting of new concrete slabs over chambers
- Supply and installation of galvanised steel access ladders
- Supply and installation of tamper-resistant Smartlock security fittings to all chamber covers/hatches
- Reinstatement of surfaces, kerbing and road-reserve finishes disturbed by the works

3.3.1.2 Mechanical and Pipework

- Supply and installation of new PRVs (replace old Grove, Baker, Rollseal, Premier, Hay-day, Phoenix and Seal types, with 100 mm–400 mm Clayton/ Singer/ Bermad) in accordance with JW's standard installation details
- Supply and installation of System Isolation Valves where specified
- Pipework modifications and tie-ins to existing reticulation, including at sites requiring two PRVs configured back-to-back to manage large upstream/downstream pressure differentials (e.g. Chris Hani & Nicolas: U/S = 13 bar, D/S = 3.5 bar)

3.3.2 Scope Category B — Refurbishment of Existing PRV Installations

3.3.2.1 Mechanical and Valve Scope

- Repair, recommissioning or replacement of existing PRVs where bypassed, seized or otherwise non-operational
- Replacement of Isolation Valves at sites where these were never installed, have failed, or been removed (e.g. Weiller's Farm; Lufhureng Cnr Lekwa & Crocodile)

- Replacement of bypass PRV and insertion of meters where required (e.g. Mofolo South, Nancefield Moroka Rd — 100 mm and 150 mm Meistream meter inserts)
- Replacement of critical system valves at priority sites (e.g. Orlando East Sofasonke Valves)
- Installation of i2O / advanced pressure-modulating controllers and PMZ critical-point GSM loggers to enable remote pressure monitoring and control, including at sites where a controller is the primary intervention (e.g. Diepkloof Reservoir Supply, Chris Hani Rd; Usuthu & Mbetswa reservoir-service controllers)

3.3.2.2 Civil and Structural Scope

- Bracing and stabilisation of existing PRVs within chambers found to be structurally unstable (e.g. Impala & N12 Protea Industrial)
- Casting of new slabs and minor structural repairs to existing chambers
- Installation of Smartlock security fittings and replacement/repair of access ladders at existing installations
- Minor civil works associated with meter and RSV replacements within existing chambers

The detailed, site-by-site scope of works for all 31 listed installations — indicating which scope category and specific works apply at each site — is set out in Appendix I.

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 particular service shall be an Approved Inspection Authority with respect to that service only
Asbestos	- means the following fibrous silicates: ➢ Asbestos actinolite ➢ 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
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- o prepares a design. o checks and approves a design. o 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 o 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 in order to eliminate the risk of falling; and

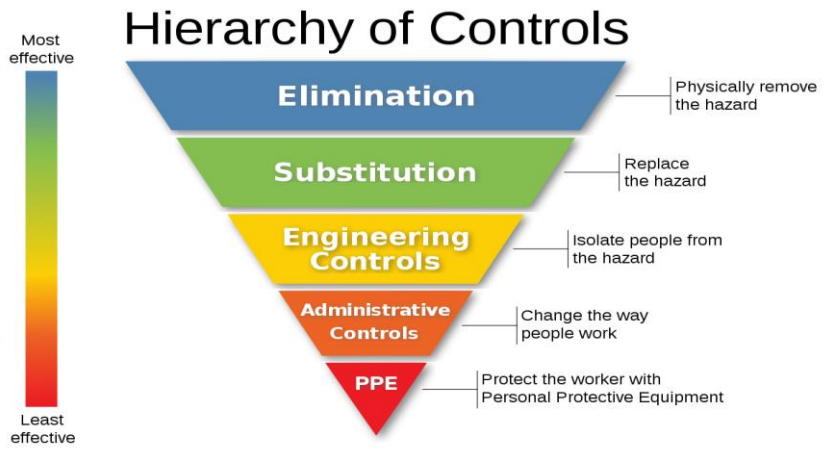
	➢ a rescue plan and procedures.
Fall arrest equipment	- means equipment used to arrest a person in a fall, including personal equipment, a body harness, lanyards, deceleration device, lifelines or similar equipment
Fall prevention equipment	- means equipment used to prevent persons from falling from a fall risk position, including personal equipment, a body harness, lanyards, lifelines, or physical equipment such as guardrails, screens, barricades, anchorages or similar equipment
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 in order 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

Baseline Risk Assessment

AS PER CONSTRUCTION REGULATION 5(1)(a), 2014
OCCUPATIONAL HEALTH AND SAFETY ACT, NO. 85 OF 1993 (Latest Edition)

Risk Assessment	- means a program to determine any risk associated with any hazard at a construction site, in order 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
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.



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

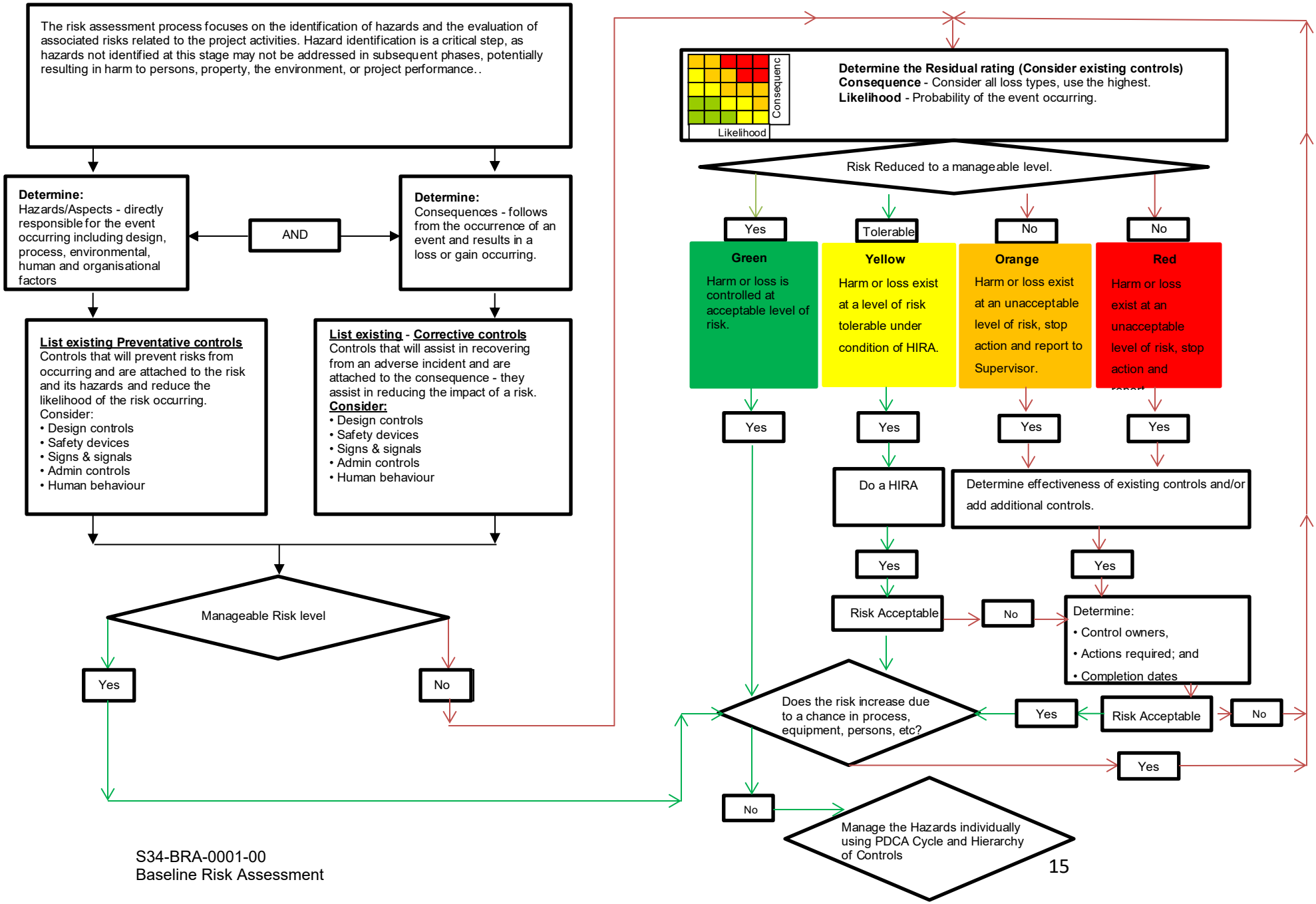
The risk assessment process also supports the application of the hierarchy of controls to eliminate or reduce hazards at source where reasonably practicable.

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]			

5. RISK ASSESSMENT PROCESS



6. BASELINE RISK ASSESSMENT

	ACTIVITY (Work to be performed)	POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION I	C	D	E	P	F	R	PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK I	C	D	E	P	F	RR
Stage 5 – Construction Documentation and Management																			
S5-01	File Approval as per OHS Requirements and Client Specification	Work commencing prior to file being available and approved. No valid registration with COIDA. Expired Documentation (e.g. competencies, equipment load test, medicals, work permits) Documentation not available or approved as per required Client Spec and OHS act.	Non-Conformances issued or Default letters issued could result in termination of non-compliant contractors that would result in project delays or cancelation 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 to the company	1	4	3	2	4	4	18	No Work may commence until the Health and Safety Plan has been approved in accordance with client requirements. Client Health and Safety Specification provided to each Principal Contractor or Contractor. Baseline Risk Assessment provided to each Principal Contractor or Contractor Principal Contractor with valid LOGS (COID) shall 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	• Health and Safety Plan / file approval letter • Copy of Health and Safety Plan • Copy of LOGS • Valid Competencies, appointments, medicals, work permits etc. • Site Establishment plan / layout	1	3	2	2	2	2	12
S5-03	Notifying Department of Employment and Labour of Construction works	Principal Contractor commencing with works without Notifying Department of Employment and Labour	Contravention of the OHS Act and its Regulations could result in fines and work stoppages	1	3	3	3	3	4	17	NOC to be submitted by Principal Contractor at least 7 days before commencement of works to the DoEL.	• Annexure 2 • Proof of submission to DoEL	1	3	2	2	2	3	13
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 to serious injuries, fatalities, inadequate control measures and unsafe working conditions	4	4	4	4	3	3	22	Issue based Risk Assessment must be developed by a competent risk assessment team that includes the risk assessor, construction manager and supervisor, SHE Rep and relevant skilled employees. 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	• Client Health and Safety Specification • Baseline Risk Assessment • Method Statement of Tasks • Risk Assessor competency • Issue based risk assessments • Training / communication records • SOP/SWP • Risk Assessment	4	4	3	3	2	2	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
											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	training							
S5-05	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 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	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 damages. Load / construction materials falling during lift could cause property damage or serious injuries or even fatalities. Fatigued operators could	5	5	4	3	3	4	24	Trucks must be loaded within their safe load capacity in accordance with the manufacturer specifications. 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 oversee all lifting operations. Pre-lift checks to be done on lifting material, and recorded on a Checklist, any deviations must be recorded and reported to Construction manager. Slings and chain blocks to be checked prior	• 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 statement • DSTI • Emergency contact numbers	5	5	3	2	2	2	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						
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR
		establishment area. Theft of material, equipment, and machinery Community unrest	lead to accidents resulting in damage to plant or vehicles and serious injuries or fatalities. Unsafe / uncontrolled lifting could result in load falling that could lead to property damage and serious injuries. Materials / Load falling could result in property damage. Materials / Load falling on employees could lead to serious injuries and even fatalities. Project Interruption and even delays with cost implications								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. Social facilitators to ensure community are aware of Construction work before Site establishment. Only Competent appointed Contractors or Service Providers will be authorized to work on the site. Dust Control measures to be implemented continuously at the site laydown area, watering the areas and roads on site. 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 If it is a live site, provide a separate gate or access to the site. Construction Manager and Supervisors must ensure continuous monitoring and enforcement of all control measures on site								
S5-06	Site Establishment - Site clearing / Grubbing	Dust from plant used to clean and level areas. Poor Visibility Collisions Incompetent operator / not	Excessive dust could result in Occupational illnesses such as hypersensitivity pneumonitis in the surrounding communities and even to all the employees on site.	4	4	3	3	3	3	20	Water Truck to be used to spray working areas in order to suppress dust. Speed limit to be adhered to at all times while clearing the site.	• Operators' Competency • Roadworthy Certificates • Driver's License • PDP • Appointment letters • SOP/SWP • Issue based Risk Assessment	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
		medically fit Unsafe / broken or mobile plant not roadworthy	Accidents causing property damage and Accidents causing serious Injuries or even fatalities. Poor Visibility could cause the operators to collide with surrounding property. Operator not competent or medically fit operating plant could cause serious accidents leading to property damage and even fatalities. Operating plant that is unsafe or not roadworthy could cause accidents that may result in serious disabling injuries or even fatalities Colliding with property or other plant or vehicles will result in financial losses and delays in production								Continuous Supervision must be maintained with appointed flag persons assisting the operators while moving on site. Workers to stand clear from moving machinery when clearing and grubbing takes place. Only competent operators with valid competency to be appointed with a valid Occupational Health Medical (Annexure 3) will be allowed to operate mobile plant. Pre-start inspections to be conducted, records to be kept in safety file. All operators must be trained in the safe working/operating procedures and the issue-based Risk Assessment Only construction vehicles and mobile plant that are roadworthy (records must be available) may be used for construction activities and for transporting materials etc. Construction Manager and Supervisors must ensure continuous monitoring and enforcement of all control measures on site	• Medical Certificate of Fitness • Checklist • DSTI's							
S5-07	Site Establishment - Installing Temporary services (Electrical, Plumbing)	Incompetent Electrical / Plumbing contractor installing temporary services. Damages to underground services or surrounding services Incorrect Location of Services	Damages to underground services could cause a delay in production or commencement of the project. Damages to underground services could also affect surrounding areas	3	3	3	3	4	4	20	All electrical installations must be carried out by a competent appointed person and COC's must be obtained where required. 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	• COC • Competencies / Registration • Underground services report / drawings • SOP/SWP • Issue Based Risk Assessment • DSTI; s • CoC/CoA	3	3	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
		Environmental contamination	services such as electricity and water. Installing services at 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								before commencing with works. Competent Plumbers must ensure that all fittings and plumbing installations are properly secured. Plumbing Contractor to issue CoC / CoA upon completion	• Medical Certificate of Fitness							
S5-08	**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 employee being electrocuted. Employees exposed to manual excavating for long periods could lead to minor to moderate back injuries. The use of unsafe or damaged hand tools could cause head, bodily and hand injuries. Employees exposed to working long periods of	4	4	3	3	3	4	21	Approved Drawings must be utilized to identify existing services. All Excavation work must be supervised by a competent person appointed. Employees must be trained in the ergonomics safe working procedure and Risk Assessment. Employees must 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. 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	• 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

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
			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								Water truck to be used daily or as per issue-based risk assessment to spray all roads with water to suppress the dust								
S5-09	**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 edge of an open trench / excavation. Operator intoxicated. Unsuitable ground conditions for excavation Dust generation	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 damages and even serious injuries and/ or fatalities to surrounding employees. The use of unsafe damaged mobile plant / machinery used could	5	5	4	3	3	3	23	Traffic control measures to be implemented 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 a supervisor. Service / maintenance schedule / history must be available for the specific machinery. All operators must be breathalyzed daily to test if they are intoxicated.	• Issue-based Risk Assessment • Method Statement • SOP/SWP • Appointment letters • Competency for operators, excavation supervisor • Underground services drawings • Checklists • Signages • DSTI's • PTO • Breathalyzer records / register • Medical Certificate of Fitness	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
	Excessive noise generation (especially during rock breaking) Open Excavations left open or unattended. Damage to existing services during excavations	result in property damage and delays in production. 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. 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. Intoxicated Operator operating mobile plant / machinery could result in accidents, property damages and even serious injuries and/ or 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								Before excavation work begins the stability of the ground must be evaluated by a competent person appointed (Excavation Supervisor). Dust suppression methods to be used when required such as water truck spraying area Operators must be issued with the required PPE such as dust masks, earplugs if required. Scanning devices to be used to identify underground services prior excavation works, in order to prevent cable damage and possible electrocution. 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 shall not 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	RR
			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 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	5	4	4	3	3	3	22	Excavations must be 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 for the minimum required duration and must not be left open unnecessarily and unattended. 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
			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. Employees not understanding the safe procedure to lift (Ergonomics) materials could result in injuries such as back injury or materials to fall resulting in property damages. 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	4	3	3	1	4	5	20	Manual handling / lifting Safe work Procedure and Risk Assessment must 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 must ensure materials, equipment and tools are secured during offloading activities. 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	3	2	2	1	3	4	15
S5-12	Lifting operations (Loading and offloading of materials) - Mobile Crane / Tower Crane and or truck crane lifting operations	Operating of unsafe / Defective mobile plant Incompetent Operator or not medically fit operating lifting machinery Severe weather conditions such as strong winds, rain and thunderstorms	Operating of defective lifting plant could result in excessive carbon emissions, oil leaks that could result in environmental contamination. Incompetent Operator will not be able to identify the SLL or the maximum	5	4	4	3	3	3	22	Mobile Plant must be inspected before use by appointed person, all deviations must be recorded on the checklist and reported to the Construction manager. Service records must be available. Only operators that has been appointed with a valid competency and medical certificate shall be permitted to operate plant.	• Safe Workload Certificate or Certificate of Compliance for Lifting equipment • Traffic Management Plan • Lifting Plan • Appointment letters • Competencies – Operators, truck driver, flagperson, riggers	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
		Operations near overhead powerlines Visitors / employees or members from public entering the lift zone	loading capacity resulting in lifting machinery toppling over. Operator with poor vision or hearing could result in the unsafe movement of a load resulting in load striking surrounding infrastructure. 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. Striking of overhead power lines could result in electrocution of operator and or rigger. Striking overhead powerline could cause cable and pole to fall over resulting in property damage and loss of production in the specific area that may also result in legal liability claims. Unauthorized members of public could be struck by moving load resulting in serious injuries								No lifting or crane operation during strong winds, thunderstorms or when it is raining. Safe Working Procedure and Risk Assessment for working near powerline must be communicated to all relevant parties. All lifting operations must be supervised by an appointed competent rigger. Guide ropes must be used for all lifting operations. Lifting area must be closed off to prevent other workers or members of public entering this area. No other work 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	• Pre-lift checklists • Safe Working Procedures • Issue based risk assessment • Approved method statement • DSTI's							
S5-13	Lifting operations (Loading and offloading of	Use of unsafe / damaged Lifting equipment such as slings, ropes and chains	Using unsafe damaged lifting tackle could result in load to fall when tackle	4	3	3	2	4	4	20	All lifting gear/ tackle must be inspected before use, deviations must be recorded on	• Valid SWL / CoC • Checklist • Rigger Competency	3	2	2	2	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
	materials) - Lifting Gear used for Lifting operations	Rigging done by incompetent person or object not correctly hooked	breaks or snaps. Causing major property damages and financial costs to the company Incorrect rigging could cause load to fall when lifting, lifting tackle to break resulting in serious injuries, possible fatalities, and property damages								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	• Rigger appointment • SOP/SWP • Issue-based risk assessment • DSTI's							
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 (Cannabis) or other drugs. Failure to inspect vehicles	The operation of unsafe / defective vehicles or plant could result in financial costs 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 causing multiple accidents. Unattended vehicles or plant could result in theft leading to financial costs. Intoxicated operators could result in uncontrolled driving causing multiple	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 must be transported to and from work in a safe manner, never to be transported 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. 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	• 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
			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								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. Operators must adhere to prescribed speed limits both on site and on public roads. All drivers must be appointed and must have a valid driver's license and PDP/Competency certificate. Vehicles or plant not to exceed the prescribed weight limit of the plant or vehicle. Construction Vehicle to be Fitted with adequate signaling devices to make movement safe including reversing; Fitted with two head and two taillights that are in good working condition whilst operating under poor visibility conditions. No loose tools, material etcetera is allowed in the driver and/or operators compartment/cabin nor in the compartment in which any other persons are transported. The construction site must be organized to facilitate the movement of construction vehicles and mobile plant in such a manner that pedestrians and other vehicles are not endangered. Traffic routes to be suitable, sufficient in number and adequately demarcated.							
S5-15	Hot Work Activities – Grinding, Cutting, Welding, Flame Cutting, drilling and soldering (Including Gas and Electrical cutting and welding	Employees not trained to operate machinery. Unsafe/Damaged tools and equipment used – No Flashback arrestors – No Guards on machinery.	Untrained or incompetent employees operating machinery or conducting hot work activities could lead to serious injuries and even a fatality.	5	5	4	3	4	4	25	Only competent workers with the required skills and knowledge shall be appointed to operate such machinery like grinders, welding machines, cutting torch etc.	• Training records / competencies • SOP/SWP • Issue based Risk Assessment • Method Statements • Medicals fitness to work	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						
			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
	Employees making contact with hot surfaces. Uncontrolled Sparks, open flames or hot metals causing fire. Incorrect storage of Gas Cylinders Operators not wearing the required PPE. No Fire prevention controls available. Hot work area not closed off / barricaded / no welding screens and no warning signages displayed within this area. Incorrect fittings / attachments or component used when operating machinery. Overhead Hot work operations No firefighting equipment or fire fighter available Flammable and explosive chemicals stored near hot work area.	Using tools and equipment that are damaged or unsafe or does not have the required guards in place could lead to an accident when cutting or grinding resulting in injuries to bodily parts. Making contact with hot surfaces when or after conducting hot works can lead to serious burns. Uncontrolled sparks could cause a fire resulting in property damages and harm to the environment. Unsafe storage of gas cylinders could cause cylinders to fall over causing gas leaks and a possibility of explosion resulting in serious damages to property and resulting in multiple fatalities. Conducting hot work 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								Gas cylinders must be safely stored, secured, in an upright position and kept in a cool, designated and locked in storeroom. All hot work activities must be conducted in an enclosed, controlled 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. All equipment used for Hot works must be inspected before use, all findings to be recorded on a checklist and any deviation must be recorded and reported to a supervisor, all guards must be in place and correct blades/ discs or drill bits to be used. If conducting hot works near flammable materials or the bush, spark containment must be used, for example fire blankets, welding screens and wetting the areas with water. Fire extinguishers must be placed near areas where hot works are conducted, and a trained competent appointed fire fighter to be available onsite. SABS approved PPE to be issued and used on site. Task specific PPE is required for Hot work activities, for example welding helmet, face shield when cutting, safety glasses, dust masks, welding apron etc. 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.	• Checklists • Signages • Appointment letter • 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
		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 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								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								

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
S5-16	Scaffolding – Scaffold erection, dismantling and Working from Scaffold platform	Improper erecting of scaffold. Not as per SANS 10085:2004 Employees not trained on erecting and dismantling of scaffold. Erecting scaffold on uneven or unstable ground Scaffold materials falling while erecting or dismantling. Unsafe stacking and storage of scaffold materials Construction materials or tools falling from scaffold. No Safe access to platform Scaffold erected near overhead powerlines. Working in inclement weather such as strong winds, rain and thunderstorms No Signages available to indicate scaffold is safe or unsafe to use. Employees falling from scaffold. Scaffold collapsing Fall Protection Equipment not available or damaged. Employees working at height not medically fit to work at heights	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. Scaffold collapse could also cause scaffold erectors to fall from height resulting in serious injuries or even a fatality. 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. Erecting scaffold on uneven surfaces could cause scaffold to fall over, resulting in property damage. Unsafe stacking of scaffold components could cause pinch point injuries when stacked materials fall over. Tools, equipment or materials falling from height could fall on employees below the scaffold resulting in	5	5	3	2	4	4	23	Competent person with valid competency must be appointed to erect scaffolding in accordance with SANS 10085 Scaffold must be inspected by a competent person (valid Competency) whom has been appointed every time before use. Scaffold must be inspected before use, findings must be recorded on a checklist 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. No Scaffold works allowed in inclement weather or near overhead powerlines. Weather conditions must be monitored by Health and Safety resource and Construction Manager 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 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. All safety harnesses must be inspected before use, all findings must be recorded on a checklist, any deviations must be recorded and reported to supervisor. COC for harness must be available in safety file. All scaffold materials must be stacked neatly in a safe manner in a demarcated storage area	• SANS Standards 10085-1:2004 • Issue-based risk assessment • Method Statement • SOP/SWP • Checklists • Appointment letter – Scaffold Erectors, Scaffold Inspectors, Scaffold Supervisor • Competencies • Work at Height training certificate • Medical fitness to work at height • SWL / CoC for fall protection equipment • Fall Protection Plan • DSTI's	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						
			I	C	D	E	P	F	R			I	C	D	E	P	F	RR
		serious head or bodily injuries. 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. Employees not medically fit to work at height could cause employee to experience blood pressure issues that could result in the employee fainting/collapsing.								Employees must be trained on the Issue Based Risk Assessment, Safe Work Procedure and the Fall Protection Plan Workers must be trained on the usage of safety harnesses and working at height. (Proof of competency must be available) All workers working on scaffold must be medically fit (proof of valid medical must be available in the form of annexure 3. Medical must include fit for work at height.								

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
			Use of unsafe or damaged fall protection equipment could cause employees to fall resulting in serious disabling injuries or even a fatality																
S5-17	Work at Height activities – Working on edge of building or near openings	Construction materials and tools falling from edge. Employees, Visitors or Management falling from Edge or into opening. No Edge Protection available	Tools and equipment falling from height (edge) could fall on top of workers below resulting in serious injuries to the head and body. Falling tools and equipment could lead to damages to structures below or damages to the tools and equipment resulting in financial costs. Employee, Visitors or Management falling from Edge or into opening could result in a fatality or serious disabling injuries.	5	5	3	2	4	4	23	Comprehensive fall protection plan must be 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. Edge Protection (Solid) to be installed and inspected by competent person (No Barricading net or tape shall be permitted) Warning Signages to be posted to inform public and employees regarding the open edges. All construction materials, tools and equipment to be stacked at least 1.5m-2m away from an open edge	• 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 not fully boarded (Platform) Trestle platform not secured. Trestle platform damaged / bent or unsafe to use. Employees working from fully extended Trestle base.	Trestle used on uneven / unstable surface could cause trestle to fall over while employees are working from it, this could result in lost time and even disabling injuries Trestle used not fully boarded could cause employees working from trestle to fall due to the small space to work from.	4	3	4	2	4	4	21	All trestles and their components must be inspected before use and findings must be recorded on a checklist. Trestles used must be fully boarded that have been secured to prevent movement. Workers shall not be permitted to work from trestle where the platform is fully extended. Employees must be trained on the Safe Working Procedures and Issue based Risk Assessment for trestle works No tools or construction materials to be left unattended on the trestle	• SANS1854:2023 • SOP/SWP • DSTI's • Checklist • Signages • Work at Height competency certificate • Medical Fitness to work • Issue-based Risk Assessment • Fall Protection Plan	3	2	3	2	3	3	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
		Workers and tools falling from trestle platform. Employee working on trestle not medically fit to work at height	Trestle platform / boards not secured could cause employees or materials to fall from trestle when moving or conducting activities Damaged or bent platform could cause employees, tools or materials to fall Employees working from fully extended trestle platform could cause trestle platform to fall over Employees falling from trestle could cause serious injuries or even disabling injuries								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 1854 standards All work activities conducted using trestles must be carried out under supervision								
S5-19	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. Incorrect ladders used for specific activities. Employee falling from ladder. 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	Unsafe or damaged ladders used could cause ladder / rugs to break when accessing or descending the ladder resulting in the employee to fall from the ladder Incorrect ladders used when accessing a 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.	4	3	3	2	4	4	20	No Self-made ladders shall be permitted to be used All ladders to be inspected before use. Findings to be recorded on a checklist. Employees working from ladders must be trained on the applicable Issue Based Risk Assessment and Safe working procedure If ladders in use 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.	• 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

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
			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								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								
S5-20	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	Employee 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 not medically fit could cause drowsiness, dizziness or even blurred vision that could result in the employee collapsing. 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.	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 may commence during inclement weather. Works must be stopped until declared safe. All Fall prevention / fall protection equipment must be inspected before use; all findings 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.	• 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					
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR
			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																
S5-21	Hazardous Chemical Agents – Handling and storage of HCA and flammable materials	Improper storage of chemicals, transportation, and handling Spilled chemical substances. Ingesting, inhaling or Eye / skin contact with HCS. Employees not trained to work with or handle HCA. Employees not issued with specific PPE to work with and handle HCA. Fire or Explosion caused by a source of ignition. Lack of warning signages at HCA store Unlabeled Containers	Unsafe stacking, handling or transporting of chemicals could cause stack to fall over resulting in spillages. Spilled Chemicals could result in soil contamination and loss of product that result in financial costs. Ingesting, inhaling or eye / skin contact could cause nausea, dizziness, skin irritation or even short-term vision impairment. Employees not trained on HCA could result in serious injuries or harm to health. Employees not issued with the correct PPE could cause employees being exposed to skin contact, fume inhalation resulting in harm to health.	3	4	4	4	3	3	21	The principal contractor to ensure that: ➢ No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapors being present unless adequate precautions is taken. ➢ Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage, room or bunded area that is kept locked with consistent access control measures in place and sufficient firefighting equipment installed and fire prevention methods practiced for example proper housekeeping. ➢ Containers (including empty containers) to be kept closed to prevent fumes/vapors from escaping and accumulating in low lying areas. All flammable materials / containers must be clearly marked/labelled All employees must be trained on applicable Risk Assessments, Safe working Procedures and MSDS's/SDS's on the HCA used on site. Employees must be issued with the task specific PPE to handle and use HCA.	• Gas test results • SOP/SWP • Issue-based Risk Assessment • MSDS/SDS • Appointment letter • Signages • Checklists • PrDP" D" Certificate	2	3	3	3	2	2	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
			Fire / spark or any source of ignition near HCA could cause a fire and even an explosion resulting in serious injuries, even fatalities and damages to property. P No Warning signages posted could cause employees to be unaware of HCA in certain areas that might lead to Injuries, Fire or even explosions. Unlabeled containers could cause employees to be unaware of HCA resulting in fires, explosion or even consumption of chemicals that could have sever health problems								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 near overhead powerlines	Sagging KV line Roof indining near the KV line 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 unable to identify overhead powerlines near work activities could cause 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	5	5	4	3	3	3	23	Ensure Mobile Plant cab is fitted with insulators to prevent the risk of the operator being electrocuted. 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. Safe working distances from overhead powerlines must be determined by the relevant authority (e.g. Eskom), and all	• SOP/SWP • Issue-based Risk Assessment • Competencies • DSTI's • PTO's	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
			powerlines could cause operators to be electrocuted if cab is not fitted with insulators.								affected employees must be informed of associated hazards and risks 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.								
S5-23	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 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	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. - 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	• 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
			being unable to procure new tools								- 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 start 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 communicated to those operating and exposed to hazards when using portable electrical tools								
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.	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	• Approval Letter • Issue-based Risk Assessment • SOP/SWP • Appointment letter • Working at night procedure / Method	4	3	2	2	2	2	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
			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								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	Statement • Medical fitness to work • Checklist							
S5-25	Lack of communication between various parties involved.	Instructions not adequately followed through Information not transmitted as supposed to Schedule slippage due to rework	Unable to identify instructions or delays could lead to loss of production Information not transmitted to the relevant parties could result in loss of information	1	2	2	2	4	4	15	A Structured communication system must be Implemented and maintained between various relevant parties involved. Site meetings must be conducted on set intervals including integration between various parties to ensure coordination. Minutes of meeting to be kept for record of discussions	• Minutes of meetings • Communication protocol/policy/procedure • Site attendance registers	1	2	2	2	2	2	11
S5-26	Temporary structure (Temporary works) – Formwork	Inadequate designs Incompetent formwork erectors and inspectors 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	Poor Temporary designs could cause structures to collapse resulting in multiple fatalities Hand and finger injuries from being pinched when installing props Employees falling from heights could result in serious bodily injuries, disability and even fatality Collapse of structures could result in financial losses due to loss of production, damages to	5	5	4	3	3	4	24	A Principal contractor must 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. Temporary works must be erected and carried out by a competent person. 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.	• 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

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
		Medically unfit for work at height	property and surrounding facilities Employees not medically fit to work at height could result in fainting, dizziness or even a seizure that could cause serious bodily injuries, disabling or even a fatality if employee fell from height								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. 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 handling and lifting of rebar at ground level and to elevated level. Transportation of rebar on trailers Sharp & pointed objects	Manual lifting and handling of heavy steel reinforcing could cause employees to lift with poor ergonomics resulting in back strains Unprotected edges of steel reinforcing could	3	2	2	2	3	3	15	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	• SOP/SWP • Issue-based Risk Assessment • Checklist • PPE issue register • Ergonomics training • Toolbox talks • DSTI's	2	2	2	1	2	3	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						
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR
		Cutting of Rebar - causing sparks and fire Use of unsafe or damaged pliers Handling of steel rods or reinforcing without the required hand protection	cause cuts to the body of employees when walking past or handling the steel Handling of steel rods or reinforcing when lifting and moving materials could cause pinch points leading to injuries to hands and fingers The use of unsafe or damaged handtools could result in hand and finger injuries Cutting of steel rods with a grinder could cause heat exposure leading to burns to hands Cutting of steel with grinder could cause debris to cause damage to eyes of the operator or surroundings employees								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.								
S5-28	Limited resources to conduct all task	Contractual non-compliance Schedule and cost over run on project	Delays in the project could result in the PC not to achieve completion in time resulting in penalties – Financial Loss 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	Client to ensure that contractor is well aware of current scope definition as well as the requirements stipulated in the tender specifications. 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	• Approved Programme of works • Issue-based Risk Assessment • 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	4	3	3	3	3	3	19	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	3	2	2	2	2	3	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
	Stacking & Storage area not identified and demarcated Pinch Points Environmental contamination from spillages Snakes No clear walkways at stacking and storage areas Unauthorized entry Poor waste removal Unstable Aggregate or Sand	resulting in serious injuries and even fatalities when employees are trapped underneath the stack. Not wearing the required PPE when stacking of materials could result in pinch point injuries to hands and fingers HCS not sealed and not stored in a bunded 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 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								Stacking and storage areas to be barricaded to prevent unauthorized entry. Signages must be placed at designated area All contaminated ground must be removed and disposed of at a registered waste facility. Waste Disposal must be available 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. All walkways at stacking and storage area must be kept clean and free from tripping hazards Waste must be removed on a regular basis to a registered waste facility, proof must be kept in the safety file on site. Housekeeping on site must be done on a daily basis, all rubble must be removed and placed at 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	• DSTI's • Toolbox talks • Stacking Procedure • Appointment letter • Signages							

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
											falling from overhead or off the stack and no items may overhang);									
S5-30	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 treatment 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 property damaged. No firefighting equipment available on site could cause a fire to become uncontrolled resulting in serious injuries, property damage or even multiple fatalities	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 establish 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 employees with them. Emergency evacuation points must be available, and signage displayed **First - Aid** The principal contractor to provide first-aid equipment and has qualified first-aider(s) on site as required by General Safety Regulation 3 of the OHSACT. The contingency plan of the principal contractor to include arrangements for the speedy and timeous transportation of injured and/or ill person(s) to a medical facility or getting emergency medical support to person(s) who may require it. The principal contractor to have firm arrangements with his contractors in place regarding the responsibility of these	• 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	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
											contractor's first-aid arrangements as well as treatment of injured and/or ill employees. **Fire Prevention and Protection** The principal contractor to ensure that a) Sufficient and suitable storage of flammables is provided. b) employees are trained in the use of the firefighting equipment and know how to attempt to extinguish a fire; (these employees must be appointed and proof of competency to be available on site. c) A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies. d) Employees are informed regarding emergency evacuation procedures and escape routes this must be included in the induction of all workers and visitors. e) Emergency escape routes are always kept 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	Public gaining access to the construction site. Theft Vandalism	Unauthorized members or children entering the construction site could result in serious injuries and even fatality if children are unattended. Unsecured Construction site could cause	4	3	4	2	3	3	19	Principal contractor to ensure the project is always secure. Access control to be maintained and no unauthorized entry to be permitted to the project. 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	• Site Rules posted • Signages	3	2	3	2	2	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
			materials, equipment and machinery to be stolen or damaged during strikes resulting in time delays and financial losses								are attended to prior vacating the site. 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 Warning Signages must be posted to inform the community of hazards and risks								
S5-32	Ablution and welfare facilities	Inadequate provision of toilet facilities for each sex No hand washing stations available No secured area for each sex to change clothing (Changing area) No sheltered eating area with tables and chairs provided Poor Hygiene standards Poor ergonomically designed facilities No safe to drink water available	Insufficient toilet facilities result in overuse of existing facilities leading to unhygienic conditions that could cause disease transmission to all employees on site. Not providing toilet facilities for each sex is a legal offence and could result in DoEL to issue sanctions, fines or even site closure Poor designed or provided ergonomically toilet facilities could cause injuries to employees such as trip and falls resulting in bodily injuries Drinking of unsafe water could lead to various health problems, including diarrheal diseases, bacterial infections, and even long-term health issues like cancer	3	3	3	2	3	3	18	Principal Contractor to provide toilets for each sex as required in terms of the National Building Regulations and Construction Regulation 30. Chemical toilets are allowed only if they are cleaned on a regular basis by registered contracted company. Toilets must be 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 Toilets must be provided for each sex. Toilets must be enclosed, lockable to provide adequate privacy. Signages must be posted to indicate the sex for each of the toilets. Daily inspections to be done to ensure toilets are cleaned on a daily Handwashing stations must be provided near toilet facilities with soap, clean water (running water) and drying materials such as towels. Drinking water must be made available to all employees, water must be regularly tested and monitored for any contaminations. Signages must be posted at areas where drinking water is available. All drinking water bottles must be labelled "drink water" An eating area must be provided for the	• Checklists • Waste Disposal Certificates • Issue-based Risk Assessment • Signages	2	2	2	2	2	3	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
											employees sheltering them from the sun, wind and rain. Chairs and Tables must be made available.									
S5-33	Concrete Works – Concrete Mixing and Pouring (Manually and Mixer) and use of Concrete Pump	Concrete spillages Use of hand tool Oil spillages Cement dust generation (Silica) Incompetent concrete mixer operators Concrete mixer operated without guards in place Miscommunication between operator and flagman Mixer operating near excavation Incompetent Concrete Pump Operator Unsafe operation or control of Concrete Pump - Hoses / pipes moving around uncontrolled Inhaling of Cement dust and skin contact with wet cement Incompetent or intoxicated truck driver Concrete Pump Blockages Concrete mixer truck unable to offload in time (Suppliers) Noise from Concrete mixer	Concrete spillages could cause environmental pollution, contaminating the environment and surrounding area. Polluting the environment could result in poor water quality from underground water resources Inhaling of cement dust could have short term effect such as nose and throat irritations. Long term exposure to cement dust could result in asthma, silicosis and scarring of the lungs. Oil spillages from concrete trucks or pump trucks could cause environmental pollution, contaminating the environment leading to water contamination Concrete mixer operated by incompetent person could result in serious injuries to arms and hands if safe procedure is not followed Operating concrete mixer without protective guard in place can result in serious hand and finger injuries	4	4	4	4	3	3	22	Concrete mixers to be regularly serviced in order to prevent breakdown leading to oil spillages. Spot checks to be done prior each shift. All hand tools to be inspected by a competent person. When concrete is being poured, concrete spillages are to be prevented and plastic sheet to be placed on the ground when spillages cannot be prevented. Concrete washout area to be created where concrete run off will be discharged. 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. Operators to be well trained and no unauthorized employees must operate the mixer. Only Competent / Appointed operator to operate concrete Pump, Ready-mix Truck. Competency must be valid and available 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. Concrete ready-mix truck, Concrete Pump	• Concrete truck / concrete pump truck service history presented • SOP/SWP • Issue-based Risk Assessments • Method Statement • Competencies • Appointment letters • Toolbox talks • Checklists • Medical fitness to work	3	3	3	3	2	3	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
		Concrete mixer operated near open trenches and excavation could cause trenches or excavation walls to collapse due to the vibrations Noise exposure from operating concrete mixer for long periods could result in long-term / permanent hearing loss Poor communication between flagperson / supervisor and concrete trucks could cause accidents on site resulting in property damages 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								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. Issue-based risk assessment and safe working procedures for all activities must be developed and communicated to all relevant employees 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. All plant or equipment used for concrete 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								

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
			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 Substandard equipment Poor cable management Incompetent Installer Unauthorized Access to DB's Fires and Explosions Improper grounding Contact with live open wires Overloads and short circuits	Unsafe electrical installations, 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 Improper grounding could cause electrical current to take unintended paths through metal objects, if contact is made with this metal the person will be shocked and can even be electrocuted Poor cable management could result in tripping and falling resulting in bodily injuries Unprotected or open wires could cause sparks leading to electrical fire. This could result in major property damage if buildings are burned down Overloading of electrical installations could cause	5	5	4	3	3	4	24	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 thereof. - Electrical installations and -machinery are sufficiently robust to withstand normal working conditions on site. - 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. 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 be established and proof of keys 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	• Issue-based Risk Assessment • SOP/SWP • Method Statement • Wireman's License • Competencies • Appointment letter • Medical Fitness to work • DSTI's • Checklists • LOTO procedures	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
			wires to generate heat resulting in fires. This can also cause the continues tripping of electrical supply that would result in production delays and financial costs to repair Incompetent person conducting electrical installation will have inadequate knowledge of electrical codes, improper installation techniques, and failure to follow safety protocols, this could result in serious injuries even fatalities								with installations All electrical components / parts to be used must be SABS approved.								
S5-36	Demolition work – Demolishing of existing structures (Infrastructure)	No Competent person appointed to supervise all demolition of building works Unsafe removal / demolition of walls / structures Dust Falling debris / bricks / walls Public entering demolition work area Incompetent TLB or excavator operator TLB or excavator used to demolish structure not in good condition Structural integrity compromised of other existing	Supervision by incompetent person could cause team and supervisor to be unable to identify hazard and risks associated with demolition, this could result in serious injuries and even fatalities Unsafe removal or breaking of walls or supporting walls could cause building to collapse unplanned, this could result in serious damages to mobile plant, surrounding building and serious injuries to operators or surrounding employees. If employees are crushed or trapped when a wall falls over	5	5	5	4	3	3	25	All Demolition work to be carried out under the supervision of a competent person who has been appointed in writing. A detailed structural engineering survey of the structure to be demolished to be carried out and a method statement on the procedure to be followed in demolishing the structure to be developed by a competent person, before any demolition to be commenced. As demolishing progresses the structural integrity of the structure to be checked at intervals as determined in the method statement by the appointed competent person to prevent any premature or uncontrolled collapse Steps to be taken to ensure that where a structure is being demolished: - precautions are taken to prevent the collapse of the structure when any frame,	• SOP/SWP • Issue-based Risk Assessment • Method Statement • DSTI's • Checklists • Competencies • Appointment letter • Signages • Toolbox talks • Medical fitness to work • Inductions • Structural engineer to approval/survey to demolish	4	4	3	3	2	2	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
	buildings Excessive Noise	this could result in fatalities Excessive exposure to dust can lead to various health problems, including respiratory illnesses like asthma, COPD, and silicosis, as well as skin irritation and, in severe cases, cancer Falling of debris or bricks could cause serious injuries if surrounding employees are struck by it. This could result in head and bodily injuries Unauthorized visitors or children entering demolition area could cause them not to understand the hazards and risks and could result in serious injuries, even fatalities Incompetent operators, operating excavators or TLB's could cause unsafe movement and breaking / demolishing of other structures. This could result in serious injuries and have a financial implication if incorrect building/walls are demolished. Demolishing or changing the structural integrity of other walls or buildings								support or reinforcement is cut or removed. - no employee is required or allowed to work under unsupported overhanging material; and - the stability of an adjacent building, must not be compromised. - Demolition area to be barricaded with warning signages posted to warn and prevent the public and the employees to enter the work area - All employees, operators working inside the demarcated demolition area must wear the required PPE - The location and nature of any existing services such as water, electricity, gas etcetera to be established before any demolition is commenced with and any service that may be affected by the demolition must be protected and made safe for employees and other persons. Demolished structure / debris to be removed from site All tools, equipment or plant used to demolish a structure must be inspected before use and findings recorded on a checklist. Method Statement and Issue based Risk Assessment must be communicated to all relevant parties Employees, operators or surrounding workers exposed to excessive noise and vibration should take regular breaks and drink enough water Only competent operators appointed to operate plant or machinery to demolish structures. Operators must have a valid medical fitness to work									

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
			not to be demolished could cause them to fall over resulting in property damages, financial costs and serious injuries, even fatalities Excessive exposure to continues noise could cause short- and long-term hearing loss								Dust suppression should take place through water trucks spraying all dusty areas. Issue-based Risk assessment must be done by competent risk assessor, this risk assessment, method statement and SOP/SWP must be communicated to the demolition team. All employees must be medically fit to work, with a valid medical certificate and annexure 3. Exit medicals must be done once the trade team are done with their scope to ensure employees did not obtain any health issues from working on this project								
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	• 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						
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR
											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. 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 All bee hives should not be disturbed in their natural environment, if distrusting of construction works, a beekeeper must be contacted to remove the hive in a safe manner to relocate the beehive. Do not hit or remove the hives yourself. All visitors and employees on site must be briefed in emergency, first aid procedures and health issues prior to work/visit on site.									
S5-39	Working in Inclement weather	Exposed to thunderstorms / lightning Strong winds Rain Sand / dust storms Extreme hot conditions	Exposure to working in thunderstorms / lightning outdoors could cause the employee to be struck by the lightning resulting in cardiac arrest, respiratory arrest, loss of consciousness, and burns. Long-term effects may include neurological damage, cognitive impairments, and chronic pain. This could also result in fatality. Exposure to working in very hot conditions /	5	4	3	2	3	3	20	The principal contractor to implement an early warning system to identify inclement weather and to prevent such weather from posing negative implications for the safety of employees and other persons visiting The early warning system too, as a minimum. Provide for the following: **- Construction work done during electrical storms** a) The principal contractor to ensure that all employees are removed from heights and all employees are as safe as possible, in inclement weather conditions. b) No work to be allowed on the construction site during electric storms where employees cannot be protected from	• Toolbox Talks • DSTI's • PTO • Medical fitness to work • SOP/SWP • Issue-based Risk Assessment • Wind anemometer • Lightning alarm	3	2	2	2	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
		temperatures could cause heat exhaustion – fatigue, dizziness, nausea, headache, moist skin. Heat stroke – hot dry skin, confusion, convulsions and eventual loss of consciousness. This can result in a fatality if not detected at an early stage 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								it. Protection involves: - eating area fitted with a lightning mast - workshops - inside buildings c) No work to be allowed in electrical storms on top of open structural steel, even when earthed. d) No work to be allowed on height where the lightning is within a 10-kilometer radius. e) After inclement weather on-site risk assessments to be reviewed to include wet conditions. **- Crane operations during inclement weather** a) Crane operations to stop during lightning within a 10-kilometer radius and wind above 28 km/h, crane driver will not be allowed to leave the crane with the booms extended. b) Lifting operation to stop during rain, rigging and hand lifts. c) Booms on all cranes to be retracted. d) All rigging operations to stop and employees will be removed from site. - **Construction work done during rain** a) During rainy conditions all work on steel structures to stop. b) No electrical tools to be used during rainy weather in open areas. c) If necessary, work only to be done in waterproof areas where there is a zero risk for electrocution. **- Scaffolding activities during inclement weather conditions** a) During inclement weather only limited scaffolding actions to be permitted i.e. erecting and dismantling activities. b) When necessary to allow scaffolding activities to continue during abnormal equipment and process conditions so not to impair personnel safety or pose an								

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
											environmental risk. In such cases, scaffolding activities may continue with the provision that the relevant team ensures that a comprehensive risk assessment is done, whilst considering both work and weather conditions. c) All scaffold users to: - Ensure that scaffolding is inspected immediately after inclement weather conditions. - Ensure that the risks associated with working at heights during inclement weather are identified and reasonably mitigated. - Be cautious of slip/trip hazards when performing activities during inclement weather.								
S5-40	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	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 becoming 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	5	5	3	2	3	3	21	Principal Contractor to ensure confined space works comply to 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 forced to be ventilated by means of a blower for at least 15 minutes where after that 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	• 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	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
	activities in confined spaces. Employees not medically fit Poor visibility	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 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								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 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									

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
											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 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)									
S5-41	Public health & safety and Pedestrians access to site	Uncontrolled Access by members of public and children No site hoarding No warning signages Unprotected trenches and excavations Uncontrolled Access to heights	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. Unprotected trenches and excavations could result in children or members from public entering these areas that could result in falling into open trench or excavation resulting in serious injuries, if water in trench or excavation could result in drowning of members or children	5	5	2	2	2	2	18	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 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. All non-employees entering the site must receive site applicable induction into the hazards and risks and the control measures for these. Only visitors who are medically fit will be allowed to enter the construction work areas. If not medically fit, he will only be allowed to enter the site offices	• Induction Records • Site Access control register • Signages • Posters • Site Safety Rules	3	3	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
			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 posted on construction site could cause unauthorized members of public or children to enter unsafe areas that could result in serious injuries								Safe demarcated walkway to be erected / conducted or displayed for visitors Pedestrian crossings to be conducted and utilized No Construction work near public vehicles. Construction area must be barricaded (No Danger tape) or fenced to prevent Public from entering work area.								
S5-42	Installation of fence	Transportation and handling of fence. (Poor Ergonomics) - Offloading of fence poles and heavy wire rolls Use of ladders Use of scaffolding Contact with underground services/ electricity Fencing collapses on employees or surrounding property Mixing and pouring of concrete Use of unsafe / damaged tools	Lifting of heavy fence poles / panels or rolls of wire with poor ergonomics could result in serious lower back injuries Using of unsecured ladder on uneven surface while installing of fence or fence poles could cause employee to slip and fall over from ladder resulting in serious bodily injuries Making contact with underground electrical services when digging holes for fence poles could cause employees to be shocked and even electrocuted resulting in a fatality. This could also result in delays in certain	3	3	2	2	3	3	16	Rolls of fence to be transported mechanically if possible. Make use of TLB if truck crane is not available to lift and move rolls of fence Proper PPE and suitable hand gloves to be provided to employees involved. Task specific PPE required for mixing of concrete Ladders to be inspected by a competent person appointed in writing and to be well positioned and secure when in use. No wooden ladders or self-made ladders to be used. Tools to be inspected daily before work start Faulty tools to be repaired or removed from site immediately Drawings / plans or Underground scans must be available for areas to be excavated to identify any underground services like electrical cables, water or sewer lines. All fence poles to be inserted into the ground as per drawing requirements and to be	• SOP/SWP • Issue-based Risk Assessment • Method Statement • Toolbox talks • DSTI's • Checklists • Appointment letters • Competencies • Medical fitness to work	3	3	1	1	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						
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR
			activities and costs to repair the damaged services Making contact or damage underground water services could result in project delays and costs to repair the water services Unplanned and installation of unsecured fence panels could cause the panels to fall over on top of employees resulting in body and head injuries Mixing of cement on ground could cause environmental pollution Use of unsafe or damaged tools could cause hand and finger injuries Making use of non-compliant scaffold not erected as per SANS 10085 could cause scaffold to collapse or fall over, the risk of not fully erected scaffold could also cause employees to fall from unprotected platform resulting in serious injuries.								secured with Concrete. If large section of fence is being installed there must be enough support to assist and to hold the fence in position while being installed If scaffold is used it must be fully erected as per SANS 10085 standards, safe access must be provided to a full boarded platform secured with all required rails. Scaffold must be erected by competent and appointed scaffold erectors and signed off by competent appointment scaffold inspector and supervisor								
S5-44	Safeguarding of existing structures	Damages to existing services and structures.	Damages to existing structures or services could cause loss of productivity with cost	3	5	4	4	3	3	22	Ensure identification of all existing services and structures before commencing with construction activities.	• Drawings • Detailed Scope of works • Risk Assessments • Services survey	3	3	3	3	2	2	16

	ACTIVITY (Work to be performed)	POTENTIAL HAZARD (Injury / Damage / Loss)	POSSIBLE RISK (Type injury/damage/loss)	RISK EVALUATION I	C	D	E	P	F	R	PREVENTATIVE MEASURES	CONTROLS (Registers, Policies, Procedure)	RESIDUAL RISK I	C	D	E	P	F	RR
			implications								Site drawings to be reviewed to identify any services If drawings are not available, request assistance from end-user or property owner to identify potential services	• Conditional Assessments							
Stage 6 – Project Close-out																			
S6-01	Site Demobilization	Unsafe disconnection of temporary services Improper loading of materials, equipment, offices and storage containers Improper loading of Mobile Plant on to trucks Transporting of equipment, machinery, plant, offices or storage containers with unsafe (not roadworthy) truck Incompetent person disconnecting temporary services Exposed to open excavations or trenches Exposed to open / unsafe electrical wires	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 items could cause the load to fall from the truck resulting in damage to property with cost implications. Falling items could also result in serious injuries to persons body, disability injuries and even fatalities Transporting of items with unsafe truck or vehicle could cause an accident to happen resulting in multiple serious injuries or fatalities Open excavations and open trenches could	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

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
			cause members of the public or end-user to fall into the opening resulting in leg injuries (bodily injuries) or if water (from rain is present) could cause children to drown in these openings																
S6-02	Housekeeping and Waste Management	Poor Housekeeping Tripping hazards Unauthorized dumping of waste Fire	Poor housekeeping could cause tripping hazards resulting in employees, visitors or the end-user to trip and fall leading to bodily injuries Dumping of waste or construction rubble in areas not identified as a registered facility could result in fines that will have cost implications. Long grass and bushes left at newly built areas could result in fire if ignited that could cause the building to burn down resulting in property damages with cost implication and could also result in serious injuries or fatalities if people are stuck inside the building	4	3	3	4	3	3	20	All walkways to be clear from construction material, equipment and any object that might have an impact on the flow of a walkway. All existing walkways must be reinstated as per original Inspection Checklists to be conducted by supervisors to ensure housekeeping is done daily and on close-out of project All construction rubble and waste must be removed from site before site handover to end-user. Waste must be dumped at a registered dumping site. Records must be kept as proof of dumping No Construction Materials may be left on site for end-user unless a written agreement is in place to ensure the end-user will remove the materials All bushes and grass must be cut around construction area to ensure a clean site is handed over to end-user All flammable materials must be disposed of or removed from site, may not be left unattended for the end-user	• Disposal Waste Certificates • Issue-based Risk Assessment • SOP/SWP • Medical Fitness to work • DSTI's • Toolbox talks • Agreements	3	2	2	3	2	2	14
S6-03	Construction Activities at Practical Completion, Works Completion and Final Completion	No Supervision No Health and Safety Resources on site No Health and Safety File / Documentation available	Conducting work activities without supervision can lead to processes and procedures not followed resulting accidents and serious injuries	3	3	3	3	3	3	18	All construction activities must be supervised by appointed competent person. Health and Safety resources must be available on site until site is handed over back to the end-user	• Inductions • SOP/SWP • Issue-based Risk Assessment • Method Statements • Medical Fitness to work • Appointment letter	2	2	2	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						
				I	C	D	E	P	F	R			I	C	D	E	P	F	RR
		Notification of Construction Works or Construction Work permit expired Unsafe working practices Unauthorized access to work areas and working at unauthorized times Unsafe tools and equipment used	No H&S resource available on site will cause Health and Safety 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 Working at unauthorized time (night shifts) could cause serious injuries due to poor visibility, fatigue and no supervision Use of unsafe tools and equipment could cause hand and finger injuries								Health and Safety file must be maintained until site is handed over to end-user. Once site is closed, the consolidated file can be submitted to the DBSA Issue-based Risk Assessment for maintenance works must be available and communicated to the team conducting snags All tools and equipment must be inspected, and defects recorded before use. All areas where snags are taking place must be closed off to prohibit no unauthorized entry. Detailed programme of works with approved extension of time (if required) must be submitted to Department of Employment and Labour to request the extension of the Notification of Construction Works or the Construction Work Permit All works required after hours need approval by project manager, DBSA and client representative	• Competency • Checklists • Approved Extension of time • Approval of night work or weekend works							
S6-04	Consolidated Health and Safety file and Close-out report submitted to DBSA	Non-Submission of close-out report Non-Submission or Health and Safety file lost	Close-Out Report not submitted could result in the project not to be closed out and would remain open with the end-user. This will lead to cost implications as the end-user will not pay for the final payment certificate Non-Submission of the Health and Safety File could cause all records to be lost resulting in loss of critical information creating	1	3	1	1	3	3	12	Prepare and agree on the requirements of information provided to DBSA for the continuous health and safety management of the facility including operations and maintenance requirements during its life cycle. Conduct Health and Safety inspection to ensure close-out report indicates that the site is left in a safe and healthy manner Submit copy of Health and Safety file and electronical copy to DBSA	• Consolidated Health and Safety file • Close-out Report	1	1	1	1	2	2	8

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
			uncertainty and additional cost for DBSA to manage legal obligations																
S6-05	Exit Occupational Health and Safety Fitness to work medicals	Unidentified illnesses, injuries or health risks contracted from working on this construction project	Unable to identify health concerns or illnesses could result in legal court cases that will have financial implications to the Client. This will also lead to reputational damages	4	4	2	2	3	3	18	All employees exposed to occupational health hazards during construction activities on the project must undergo an exit medical to determine any work-related health effects. 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 Baseline Risk Assessment.
- 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) *(*Choose an item.*)*