BASELINE OCCUPATIONAL HEALTH AND SAFETY (OHS)

RISK ASSESSMENT

FOR

APPOINTMENT OF A CONTRACTOR FOR THE INSTALLATION OF TEMPORARY FACILITIES AND BULK SERVICES FOR ENOCH MAMBA ITS (ECDoE)

Contents

1.0 INTRODUCTION 3
2.0 HAZARD IDENTIFICATION AND RISK ASSESSMENT PROCEDURE 4
ATTACHMENT 1 7
ATTACHMENT 2 8
3.0 Risk Rating 9
3.2 Risk Action Priority 10
4.0 HAZARD IDENTIFICATION 11
4.1 Individual Approach 11
4.2 Group-Based Approach 11
4.3 Hazard Identification and Risk Assessment (HIRA) Schematic 12
4.4 Hazard Identification Result 12
5.0 BASELINE RISK ASSESSMENT 13
6.0 RISK CONTROL 30
6.1. Elimination 30
6.2. Substitution 30
6.3. Engineering 30
6.4. Administration 30
6.5. Personal protective equipment (PPE) 30
7.0 RECOMMENDATIONS 30

1.0 INTRODUCTION

In terms of the Occupational Health and Safety Act, the Client is required to compile an occupational health and safety baseline risk assessment for any intended project and provide such assessment to prospective tenderers/bidders.

1.1 Scope of Work

The client would like to appoint a Contractor for installation 14 prefab classrooms, 1 prefab admin, 1 prefab library, 1 prefab science lab, staff and leaners toilets, construction of new parking and walkways, new storm water prefab facilities, 1 septic tank for science lab, 1 borehole, water pump, water tank, diamond mesh fence and electricity supply for Enoch Mamba (ECDoE)

The construction work will include the following:

1. Earth works and Excavations
2. Civils and Foundations
3. Formwork and Concrete casting
4. General Building works
5. Trenching for pipe laying
6. Electrical installations
7. Internal plumbing
8. Fire Services
9. Paving
10. Installation

2.0 HAZARD IDENTIFICATION AND RISK ASSESSMENT PROCEDURE

Step	Activity
1	**Define the scope, nature and timing of each hazard identification and risk assessment (HIRA).** - With the aim always to be pro-active rather than re-active - To cover each function/department of each site. - To cater for more in-depth assessments for higher risk areas. - To ensure that higher risk areas are re-assessed. - To ensure that new or modified operations are assessed. - Assign a Risk assessment team to include EHS Representative, SHE Manager where possible (to assist teams at ad hoc basis and remote advice) Manager or head of department/section and any additional internal or external assistance as determined by the Management Representative.
2	**Identify the activities, products and services, per process** (Of each function / department as identified above) - The Activity must be identified and described in full - First outline the process/processes of each function/department. This can be done using process flow diagrams - Consider all activities / tasks within the process. - Consider the department's process interactions with other **Client** processes. - Consider inputs and outputs including people. - Capture these on the HAZARD IDENTIFICATION SHEETS (Refer Document Number 08.03.01).
Note	- Also capture all subsequent steps' information on the Sheets. - Develop Sheets for each site, for site specific activities, products and services, and for **Client** as a whole for any common activities, products and services.
3	**Identify the hazards [CAUSE]** **(Associated with each of the above activities products and services)** Include hazards associated with: - Inputs and outputs associated with current, past and planned activities, products and services. - Routine and non-routine activities. - Activities of all personnel having access to the workplace, including contractors, visitors etc. - Normal, abnormal but reasonably foreseeable, and emergency situations. - All machinery and equipment; and any sources of energy (Kinetic, Potential, Chemical, Acoustic, Electrical, Electromagnetic, Thermal, Radiation, Biological and Ergonomics) - Facilities of the workplace, whether provided by the client or others. - Inappropriate management systems, procedures and or human behaviour. - The extent to which client can control its own activities, products and services, and influence those up and downstream. - All elements of the environment (air, water, land, natural resources, plants, animals, humans and their inter relation), with considerations as noted below.
4	**Identify the risks [EFFECT]** **(Including actual and potential, positive and negative impacts or risks).**

Step	Activity
	- Include the considerations as noted below.
Note	**When identifying hazards and risks, include the following in the considerations:** a) Injury to people both on and off site b) Harm to people's occupational health c) Damage to property (structures, machinery, land etc) d) OHS legal requirements e) Emissions to air, f) Releases to water, g) Releases to land, h) Use of raw materials and natural resources, i) Use of energy, j) Energy emitted, e.g. heat, radiation, vibration, k) Waste and by-products, l) Physical attributes, e.g. size, shape, colour, appearance, smell. m) Biodiversity n) Emissions and discharges including contamination of land o) Use of raw materials and natural resources, including water, p) Other local environmental and community issues including any related to the locality of the building. q) any other etc ***[Refer Attachment 1 for guidance]***
5	***Identify legislative and regulatory requirements*** - Legal requirements must be included in the determination of significance risks
6	**Identify the existing mitigatory controls.** - Review existing practices and controls within the department/function. - Document the controls or reference them in the EHS Hazard Sheets. - Record the actions already implemented and include reference to any associated procedures, work instructions, under "Controls and Mitigatory measures".
7	**Evaluate the significance of hazards and risks.** - As per "Determination of Significance" table ***[Refer Attachment 2]***
8	**Determine any additional mitigatory controls required.** - The nature of the controls will generally be decided based on the significance and any other factors decided by the Management Representative and applicable manager. - Hierarchy of risk controls must be used to identify additional controls – **Eliminate, Substitute, Engineering controls, Personal Protective Equipment.** - If the additional proposed controls or actions can be implemented, do so and then record them in the Registers.
9	**Determine any inspection and checks required.** - The nature of the inspection and checks (monitoring & measurement) will generally be decided based on the key characteristics of the operations that can have a significant EHS impact/risk and any other factors decided by the Management Representative and applicable manager.
10	**Compile and communicate the EHS Hazard/Risk Registers** - Include the above information. - Communicate the hazards to all affected management, staff, contractors and any other people working in the various areas.

Step	Activity
	- Significant risks to be covered in induction training, procedures and additional training to be done were required.
11	**Review of hazards/risks, and their significance** - A risk assessment is a 'living' document, and will be reviewed regularly and whenever necessary. - At least annually for high impact/risk, and every 2 years for low impact/risk functions/departments. - Whenever circumstances of the company change with regard to products, services or activities. - Whenever there are material changes to the activities, products, services or controls. - Whenever there are material OHS legislation changes. - When projects are completed and objectives and targets achieved and significance may be reduced as a result. **Note:** Information providing input to these may come from <u>any</u> part of the **Client's** SHE management system, e.g. audits, incidents, suggestions, ideas, measurements, legal updates, EHS Committees meetings, management reviews etc.
12	**Use of the Risk Assessments data** - Apply the controls listed in the Registers - Report any problems, suggestions, incidents etc immediately to their managers/supervisors.

ATTACHMENT 1

IDENTIFICATION OF EHS HAZARDS AND RISKS GUIDANCE

INPUTS

MATERIALS

Processed, recycled,

reused or raw material

Natural resources

Water

ENERGY

Amount or types or energy used

SERVICES SUPPORTING THE ORGANISATION'S OPERATION

Cleaning, and grounds keeping

Maintenance, transport and delivery

Information and communications

Security

Food and catering

Waste disposal

Other contracted services

PHYSICAL FACILITIES AND EQUIPMENT

Design

Installation

Operation

Maintenance

OUTPUTS

PRODUCTS

Main products

By-products

Recycled and reused materials

SERVICES PROVIDED BY THE ORGANISATION

POLLUTION

WASTES

Solid/liquid

Hazardous/non-hazardous

Recyclable/reusable

EMISSIONS

Emissions to air

Effluent to water or land

Noise, heat, vibration, light, radiation

ATTACHMENT 2

EVALUATION TABLE FOR DETERMINATION OF THE SIGNIFICANCE OF HAZARDS AND RISKS

Section A. Severity/Consequences

This is a measure of how serious the consequences will be for the environment, people and property.

It is made up of all or some of the factors in the following table.

Score each one (1 –5), add them up and calculate the average.

Note: Not all of these factors will necessarily always contribute, and there may be additional considerations.

This is a guideline for the Risk assessment team.

CONSEQUENCES: How severely could someone be affected?

1. Insignificant – No injuries or damage
2. Minor - First aid only, minimal property damage
3. Moderate – Medical treatment – some property damage
4. Major - Serious & extensive injuries, loss of operational capability
5. Extreme - Death or permanent disability , major cessation of operation

Factor / Score	5	4	3	2	1
Toxicity	Very Toxic, Above Occupational Exposure limit (OEL), Refer to the MSDS, More than 200litres	Very Toxic, below Occupational Exposure limit (OEL), Refer to the MSDS, 25 to less than 200 litres	Toxic, Above Occupational Exposure limit (OEL), Refer to the MSDS, 5 to less than 25 litres	Toxic, Below Occupational Exposure limit (OEL), Refer to the MSDS, 500ml to less than 5 litres	Harmful, Refer to the MSDS, Less than 500ml on site at a time
Hazard severity/ Damage caused	Death or permanent debilitating injury, Permanent total disability Possible factory down time in excess of three months Possible equipment or facility damage above R5000,000 Definite serious violation of operational standard Reportable to Authorities (regulatory requirements)	Disfiguring injury or lost time greater than three months, Permanent partial disability or temporary total disability in excess of 3 months Severe occupational illness Possible equipment or facility damage between R500,000 and below R5000,000 Possible serious violation of operational standard Reportable to Authorities (regulatory requirements)	Lost-time injury greater than one day, Minor occupational illness, temporary disability more than 1 month and less than 3 months Possible equipment or facility damage between R100,000 and below R500,000 Operational standard compromised in a minor way Reportable to Authorities (regulatory requirements)	None lost-time injuries, temporary disability of less than 1 month Possible equipment or facility damage less than R100,000 Probably would not affect personnel safety or health, but is, nevertheless, in violation of an operational standard,	First Aid injury or Near miss, minor supportive medical treatment No equipment damage No violations of any operational standard Not reportable to Authorities

Other – please add any factors your Risk Assessment team suggests so one can learn from the exercise

ATTACHMENT 2 (Continued)

EVALUATION TABLE FOR DETERMINATION OF THE SIGNIFICANCE OF, EHS ASPECTS/HAZARDS AND IMPACTS/RISKS

Section B. Probability/Likelihood

This is a measure of how often the situation is likely to happen.

It is made up of all or some of the factors in the following table.

Score each one (1 – 5), add them up and calculate the average.

Note: Not all of these factors will necessarily always contribute, and there may be additional considerations.

This is a guideline for the Risk assessment team.

LIKELIHOOD: How likely could it happen – given?

1. **Very likely –** Expected to occur in most circumstances
2. **Likely –** Will probably occur in most circumstances
3. **Moderately likely –** Might occur at some time
4. **Unlikely -** Could happen at some time
5. **Rare** – May occur only in exceptional circumstances.

Factor / Score	1	2	3	4	5
Frequency of activity	Daily	Weekly to monthly	Monthly to yearly	Hardly ever	Never happened in history of company
Frequency of hazard	Daily	Weekly to monthly	Monthly to yearly	Hardly ever	Never happened in history of company
Human competencies and awareness	No training or awareness	Only awareness, or just starting to be trained	Partially trained	Trained	Fully trained. Special qualification Long history of doing the job without any incidents
Historical performance (Number of incidents that have occurred in the past)	5 or more	3	2	1	None
Other – please add any factors your Risk Assessment team suggests so one can learn from the exercise					

3.0 Risk Rating

3.1 Risk Matrix

LIKELIHOOD	CONSEQUENCES:				
	Not Important 1	Minor 2	Moderate 3	Major 4	Extreme 5
1. Very likely	H	H	E	E	E
2. Likely	M	H	H	E	E
3. Moderately likely	L	M	H	E	E
4. Unlikely	L	L	M	H	E
5. Rare	L	L	M	H	H

3.2 Risk Action Priority

Risk Score	Action/ Risk Priority level
E	Reconsider – stop job and take immediate action about the risks immediately
H	High level management decision required.
M	Follow management instructions or established procedures.
L	Risk OK for now, record and review if any risk factors change- *equipment, people, materials, work process, procedures or other external factors.*

4.0 HAZARD IDENTIFICATION

Hazards identification is the act of recognising the failure conditions or threats (Safety Events), which could lead to Undesirable Events and defining the characteristics of theses undesirable events in terms of their potential Safety Outcomes and of the magnitude of these safety outcomes' Consequences.

A HAZARD in relation to a person or property means anything that may result in – injury to the person; or harm to the health of the person; or damage to property. In broad terms this could be a condition, object, activity or event with the potential of causing injuries to personnel, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function.

Hazards may be identified through a qualitative process, either formal (part of safety assessment) or informal based on discussions, interviews and brainstorming. Informal qualitative methodologies are heuristic processes based on expert judgement. They often allow identifying hazards that other approaches can't detect. Both approaches were used in combination in order to obtain better and more comprehensive results.

It is recognised that hazards identification must be done methodically in order to ensure that all areas of operation where hazards may exist have been identified. Among others; design, organisational, work environment factors, as well as procedures and operating practices are taken into account in the identification process. The identification of the hazards was done by both individual and group-based assessors.

The main challenge for individual and group-based brainstorming sessions involves the identification of hazards which exist but are difficult to think of. Some approaches have been developed to cover what might be termed 'unimaginable hazards' as far as practicable to identify each hazard to which people at the workplace are likely to be exposed.

4.1 Individual Approach

The individual-based approach entails one or two assessors conducting identification of hazards across all aspects of a system. The assessors assumed the responsibility for identifying the majority of hazards within the organisation. This particular method is appropriate for an initial and high level identification of hazards.

Examples of questions which may assist in identifying hazards are:

- What would possibly go wrong?
- What could lead to something possibly going wrong?

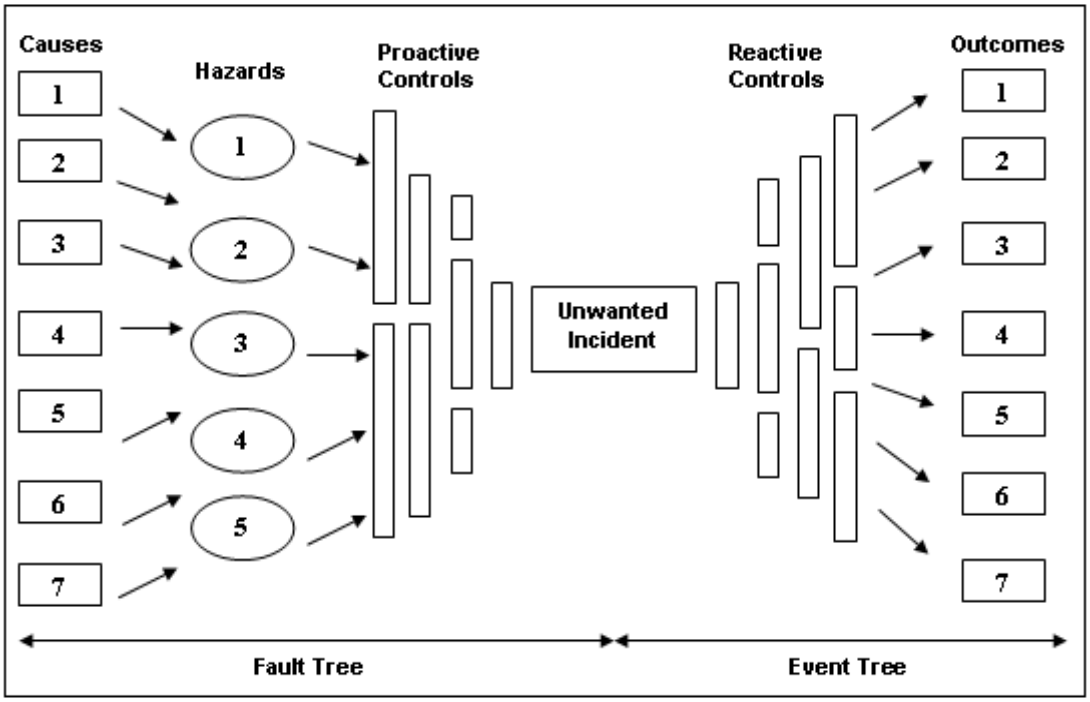
4.2 Group-Based Approach

The group-based approach involves a group of experts conducting the identification exercise. The group consisted of selected managers and staff. For small organisations it is suggested that departments participate in this exercise in their entirety. For example, for small operators, all administration staff could participate in the hazards

identification process. Staff members from different departments were interviewed at random to get their input. Individuals at work were also observed to identify any hazards situations.

4.3 Hazard Identification and Risk Assessment (HIRA) Schematic

The schematic below shows the approach used in the HIRA.



4.4 Hazard Identification Result

The hazards identified were captured in the Risk Assessment table below for evaluation.

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
Transport and Logistics	Driving on public roads	Road traffic accidents	Sites chosen in order to reduce proximity to dangerous areas.	1	5	L	1	L
		Dangerous chemicals	All dangerous chemicals will be transported in accordance to SANS 10 228 and 10231 requirements	1	5	L	1	L
	Driving long distances	Accidents due to driver Fatigue	Fatigue Management procedure developed, training for drivers. Mandatory breaks after given kms or hours.	3	4	M	2	L
	Driving under the influence of alcohol	Accidents	Driver training, random testing of driver. All employees to obey the alcohol, substance and drug abuse policy.	3	4	M	2	L
	Loading and off-loading of goods	Accidents with loading and off-loading equipment	Equipment to be maintained and only appropriate equipment must be use for a particular function.	3	4	M	2	L
	Noise from vehicles	Noise induced hearing loss	The vehicles must be maintained in good working order, to avoid any hazards that may cause physical harm to users and other people in the vicinity. The noise levels should be below 95dB.	3	4	M	2	L

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	Hazards Cause of potential Risk	Consequence/s (Risks) Effect on Safety	Controls and mitigatory measures	A (1 – 5) Consequences / Severity 1 = Low 5 = High	B (1 – 5) Likelihood / Probability 1 = High 5 = Low	C Risk without controls	D Controls 1 = None 5 = Full	E Risk with controls
		Electrocution while working on lines	Make sure machine is switched off and isolated before cleaning.	4	3	M	3	L
	Driving vehicles at loading and off-loading yards	Bumping pedestrians	Demarcated driving zones and walk ways, use of signs and signalling equipment.	2	4	L	4	L
		Collisions with loading equipment	Use of lights to increase visibility, reverse hooters on trucks	3	4	M	3	L
		Property damage	Driver to be directed into parking, obey set speed limits.	1	4	L	1	L
	Vehicle Maintenance	Vehicle failure while in operation causing injuries.	Vehicles to be on maintenance plan. Pre start checks to be done daily. Routine tyre and brake inspections must be done.	3	4	M	3	L
		Physical injuries	Care must be taken when maintaining vehicles. Proper tools must be used.	2	2	L	2	L
	Working in the outside areas (Yards)	Being knocked by vehicles	Workers to be careful when working in the Yard. Use demarcated walk ways.	4	5	H	2	M

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	Hazards Cause of potential Risk	Consequence/s (Risks) Effect on Safety	Controls and mitigatory measures	A (1 – 5) Consequences / Severity 1 = Low 5 = High	B (1 – 5) Likelihood / Probability 1 = High 5 = Low	C Risk without controls	D Controls 1 = None 5 = Full	E Risk with controls
		Tripping in the yard	Workers to be careful while carrying out work in the yard.	3	3	M	4	L
		Exposure to external weather conditions	Workers to be supplied with adequate PPE. To stop working in extreme weather conditions such as rain, high temperatures etc for prolonged periods.	1	2	M	4	L
	Stacking and storage of goods	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
		Collapsing of stacks	Appointed stacking and storage supervisor to inspect stacks weekly. Follow the stacking and storage procedure	5	5	H	4	M
Construction	Lifting material	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
		Lifting equipment failure	All lifting equipment must be load tested as per statutory requirements. All equipment must on a register and checked monthly. Pre start checks to be completed daily.	5	5	H	4	M

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	Hazards Cause of potential Risk	Consequence/s (Risks) Effect on Safety	Controls and mitigatory measures	A (1 – 5) Consequences / Severity 1 = Low 5 = High	B (1 – 5) Likelihood / Probability 1 = High 5 = Low	C Risk without controls	D Controls 1 = None 5 = Full	E Risk with controls
	Spreading Material	Trips and Falls	No walking under the material, or jump over in the factory. Employees to walk in demarcated areas.	1	2	M	4	L
	Cutting material	Cuts due to sharp parts of the equipment	Machines must be maintained, all moving parts and sharp edges and points must be guarded.	4	5	H	2	M
	Working with sharp objects	Prick injuries	Machines must be maintained, all moving parts and sharp edges and points must be guarded.	1	2	M	4	L
	Working with chemicals	Exposure to chemicals	PPE such as gloves must be used to minimise contact. All chemicals used must be approved.	1	2	M	4	L
	Hot work with bitumen	Burns	Appropriate PPE must be worn. Clear labelling of equipment.	3	5	M	2	L
	Manual handling	Ergonomic injuries / repetitive strain injuries	Employees to work according to the fatigue management procedure. Include ergonomics in the process design.	1	5	L	1	L
Foundations /Excavations	Collapse of excavation	Injuries, fatality	Daily inspections, shoring of works, physical barricading, shallow excavation.	1	4	L	2	L

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	Hazards Cause of potential Risk	Consequence/s (Risks) Effect on Safety	Controls and mitigatory measures	A (1 – 5) Consequences / Severity 1 = Low 5 = High	B (1 – 5) Likelihood / Probability 1 = High 5 = Low	C Risk without controls	D Controls 1 = None 5 = Full	E Risk with controls
	Incorrect Manual digging	Muscoskeletal problems	Manual handling procedures, Training	2	1	L	2	L
	Exposure to dust	Respiratory problems	Use water to supress excessive dust, Wear respirators.	3	2	M	2	L
	Cutting or damaging buried services	Electrocution, Explosions	Get clearance before digging	4	2	H	3	M
Reinforcing steel installation	Lifting material	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
		Lifting equipment failure	All lifting equipment must be load tested as per statutory requirements. All equipment must on a register and checked monthly. Pre start checks to be completed daily.	5	5	H	4	M
	Spreading Material	Trips and Falls	No walking under the material, or jump over in the factory. Employees to walk in demarcated areas.	1	2	M	4	L
	Cutting material	Cuts due to sharp parts of the equipment	Machines must be maintained, all moving parts and sharp edges and points must be guarded.	4	5	H	2	M

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
	Working with sharp objects	Prick injuries	Machines must be maintained, all moving parts and sharp edges and points must be guarded.	1	2	M	4	L
Pouring Concrete footing	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
	Exposure to Concrete	Eye injury, Skin disease.	Use gloves and respirators, googles must be worn with wet processes.	4	3	H	2	M
Brickwork	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
	Falling while Working at Heights	Fatality, serious injury	Elevated work procedure, PPE, Inspections of scaffolding	4	3	E	3	H
	Mixing and moving dagga	Eye injury, Skin disease.	Use gloves and respirators, googles must be worn with wet processes.	2	1	L	1	L
	Exposure to dust from cutting bricks	Respiratory problems	Use water to supress excessive dust, Wear respirators.	4	2	H	3	L

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
Ground floor construction	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
	Exposure to Cement (Dust/Splashes)	Eye injury, Respiratory illness	Use gloves and respirators, googles must be worn with processes.	4	3	H	2	M
Structural frame	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
	Falling while Working at Heights	Fatality, serious injury	Elevated work procedure, PPE, Inspections of scaffolding	4	3	E	3	H
External Envelope	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
	Falling while Working at Heights	Fatality, serious injury	Elevated work procedure, PPE, Inspections of scaffolding	4	3	E	3	H
Roof Structure	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
	Falling while Working at Heights	Fatality, serious injury	Elevated work procedure, PPE, Inspections of scaffolding	4	3	E	3	H
	Cutting material	Cuts due to sharp parts of the equipment	Machines must be maintained, all moving parts and sharp edges and points must be guarded.	4	5	H	2	M
Internal divisions	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
Floor finishes	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
	Cutting material (Tiles, finishes etc)	Cuts due to sharp parts of the equipment	Machines must be maintained, all moving parts and sharp edges and points must be guarded.	4	5	H	2	M
Internal wall finishes	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
Ceilings and Soffits	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
	Cutting material	Cuts due to sharp parts of the equipment	Machines must be maintained, all moving parts and sharp edges and points must be guarded.	4	5	H	2	M
Fittings	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
	Cutting material	Cuts due to sharp parts of the equipment	Machines must be maintained, all moving parts and sharp edges and points must be guarded.	4	5	H	2	M
Electrical Installations	Incorrect Manual Lifting posture	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
	Noise from grinders	Noise induced hearing loss	The vehicles must be maintained in good working order, to avoid any hazards that may cause physical harm to users and other people in the vicinity. The noise levels should be below 95dB.	3	4	M	2	L
	Cutting material	Cuts due to sharp parts of the equipment	Machines must be maintained, all moving parts and sharp edges and points must be guarded.	4	5	H	2	M

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	Hazards Cause of potential Risk	Consequence/s (Risks) Effect on Safety	Controls and mitigatory measures	A (1 – 5) Consequences / Severity 1 = Low 5 = High	B (1 – 5) Likelihood / Probability 1 = High 5 = Low	C Risk without controls	D Controls 1 = None 5 = Full	E Risk with controls
	Exposure to dust from Grinders	Respiratory problems	Use water to supress excessive dust, Wear respirators.	3	2	M	2	L
Internal Plumbing	Incorrect Manual Lifting	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
	Cutting material	Cuts due to sharp parts of the equipment	Machines must be maintained, all moving parts and sharp edges and points must be guarded.	4	5	H	2	M
	Noise from grinders chasing walls	Noise induced hearing loss	The vehicles must be maintained in good working order, to avoid any hazards that may cause physical harm to users and other people in the vicinity. The noise levels should be below 95dB.	3	4	M	2	L
	Exposure to dust from Grinders	Respiratory problems	Use water to supress excessive dust, Wear respirators.	3	2	M	2	L
Fire services	Incorrect Manual Lifting	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
Balustrades	Incorrect manual lifting	Back injuries while manual lifting	Manual lifting training to be conducted. Mechanical lifting aids to be used for heavy loads.	3	4	M	3	L
	Cutting material	Cuts due to sharp parts of the equipment	Machines must be maintained, all moving parts and sharp edges and points must be guarded.	4	5	H	2	M
Pest control	Control of rodents using chemicals	Poisoning	Only registered pest control agents are used.	3	5	M	2	L
	Infestation of vermin and vermin in the building	Health risks	Effective pest control using bait stations and good hygiene standards	4	3	E	2	M
Access control	Accessing the site	Injuring members of the public	Members of the public have the right of way. Activities at the site must be limited to off peak hours.	2	4	L	3	L
	Emergency preparedness	No accounting for people on the site at any given time	Use of registers to account for employees and visitors are recorded.	3	3	M	1	M
Walkways	activities	Trip hazards	Walkways to be kept clear and free of any obstruction. Signs to be posted in areas where cleaning activities are on-going.	2	3	M	4	L

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
Safety, informative and warning signs	Non-standard signs	Signs not conveying the appropriate message	Signs on the site to be standard signs and comply with client requirements.	1	5	L	1	L
Emergency Preparedness and Response	Working on Heights	Falling while working on heights	Care must be taken when working in hard to reach areas. Appropriate ladders and equipment must be used.	4	3	E	4	M
	Working in confined areas	Nip and Pinch points injuries	Employees to take extra care while working in areas with nip and pinch points.	3	5	M	3	L
	Emergency doors	Obstructed in events of emergency	Emergency doors to be kept clear of any obstructions.	2	3	H	2	M
	Locked escape doors	No escape in case of emergency	No current controls	3	3	H	1	H
	Emergency lighting	Power outage in the station / site	Currently emergency lights are not working in the escape stair cases.	2	4	M	1	M

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
Kitchens & Canteens	Cleaning activities	Spread of disease and contamination of surfaces.	Generally, a specific team of cleaners will be designated to work in the kitchens. The cleaners must have gone for medicals including swabs and passed to work in the kitchen. Cleaners will be required to wash up and disinfect themselves before they work in these areas.	4	3	E	4	M
		Poisoning	Only food grade chemicals will be used in the kitchens. Pest control must only be done licenced persons, using approved chemicals.	3	5	M	4	L
		Disease spread	The dust bins must be emptied regularly and pest control measures must be taken.	3	5	M	4	L
Bathrooms	Cleaning activities	Deep cleaning	By removing the deposits in recesses and outlets, the level of maintenance is improved by preventing blockages, malodour, and damage to the units. This is achieved using safe and effective methods presenting no risk of damage to your facilities. The life span of the units is extended accordingly.	3	3	H	3	L
		Ecoli poisoning from Human waste	Chemical toilets to be used, High standards of hygiene, effluent removed weekly.	3	3	H	3	L

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
		General cleaning	Only approved environmentally friendly and non-harmful to human chemicals may be used. Appropriate PPE must be worn at all times.	2	4	L	2	L
	Inadequate toilet facilities for the number of users in the building	Disease outbreak	Review the number of facilities relating to the population.	3	3	H	0	H
Storage of materials	Installation activities	Accidents due to poor visibility	Ensure there is adequate lighting in the work areas.	2	4	L	2	L
		Health problems due to poor ventilation	Ensure areas are adequately ventilated.	3	3	H	3	M
	Stacking	Goods falling onto people	Proper stacking procedures and stock rotation followed. Demarcated stacking areas.	4	4	H	3	L
	Loading and offloading	Accidents during off loading and loading of stock	Demarcated areas for loading and offloading in a controlled manner.	3	4	M	2	L
	Combustible materials	Outbreak of fire.	Firefighting equipment available.	4	3	E	2	M

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
Yard	Cleaning activities	Exposure to external weather conditions	Cleaners to be supplied with adequate PPE. To stop working in extreme weather conditions such as rain, high temperatures etc for prolonged periods.	2	4	L	3	L
Parking	Working activities	Vehicle accidents	Workers must look out for vehicles moving in and out of the parking bays during this activity.	5	5	H	3	M
		Generation of dust while sweeping	Dust masks must be used in areas where there is excessive dust.	3	5	M	2	L
	Parking vehicles	Vehicle accidents	Parking very limited, excessive traffic in the yard. Marked parking bays.	3	5	M	2	L
		Obstruction of emergency exit doors.	Vehicles should not be parked in front of emergency exits	4	4	H	2	L
		Obstruction of fire hydrants	Vehicles should not be parked in front of hydrants.	4	4	H	2	L
Emergency planning and response	Emergency planning	Poor response to Emergencies.	Formal emergency plan; Evacuation drills, First aid boxes.	3	3	M	1	L

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
	Emergency lights		Installation of emergency lights throughout the stations and sites.	1	2	M	1	M
	Firefighting equipment		Maintenance of fire equipment, Some equipment obstructed, leaking hydrants and fire hoses,	2	3	M	1	M
Electrical (General) – Electrical Installations / Machinery Regulations.	Removal of old electrical equipment and installation of new Electrical Installations – including geysers, lights, HVAC etc	Electrical fires	Ensure there are COC's for installations and all installations to be done by registered Electricians.	3	3	M	1	M
		Short circuiting						
		Electrocution						
		Explosions						
		Waste management of fluorescent tubes	Waste management procedure. A contractor with expertise to handle fluorescent tubes will be appointed.	1	2	M	1	M

5.0 BASELINE RISK ASSESSMENT

Department activities/ products/ services	**Hazards** **Cause of potential Risk**	**Consequence/s (Risks) Effect on Safety**	**Controls and mitigatory measures**	A (1 – 5) **Consequences / Severity** 1 = Low 5 = High	B (1 – 5) **Likelihood / Probability** 1 = High 5 = Low	C **Risk without controls**	D **Controls** 1 = None 5 = Full	E **Risk with controls**
		Hydrocarbon pollution	Drip traps used during stripping of old equipment. Hydrocarbons disposed in an environmentally friendly manner.	1	2	M	3	L

6.0 RISK CONTROL

Once hazards have been assessed, control options for eliminating or reducing the risk of exposure to the hazards must be considered. Safety Manager/ Co-ordinator will work together with Area/ Branch Managers to develop hazard controls. Health and safety legislation requires the following Hierarchy of Hazard Controls options to be used:

6.1. Elimination: Removal of the hazard or the impact by removing it or disposing it.

6.2. Substitution: Consider substituting the substance or hazardous process with one that is less harmful to health or the environment.

6.3. Engineering: Structural changes to the work environment or work environment, modifying the design of the workplace. Changing processes, equipment or tools for example

I. Reduction of source of noise or vibration through engineering controls
II. Use of machine guarding.
III. Isolating or enclosing the hazard/ environment risk (eg. Fume, Bunding etc.)
IV. Use of ventilation to remove fumes or dusts or the use of mechanical aids to minimise manual handling injuries.

6.4. Administration: (procedural controls) Rely on human behaviour and compliance. Examples:

I. Introducing and maintaining work practices that reduce risk by limiting the exposure of an employee to the hazard; job rotation.
II. Supervision education and training,
III. Modify the procedures and /work instructions, audit and inspections,
IV. Conduct audits and inspections.

6.5. Personal protective equipment (PPE)

Use of protective clothing, gloves, boots, glasses, hearing protection, harness, etc. This is the last resort option for controls and should be used only when other measures have not been able to protect against the hazard or risk. It should always be used together with other control methods.

7.0 RECOMMENDATIONS

7.1 All risks that have been rated as medium and higher procedures must be developed to manage the risk.

7.2 Illumination, noise and air quality surveys must be carried out for the site/s.

7.3 Emergency preparedness and response procedures must be reviewed, including mapping of the escape routes, emergency exits and fire escape stairs in the procedure.

7.4 Traffic management and accommodation – it must be ensured that all employees have the required training and all equipment is tested and certificated as per legal requirements.

Approvals:

ACTION	REPR.	DESIGNATION	SIGNATURE
Prepared By:	Ms. Debra Matlhoma	**CHS Officer**	
Reviewed By:	Mr. Godfrey Maake	**CHS Manager**	
Approved By:	Mr. Tigere Mhiti	**CHS Agent**	

Date: 26 February 2024

Acknowledgement of receipt of this Baseline Risk Assessment

I THE UNDERSIGNED CERTIFY THAT I HAVE RECEIVED A COPY OF THE ABOVE-MENTIONED DOCUMENT. WE HAVE TAKEN THE REQUIREMENTS THEREOF IN THE PREPARATION OF OUR TENDER RESPONSE DOCUMENTS INCLUDING ADEQUATELY PROVIDING FOR HEATLH AND SAFETY BUDGET DURING THE PROJECT.

COMPANY REPRESENTATIVE		WITNESS	
FULL NAMES		FULL NAMES	
COMPANY NAME		COMPANY NAME	
JOB TITLE/POST		JOB TITLE/POST	
DATE		DATE	
SIGNATURE		SIGNATURE	