BASELINE RISK ASSESSMENT

FOR

CONSTRUCTION OF NEW POLICE STATION IN SAMORA MACHEL

ON BEHALF OF

THE SOUTH AFRICAN POLICE SERVICES

COMPILED BY	REVIEWED BY	RECEIVED BY
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Contents

1 PURPOSE

To identify Occupational Health and Safety (OHS) hazards and assess/evaluate associated OHS risks according
to a formal, systematic methodology and holistic approach and to implement necessary control measures to facilitate effective risk reduction.

2 DEFINITIONS

2.1 AIA

The Department of Labour approved the Inspection Authority.

2.2 Acceptable Risk

Acceptable risk has been reduced to a level the organization can tolerate, considering legal obligations, corporate directives, and/or guidelines.

2.3 Competent Person

A competent person is conversant with theoretical and practical knowledge of the required subject matter.

2.4 Hazard

A Hazard is an energy source, situation, object, substance, condition or activity with the potential to cause harm, injury or ill health (and damage).

2.5 Hazard Identification

Hazard identification is recognizing hazards and defining their characteristics in terms of identifyingrisks.

2.6 OHS

Occupational Health and Safety

2.7 OHS Act

Occupational Health and Safety Act, Act 85 of 1993

2.8 Risk

A risk is a combination of the likelihood/ probability of an occurrence of a hazard or exposure(s) and the severity consequence of injury, harm or ill health that the hazard can cause.

2.9 Risk Assessment

Risk assessment is the process of evaluating risk(s) arising from a hazard(s), considering theadequacy of any existing control measures, and deciding whether the risk(s) is acceptable.

3 RESPONSIBILITY

All designated Line Management.

3.1 Section 8 – Occupational Health and Safety Act, Act 85 of 1993

3.2 Construction Regulation 9 – Occupational Health and Safety Act, Act 85 of 1993

4 PROCEDURE

4.1 All activities, products and services (including contractors), which may have an impact on operations and activities shall be evaluated. The following shall be considered as a minimum:

4.1.1 Routine, non-routine, abnormal and emergency scenarios/ activities

4.1.2 On and off-
site activities, installations and impacts: design, infrastructure, equipment, materials, resources.

4.1.3 New projects, changes and/ or modifications to equipment, operations or systems

4.1.4 Human behaviours, safety culture

5.1.5
Management of change – changes in the organizational structure, activities and/ or operations (prior to
such changes)

4.2 The following methodology shall be applied:

5.2.1
Formal identification and documentation of process flows for each department and designation – including activities, inputs and outputs, major installations, resources required, contractors used, legal responsibilities, etc. All processes prescribed shall be documented.

5.2.2 Identify and evaluate hazards and risks according to point 6 (Instructions) below.

5.2.3
Determine and document control measures according to the following order of hierarchy (Annexure 3):

- Elimination
- Substitution
- Engineering controls: maintenance, monitoring
- Administrative Controls: signage, warnings, training, safe work procedures
- PPE

5.2.4 Compile an OHS risk profile.

5 INSTRUCTIONS

5.1 Evaluate each health and safety risk, as applicable (according to a worst-case scenario), against the Risk Criteria descriptions in Annexure 1 - Consequence and Likelihood.

Note: Each hazard may have different risks impacting health and safety.

5.26.2
Select the most appropriate description and record the corresponding numerical value against the specific health and safety risk.

5.36.3
From the allocated consequence level, follow the grid line down to where it meets the allocated likelihood grid line to obtain a raw risk rating numerical value:

5.3.1 The maximum risk rating that can be derived is 25.

5.3.2 The minimum risk rating that can be derived is 1.

5.4 Record control measures are developed and implemented to manage risks.

5.5 Sort health and safety risks according to the following ranges to develop a health and safety risk profile:

5.5.1	Low Risks	-	Values 1 - 5
5.5.2	Medium Risks	-	Values 6 - 12
5.5.3	High Risks	-	Value 13 – 20
5.5.4	Major Risks	-	Value 21 – 25

5.6 Identify and record additional control measures to reduce risks to an 'acceptable risk' level. Implement accordingly.

6 REVIEW

Assessments shall be documented and reviewed at least annually, and/ or after incidents, non-conformances, change of statutory requirements, audit results, surveys, and management of change.

7 RECORDS

7.1 OHS hazard identification and risk assessments

7.2 Occupational hygiene surveys

7.3 Management of change assessments/ evaluations

RISK MATRIX		CONSEQUENCE				
Risk Type		**1** Minor	**2** Low	**3** Medium	**4** High	**5** Major
Harm to People – Safety (S)		First aid injury	Medical treatment injury	Lost time injury	Permanent disability or single fatality	More than one permanent disability or multiple fatalities
Harm to People – Health (H)		Temporary discomfort	Temporary alterations / limitations (no lost time)	Reversible impact on health (lost time)	Irreversible impact on health with loss of quality of life or single fatality	Irreversible impact on health with loss of quality of life of more than one person or multiple fatalities
Environmental Impact (E)		Limited to small area (few meters); low sensitivity (industrial area)	Reduced area (hundreds of meters); no sensitive species/habitat	Impact on an extended area (kilometres); sensitive (scarce / valuable environment)	Environmentally sensitive area (endangered species / habitats)	Permanent impact; highly sensitive area (endangered species, wetlands, protected habitats)
LIKELIHOOD	**Considering exposure to that hazard (number of people and frequency of the tasks)**	**RISK VALUE**				
5 (Almost Certain)	The unwanted event is almost certain to happen once or more than once in a six month period.	Medium **11**	High **16**	High **20**	Major **23**	Major **25**
4 (Likely)	There is a high probability that the unwanted event will occur. The unwanted event has occurred or is likely to occur once per year.	Medium **7**	Medium **12**	High **17**	Major **21**	Major **24**
3 (Possible)	It is possible that the unwanted event can occur, less than once a year	Low **4**	Medium **8**	High **13**	High **18**	Major **22**
2 (Unlikely)	There is a low probability for the unwanted event to occur. The unwanted event has occurred or is likely to occur not more than once every 1 to 5 years.	Low **2**	Low **5**	Medium **9**	High **14**	High **19**
1 (Rare)	There is a very low probability for unwanted event to occur. There are no records of the event occurring or it is highly unlikely that it will occur within the next 5 to 10 years.	Low	Low **3**	Medium **6**	Medium **10**	High **15**

APPENDIX 1: RISK EVALUATION CRITERIA.

APPENDIX 2 - HAZARD IDENTIFICATION AND RISK ASSESSMENT

HAZARD IDENTIFICATION AND RISK ASSESSMENT FORM2										
No.	TASK / ACTIVITY	HAZARD/ ENERGY	UNWANTED EVENT/ RISK	LIKELIHOOD	CONSEQUENCE	RISK VALUE	CONTROLS	LIKELIHOOD	CONSEQUENCE	RISK VALUE
1.	Site establishment	Injuries during off loading Damage to property and or vehicles. Cuts and burns Rushed activities. Incorrect supervision Management team not identifying existing services Trip and fall. Cuts	Unauthorized access to site. Inadequate space for construction vehicle and plant movement, working space, stacking and storage space.	5	4	20	Sufficient space to be allowed for site office's establishment, facilities, works execution, plant, and construction vehicle. movement, material and waste stacking and storage within the site boundaries.	3	2	12
2.	Fencing construction site	The erector must follow the specific position as required. When digging for fence poles, servic can be damage. When post get knocked in it can damage services	Hand and back injuries Physical injuries Incorrect manual handling Lost time injuries Medical treatment cases Interruption of services	4	4	12	The site fence must be a minimum of 1.8 m high. Fence installation areas to be demarcated with netting when post and fence is being installed	3	3	5
3.	Security	No security in place at entrances to construction site	Unauthorized entry to site Injuries to unauthorized people on site Theft of materials and equipment	3	3	8	The principal contractor must appoint full-time security personnel to control the access onto the site at all times. Dedicated access control sign books to be available for visitors sign in.	2	2	5
4.	Access control	Construction activities interfering with operational areas	Construction activities and movements causing disruptions to active properties. Site occupant's interaction with construction vehicles which may lead to accidents	4	4	21	Liaison to be in place with properties management regarding the construction project and safety measures to be implemented. Construction site camps and working to be fully barricaded with suitable barriers to separate from the public. Construction site camps and activities to be design in a manner that will not cause disturbances to the occupied areas/ public	3	2	12

HAZARD IDENTIFICATION AND RISK ASSESSMENT FORM2

	TASK / ACTIVITY	HAZARD/ ENERGY	UNWANTED EVENT/ RISK	LIKELIHOOD	CONSEQUENCE	RISK VALUE	CONTROLS	LIKELIHOOD	CONSEQUENCE	RISK VALUE
5.	Incompetent persons Uncontrolled site establishment activities Incorrect stacking procedures	Injuries during off loading Damage to property and or vehicles Cuts and burns Rushed activities. Incorrect supervision Management team not identifying existing services. Trip and fall Cuts	Hand and back injuries Dropping of equipment Physical injuries Incorrect manual handling Potentially fatal accidents Loss of limbs Lost time injuries Medical treatment cases	**4**	**3**	**23**	The principal contractor must ensure that site is established at the correct location as identified by the Client. Principal contractor's OHS file must be approved prior to site establishmen begins – aligned to New Construction Regulation 2014	3	3	12
6.	Placing of signs and notices	Insufficient information and warning on site requirements	Disruptions Injury to employees Injury to public Damage to property	5	4	13	Construction safety warning signs to be placed at the entrance and should contain the following information minimum: Construction activities ahead No unauthorized entry Speed limit 20 km / h Personal protective equipment signs which include "safety boots, reflective vests & helmets signs." Visitors to report t site office Notice board indicating man-hour times worked and incidents / accidents statistics to displayed at the site entrance. First aid kits, name of first aiders and fire extinguishers signs to be displayed where they are located. Assembly point sign and all other required warning signs as per hazards on site to be erected appropriately /where the hazard exists. Signs indicating offices, safe drinking water, ablution facilities and eating areas to be displayed.	3	3	8

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7	Notification of construction work And or Construction Work Permit - DOL	Construction work commences without an approved notification. • and or Construction Work Permit. Construction of Work Permit not received. Notification application not submitted to DOL within the prescribed timeframe	Construction delays Penalties Contravention notices from DoL.	3	3	8	The Client cannot allow any work to commence without a valid (stamp) notification of construction work in place. Work cannot commence without Construction Work Permit Number in place	2	2	4
8	Induction and medical certificate of fitness	Employees entering the site. are not being inducted. Visitors entering site not being induct signing visitors induction form. Induction being conducted on employees without them being. in possession of a valid medical certificate of fitness in the form of annexure 3. The medical must be conducted by a register Occupatio Health Practitioner	Construction delays Penalties Contravention notices from DOL	3	3	8	Site induction can only be done with an employee if the required up to date medical is presented at the induction. Medical fitness certificates must be validated by the principal contractor to ensure adherence to minimum requirements and validity of the document. Each person's ID or valid work permit must be inspected before induction can be allowed on site for the individual.	2	1	3
9	List of employees and contractors	Number of employees on site not listed on employee lists Number of contractors on site not listed on contractor list Employee and contractor list not being updated as required	Construction delays Penalties Contravention notices from DOL	2	3	6	Record all employees working on site on the employee list. Record all contractors on site on an updated contractor list. Enter new employees and contractors on the list as soon as they have received the site induction.	1	2	4

HAZARD IDENTIFICATION AND RISK ASSESSMENT FORM2

	TASK / ACTIVITY	HAZARD/ ENERGY	UNWANTED EVENT/ RISK	LIKELIHOOD	CONSEQUENCE	RISK VALUE	CONTROLS	LIKELIHOOD	CONSEQUENCE	RISK VALUE
10	Formwork and support	Incompetent personnel designing and supervising formwork. Formwork not constructed in accorda with formwork designs and specifications. Removal of formwork before it achiev adequate strength; and Overloading of formwork during conc pouring operations.	Property damages, Minor injuries	4	4	8	Appoint competent supervisory staff. * Formwork to be designed by a Structural Engineer. *Ensure checks are done and recorded until the formwork is strong enough to hold on its own.	3	2	5
11	Reinforcement	Insufficient skills to complete the task. Incompetent supervision. Using in appropriate equipment – Improvise. Poor lighting and cluttered access walkways. Inadequate space for steel fixers and their materials; and Accelerated schedules	Failure to use appropriate, equipment, Trip and falls and injuries,	3	3	6	Provide training and improve competency. Appoint competent supervisor. Use the right equipment for the right job. Provide lighting for safe working. Good housekeeping practices Proper planning for the work.	2	2	4

HAZARD IDENTIFICATION AND RISK ASSESSMENT FORM2

	TASK / ACTIVITY	HAZARD/ ENERGY	UNWANTED EVENT/ RISK	LIKELIHOOD	CONSEQUENCE	RISK VALUE	CONTROLS	LIKELIHOOD	CONSEQUENCE	RISK VALUE
12	Manual handling	Failure to use PPE. Excessive cold or extreme heat Sharp edges Unbalanced items Possible back Injuries Damaged hand tools-picks, shovels e Falling over onto items Damaged Wheelbarrows Missing Guards Tips and falls	Potential People injuries, property damage and environmental degradation	3	3	12	Appoint a responsible person to monitor adherence to PPE. Employers to provide adequate PPE. Provide head protection. -Provide adequate water for hydration; and make first aid assistance available with a competent appointed person. Attend to broken tools or replace damaged ones. Provide safety gloves to employees. Stack on even floor, the narrowest base not to exceed 3m. Appoint a stacking supervisor. Replace guard and discontinue use of equipment. Maintain good housekeeping and assign persons to clear up the place regularly	2	1	5
13	Housekeeping.	Inadequate storing facilities. Damage to material and equipment. Accumulation of waste. Environment pollution. Facilities for employees. Electrical installations	Serious injuries Electrocution Environmental impact Personal injuries Lost time in production Damage to equipment and material. Injuries to occupants and visitors	4	4	24	Use site establishment checklist to ensure compliance with all items. Toilet facilities & staff welfare as per Construction Reg 2014 Toilets 1:30(regular service) Correct storing facilities for hazardous chemicals. Correct signage for all storage of hazardous materials Proper storing facilities for tool and equipment. Adequate waste bins available. Regular cleaning of these bins Waste recycling is encouraged.	3	2	14

HAZARD IDENTIFICATION AND RISK ASSESSMENT FORM2

	TASK / ACTIVITY	HAZARD/ ENERGY	UNWANTED EVENT/ RISK	LIKELIHOOD	CONSEQUENCE	RISK VALUE	CONTROLS	LIKELIHOOD	CONSEQUENCE	RISK VALUE
14	Delivery of containers	Soft, sloping grounds Non – complying delivery vehicles and machines Hitting overhead cables Employees walking under container once it is in the air. Unsafe practices	Property damage Injuries Fatalities	4	4	25	Ground where containers are to be placed to be stable to bear the intended weight. Overhead cables to be identified and offloading to be not done under them. Lifting machines to comply with the mass loads designed to carry. Ropes and chains for the lifting machine have a safety factor with respect to the load they are designed to lift. Lifting machines operators to have competency certificates from an organization approved by the Chief Inspector. Inspections to ensure all plant and equipment in the operation are safe for use and records to be kept on the file. Supervisor to ensure that the task is done in a safe manner. Banksman to be provided. Area to be demarcated, unauthorized personnel to be not allowed.	2	2	20
15.	Client and Designer duties	Client not following requirements, as stipulated in the regulations. Designers not appointed in writing and not made aware of their duties. Designers not following their legal duties throughout the project	Construction delays Penalties Contravention notices from DOL	3	3	13	Client to follow legal requirements as stipulated in the regulations before and during the construction process. Designers on the project sign agreements in acknowledgement of their duties on the project. Designers to conduct the required inspections and review the required documentation as stipulated in the regulations	2	2	8
16.	Temporary water supply	No proper water supplies available on site	Hygiene related diseases	3	3	8	Only clean water may be used for human consumption and must be marked as safe to be used. Contaminated water areas to be indicated as unsafe for used.	2	1	4

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17.	Temporary power supply	No COC available for temporary electrical connection used on Site Temporary DB not installed in accordance with legal requirements	Loss of production time Fatality due to electrical Damage of equipment Fire	4	4	25	Electrical installations can only be utilized once COC is issued. Electrical installations must be inspected weakly. Electrical installations must only be done by an appointed. electrical contractor	3	3	12
18	Off-loading material and tools - manual	Heavy loads	Handling heavy loads may result in back and other injuries to employees	2	3	9	Correct manual handling techniques to be promoted through toolbox talks. Mechanical lifting devices must be used where possible.	1	1	2
19.	Off-loading machinery	Heavy loads	Vehicles and machines may fall over or ''run away'' causing severe injuries	1	4	13	Only an experienced operator may load and off-load machinery.	1	3	6
20	Erecting fence/ Barricading construction area	Sharp wire, hand tools, manual labour	Performing manual labour with hand tools in the presence of sharp edges may result in hand, finger and possibly lower arm injuries	1	2	3	Sufficient hand protection must be worn when working with wire. Hand tools must be inspected on a monthly basis and defective tools must be destroyed.	1	1	1
21	Excavation and filling Trenches	Hard rock material Risk of collapsing excavations Seepage of subterranean water Employees inhaling dangerous fumes Skin contact with hazardous substan	Manual handling injuries Lost time injuries First aid treatments	4	3	8	Method statements Issue base risk assessments Inspections by excavation supervisor Proper train operators Location of services	2	2	4

HAZARD IDENTIFICATION AND RISK ASSESSMENT FORM										
No.	TASK / ACTIVITY	HAZARD/ ENERGY	UNWANTED EVENT/ RISK	LIKELIHOOD	CONSEQUENCE	RISK VALUE	CONTROLS	LIKELIHOOD	CONSEQUENCE	RISK VALUE
22.	Stacking of material	Stacks	Stacks may collapse or fall over if not built and maintained correctly	2	3	9	Building and breaking of stacks must be done under the supervision of an experienced person. All stacking and storage activities must conform to CR 28.	2	2	5
.		Stacking on upper level	Structure may collapse	2	5	19	The designers must indicate the safe work load for upper levels and the supervisor must ensure that it is not exceeded.	2	4	14
23.	Operating mobile construction equipment / vehicles	Moving machinery	Machine may collide with other machines or pedestrians resulting in severe injuries.	3	3	13	All construction vehicles must conform to CR 23.	4	2	8
24.			Fuel and oil spillages may result in ground pollution or polluting existing ground finshes.	4	1	7	Pre-usedinspections must be conducted on all construction vehicles and any deviations must be rectified as soon as possible.	2	1	2
25.	Operating generators	Using a generator	Long exposure to noise may result hearing loss.	1	3	6	Generators must be placed in an area away from the labourers.	1	1	1
26.	Operating lifting machinery	Lifting Operations	Falling material Crushing by materials Hand Injuries Toppling Crane	3	4	18	Competent persons (crane driver and banksmen). Inspections and certificates to be in place for all equipment. Materials properly packaged and slung. Access to lifting area to be restricted.	2	3	9

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27.	Electrical extension cables, other portable electrical equipment and electrical installations	Electricity	Broken insulation, sub-standard connections and broken plugs may result in electrocution. Electric fire	2	4	20	Regular inspections by an appointed person. All electrical tools to be in good condition. Electrical installations register to be maintained by a competent person. All electrical installations conform to CR 24.	2	2	10
28.	Bricklaying and plastering	Material, tools and manual labour	Hand and other body injuries, Contact with sharp bladed tools.	3	2	8	Work to be carried out under supervision of competent person. PPE to be worn. Safe means of access to be provided.	2	1	2
		Working with mortar	Caustic contamination with mortar .	3	2	8	PPE for mortar to include gloves. Safe working platforms required Safe means of access to be provided.	1	2	3
29.	Using angle grinder, circular saw, mitre saw	Rotating disc/blade	Incorrect usage and using fractured dics may cause injuries. Noise Induced Hearing Loss	3	3	13	The correct discs must be used. Hearing protection must be worn. Monthly inspections on all tools. Trained personnel.	2	2	5
30.	Using portable electrical equipment/tools	High noise levels	Long exposure to noise may result in hearing loss.	2	2	5	Hearing protection to be worn.	1	1	1
31.	Using electrical tools/equipment	Moving parts	Moving or damaged parts or incorrec usage may result in injuries	2	2	6	Appropriate PPE. Regular inspections on all equipment/tools.	1	1	4

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32.	Noise and dust from site activity	Noise and dust	Long-term exposure to high levels of dust can result in lung disease. Long-term exposure to high levels of noise may result in hearing loss.	1	3	6	Hearing protection to be worn where applicable. Respiratory protection must be worn where there is a high level of dust and/or when working with tools creating dust. Areas to be dampened down to minimize dust.	1	1	1
33.	Using ladders	Working at heights	Ladder may collapse or person may fall resulting in injuries	2	3	9	Ladders to be inspected regularly. Correct usage of ladders to be promoted.	1	1	1
34.	Using hand tools	Hand tools	Improper usage or unsafe condition of tools may result in injuries	3	1	4	Regular inspections of tools. Tools to be maintained in a good condition. Awareness of the correct usage of tools to be promoted.	1	1	1
35.	Welding	Bright light, hot surfaces, fumes,	Exposure to bright light may result in damage to the eyes, Hot surfaces may result in burn wounds, and Inhalation of fumes may cause health problems	3	2	8	The welder and assistants wear appropriate PPE (eye, skin, and hearing protection). Respiratory protection to be worn where necessary. Good ventilation to be ensured.	2	2	5
36.	Steel erection/roof work	Steel erection for roof work	Falls from heights, falling components, contact injuries from falling/lifting equipment	3	2	8	Appropriate PPE to be worn. Competent personnel. Lifting appliancesto be maintained.	2	1	2

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37.	Hot work	Heat and flammable substances	Hot surfaces may cause burn wounds and flammable substances may cause fire	2	4	14	Appropriate PPE to be worn. Fire extinguishers always kept in close proximity to hot work being performed.	2	1	2
38.	Applying/removing vinyl flooring	Vinyl floor, manual labour, and tools	Back and knee injuries, Hand injuries	2	2	8	Knee pads/kneelers must be worn. Appropriate PPE to be worn.	1	2	3
39.	Glazing	Glass	Hand and other injuries	3	2	8	Hand protection. Appropriate PPE to be worn.	2	1	2
40.	Painting	Paint fumes, contact with paint	Dizziness resulting in fainting and/or falling from heights	3	2	8	Respiratory protection must be worn. Areas to be well ventilated. Always refer to MSDS for instructions on usage, hazards, and precautions.	2	1	2
41.	Handling Hazardous Chemical Substances (HCS)	Hazardous chemicals	Flammable and combustible chemicals may cause fires, Chemicals may be consumed if kept in unlabeled containers.	3	3	13	Always refer to MSDS for instructions on usage, hazards, and precautions. Appropriate PPE to be worn. Create awareness through toolbox talks. Labelling all Hazardous Chemical Substance containers.	2	2	5
42.	Storage of Hazardous Chemical Substance	Hazardous chemicals	Flammable and combustible chemicals may cay cause fires.	3	4	18	Well-ventilated hazardous chemicals substance storage must be provided. Safety signs to be displayed on the hazardous chemical store. Separating hazardous chemical substances that will ignite when stored together. Create awareness through toolbox talks	2	3	9

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43.	Re-fueling plant and motorized equipment	Flammable fumes	Source of ignition may result in fire	2	3	9	Flammable liquids to be stored safely. Smoking rules to be enforced on site.	1	2	3
44.	Noise and dust from site activity	Nosie and dust	Long-term exposure to high levels of dust can result in lung disease. Long-term exposure to high levels of noise may result in hearing loss.	1	3	6	Hearing protection to be worn where applicable. Respiratory protection must be worn where there is a high level of dust and/or when working with tools creating dust. Areas to be dampened down to minimize dust.	2	1	2
45.	Working at heights, including roof work	Working at heights	Person may fall off resulting in major injuries	2	3	9	Working at heights to be carried out according to specifications of the fall protection plan. Appropriate PPE to be worn. Access equipment to be properly constructed – inspection records to be maitained. Trained personnel construct, dismantle, inspect and control the access equipment.	2	2	5
		Material and tools	Material and tools may fall injuring persons below	3	2	8	Working at heights to be carried out according to specifications of the fall protection plan. Appropriate PPE to be worn.	1	2	3
46.	Scaffolding and Formwork	Scaffold Formwork	Scaffold may collapse, Formwork may collapse	3	3	13	Scaffolding and formwork to be erected, inspected, used, and maintained in accordance with legal requirements by competent persons.	2	2	5

No.	TASK / ACTIVITY	HAZARD/ ENERGY	UNWANTED EVENT/ RISK	LIKELIHOOD	CONSEQUENCE	RISK VALUE	CONTROLS	LIKELIHOOD	CONSEQUENCE	RISK VALUE
47.	Scaffolding Erection/Dismantling	Scaffold erection and/or dismantling	Person falling from heights, Items of scaffolding falling onto persons, scaffolding collapsing onto others below	4	3	17	Scaffolding should be designed to take the imposed loads. Appropriate PPE to be worn, including fall arrest PPE. Scaffolding and formwork to be erected, inspected, used, and maintained in accordance with legal requirements by competent persons.	3	2	8
48.	Shuttering walls, beams, columns	Shuttering walls, beams, columns	Falling from heights, Material falling from heights, Cuts and abrasions from splinters and nails.	3	3	13	Appropriate PPE to be worn. Trained and competent personnel. Safe means of access required. Safety standards to be followed.	2	2	5
49.	Ceiling and insulation	Material, tools, and manual labour	Material and tools may fall injuring persons below	2	2	5	No person may work underneath people working on a scaffold or ladders.	2	1	2
50.	Tiling walls and floors	Tiles, manual labour, and tools	Back and knee injuries, Hand injuries	2	2	8	Knee pads must be worn. Tilers must take regular beaks. Appropriate PPE to be worn.	1	2	3
51.	Installing cupboards	Manual labour and tools	Hand and other injuries	2	2	5	Appropriate gloves to be worn where necessary.	2	1	2
52.	Plumbing	Lifting and installing geysers and pipes	Back sprains, property damage from burst pipes	1	2	3	Enough personnel to assist with lifting. All plumbing to be conducted by competent persons.	1	1	1
53.	Plumbing	Plumbing	Falling material, falling from heights, fire, burns, exposure to lead fumes.	2	2	9	Appropriate PPE to be worn. Trained and competent personnel. Safe means of access and egress. Emergency procedures must be in place.	2	1	2

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54.	Manual labour and ergonomics	Heavy loads and uncomfortable positions.	Muscle and other injuries	3	2	8	Safe manual handling techniques to be applied. Create awareness for safe manual handling through toolbox talks. Appropriate PPE to be worn.	1	1	1
55.	Supply of welfare facilities	Dirty facilities, Unhygienic conditions.	Illness and disease may be contracted	4	2	12	Regular inspections to be conducted. Rules to keep facilities hygienic need to be enforced. Awareness through toolbox talks.	2	1	2
56.	Alcohol and unlawful substance	Unsafe act.	Employee might compromise the safety of other employees	2	3	9	Breathalyzing equipment to be used when employees access the site. Toolbox talks on alcohol and substance abuse to be communicated to create awareness on dangers relating to alcohol and substance abuse in the workplace. Site rules to be enforced.	1	2	3
57.	Open edges and platforms.	Unprotected/demarcated edges and platforms.	Falling from heights and Material and tools may fall injuring persons below	4	4	21	Solid barricading to be used. Regular inspection to be conducted. Signage to be displayed where there is open edges and platforms.	3	4	18

No.	TASK / ACTIVITY	HAZARD/ ENERGY	UNWANTED EVENT/ RISK	LIKELIHOOD	CONSEQUENCE	RISK VALUE	CONTROLS	LIKELIHOOD	CONSEQUENCE	RISK VALUE
58	Ergonomic	Repetition movements resulting in MSD'S. Grip force with hands, wrist, arms resulting in muscle fatigue and inflammation	Lost time injury Medical treatment incidents Body injuries Heat exhaustion	2	1	6	Employees trained to recognize MSD symptoms. Encourage early reporting of MSD symptoms. Re-evaluate work procedures. Ensure regular resting periods. Employees need proper training in lifting practices. Job task observations. • Mechanical lifting where possible Redesigned tasks. • Trained first aider Sufficient fresh water hourly (600 ml) Sunscreen should also be available. Equipment with lowest vibration be used. Proper maintenance schedules must be in place. Proper medical surveillance program in place Vibrating reducing hand gloves must be used.	1	1	1
59	Vehicular access to the work site	Height restrictions	Possible damage to vehicles and entrance tunnels	3	3	13	Height restriction requirements signage must be clearly displayed at all entrance points and where overhead heights are altered. Vehicle operators entering to observe and adhere to overhead restrictions	2	2	5

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60.	Public Safety	Unauthorized entry	The public accessing the site without authorization, exposing them to dangerous activities on site.	4	3	13	Security personnel to control access on site. All safety signs to be visible and to be monitored continuously.	2	2	5
61	Emergency Preparedness	Employees/visitors unprepared in an event of emergency	Employees/visitors not knowing what to do in an event of emergency.	3	3	13	Emergency procedure to be communicated to all personnel on site. Emergency equipment to be inspected and tested regularly. Emergency evacuation sign to be displayed.	2	2	5
62.	Vehicle movement and interfacing	Haulage vehicles	Vehicle collision Pedestrian collision Damage to property, gas pipes and electrical apparatus Blockage of entrance and exit points	3	3	13	Vehicle operators observe a speed limit of 20 at all entrance and exit points. Operators observe the lanes provided and all directional signage. Vehicles to be parked only at designated parking areas. No parking at exit and entrance points Operators observe all electrical components during operation. Operators to observe movement of personnel at the storage areas.	2	2	5

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63.	Working in remote area's	Snakes and Insects	Fatalities Serious injuries Lost times injuries	4	4	21	If known allergy to stings take appropriate medication on site. If feeling unwell after a site visit seek medical attention. Wear long trousers and long sleeves, use insect repellent, avoid brushing through tall vegetation, check clothing for ticks and consult a doctor in the event of tick bite	3	2	13
64.	Fire Protection	Inadequate and wrongly placed fire equipment can cause delay in dealing with fire should it occur. Poor housekeeping Falling objects Hand Injuries Back Injuries Strains	LTI Medical Cases / 1st Aid Cases May result in overall project overrun. Trip slip and falls Serious injuries or fatalities when fire gets out of control. Non-availability of fire equipment's Untrained personnel using the wrong type of equipment to extinguish the fire delays in searching for fire extinguisher. Fire alarm not functional or inaudible Access was blocked and people trapped inside, firefighting team not able to obtain access. Shortage or non- operation of firefighting equipment Overcrowding an exit point during fire	4	4	25	Adequate fire equipment to be provided and placed in a suitable location. Monthly checklist of all fire equipment's Provide training and have fire drills periodically. Store material in demarcated areas Cigarettes are to be extinguished properly and thrown into rubbish bins. Ashtrays and waste bins to be emptied daily. Fire escape routes and assembly points to be determined and clearly marked. All workers must use appropriate PPE, Close supervision Discuss risk assessment with workers. Induction training Toolbox talks training	3	2	13

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65.	Electrical Installations	Unprotected power circuits. Use of tools and loads designed to withstand wet conditions when working in electrical work. Working on live installations; and Untested and not inspected	Electrocutions and Fatalities	4	5	25	Power circuits to be protected. Electrical leads not to be arranged to run across floors, doorways. Equipment must be identified as unsafe, isolated, and labelled as unsafe and not reconnected;	3	2	13
66	Mechanical Works, Air conditioning and Fire installations	Unsafe access to equipment. Carrying heavy equipment to unsafe heights. Tripping over HVAC Piping materials. Openings in roof and ceiling structures and	Fatalities	4	5	25	Inspections and safe checks to access equipment's ladders. Learn lifting techniques. Identify and guard openings that are potentially unsafe. Provide lighting and ventilation to obscured places. Ensure safe working conditions and guards on tools are in place	3	4	13

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67	Paving	Improper use of hand tools Handling bricks with bare hand Manual labour – Bad ergonomics	Injuries due to improper use of tools Injuries to the hands Potential Back injuries / body ache	3	3	13	Checklist to be completed when doing hand tool inspections. Wear correct PPE (gloves) Create awareness on Good Ergonomic practices.	3	2	8
68	Landscaping	Exposure to high noise levels on site. Manual labour – Bad ergonomics Improper use of hand tools	Exposure to noise for long periods can lead to hearing loss Potential Back injuries / body ache Injuries due to improper use of tools	3	4	18	Create awareness of exposure to high noise levels and the importance of wearing hearing protection if and when exposed. Correct PPE to be provided (hearing protection) Create awareness on Good Ergonomic practices. Checklist to be completed when doing hand tool inspections.	3	2	12
69.	Waste management and cluttering	Redundant materials	Space limitations and tripping hazards	3	2	8	Personnel to continuously remove waste for disposal to prevent accumulation. Designated temporal waste storage to be allocated for waste. Combustible materials to be kept away from sources of ignition	2	2	5