

Annexure F

Baseline Risk Assessments

Baseline Risk Assessment

PROJECT:

**Provide Corrective maintenance & Repairs to thatch roofs infrastructure on the chalets and management buildings at iXaus Lodge
in Kgalagadi Transfrontier Park**

Risk Rating is measured by determining the Likelihood (L) and Consequence (C) and using the Matrix to determine the Risk Rating (R).

Risk Ranking below 10 is deemed Tolerable, between 11 and 19 is deemed Medium Risk and above 20 is deemed High Risk

Steps in operation	Ref No.	Hazard	Risk	Risk Rating			Controls Measures	Action Period (AP)	Action to mitigate
				P	F	S			
General Onsite Activities	A1	Access to Site	Pedestrian & people equipment interaction causing injury	4	2	12	Occupational Health and Safety Act 24(1)		Area to be secured and barricaded / fenced
			Dust Inhalation	3	1	4	Hazardous Chemical Substances Regulation (36)(37)(38)		Induction Training & PPE
			Unauthorised entry	3	2	8	Occupational Health and Safety Act 12(2)		Site Visit Register, signage, Permit for vehicle access
			Slip, trip and fall	3	2	8	Occupational Health and Safety Act 12(1)(b)(c)		Induction Training & PPE
	A2	Placing of office/ containers if lifting is involved	Heavy objects swinging out of control causing injury/damage	2	4	14	Driven Machinery 18 (11)		Safe work area, Induction Training, Trained operator, Lifting Plan
			Crane/lifting tackle failure causing object to fall	2	4	14	General Machinery Regulations 7(a)9b)		Inspection Register, Trained operator
			Accidental collision with overhead power lines	2	4	14	General Machinery Regulations 7(a)(b)		Assign a flag man, determine safe work area
			Lifting machine/crane falling over	2	4	14	General Machinery Regulations 5(1)(2)		Assign a flag man, determine safe work area
	A3	Hand Loading and offloading of heavy machinery & equipment	Items rolling/slipping falling causing injury	4	2	12	General Machinery Regulations 2(1)		Induction training, PPE
			Incorrect Lifting procedure resulting in injury	3	2	8	General Machinery Regulations 3(2)		Induction training, Proper lifting procedure, PPE

A4	Machine loading and offloading of heavy machinery & equipment	Failure of machinery causing injury	3	3	13	Driven Machinery 18(1)(a)(b)		Supervision
		Equipment falling	3	3	13	General Machinery Regulations 2(2)		PPE

Steps in operation	Ref No.	Hazard	Risk	P	F	S	Controls Measures	Action Period (AP)	Action to mitigate
			Pedestrian collision	3	4	18	Construction Regulation 23(2)(c)		Pedestrians Walkways
	A6	Lack of employees' facilities	Lack of drinking water, dehydration of workers	3	5	22	Construction Regulation 30(1)(a)		Provision of drinking water & Induction training
			Lack of sanitary facilities, unhygienic conditions	3	5	22	Construction Regulation 30(1)(b) and 30(2)		Provision of chemical toilets & proper housekeeping
	A7	Stacking & Storage	Fall, slip resulting in potential injury/damage	4	3	17	Construction Regulation 28(d)		Storage plan, induction training and restricted access
			Obstructing critical equipment and walkways	4	3	17	Construction Regulation 27 (a)(c)(g)		Storage plan, induction training and restricted access
			Flammable liquids catching fire	3	3	13	Construction Regulation 25(a)(b)(c)		Storage plan, induction training and firefighting equipment
			Hazardous storage of materials	3	3	13	Hazardous Chemical Regulation(25)9A (2)		Storage plan, regular inspections
	A8	Handling of chemicals and fuels	Exposure	3	3	13	Hazardous Chemical Regulation 9A(1)(a-p)		PPE
			Inhalation	3	3	13	Hazardous Chemical Substances Regulation (36)(37)(38)		
			Burns to Skin	3	3	13	Hazardous Chemical Substances Regulations 9A(2); Material Data Sheet		
	A9	Temporary Low voltage Electrical installation	Exposure to live wires-electrocution	2	5	19	Construction Regulation 24(a)(b)		Lockable DB box, Inspection register
			Faulty earth leakage	2	5	19	SANS 10142		Competent person to do installation & inspection
			Short circuit causing fire	2	4	14	Construction Regulation 24(b)		Weekly inspection, Induction Training & Firefighting equipment
	A10	Issue of PPE	Incorrect PPE	4	2	12	General Safety Regulation 2(1)		PPE Register

Steps in operation	Ref No.	Hazard	Risk	P	F	S	Controls Measures	Action Period (AP)	Action to mitigate
	A11	Usage of PPE	Incorrect use of PPE	4	2	12	General Safety Regulation 3(2)		PPE Register, Induction Training, supervision
			Negligence to use PPE	4	2	12	General Safety Regulation 5		PPE Register, Induction Training, supervision
	A12	Adverse storms	Struck by lightning	2	5	19	Induction Training Safe Operation Procedure		Proper warning system
	A13	Adverse heat	Dehydration, Sunburn, heat stroke	3	4	18	Induction Training Safe Operation Procedure		Proper drinking water, PPE
	A14	Working in excessive winds	Exposure to dust	3	4	18	Hazardous Chemical Substances Regulation (36)(37)(38)		PPE
	A15	House keeping	Objects lying around can result in slip/fall	4	2	12	Construction Regulation 27(a)(b)		Regular cleaning of site
			Unhygienic conditions	3	3	13	Construction Regulation 27(d)		Induction Training
			Pollution of area	3	2	8	Construction Regulation 27(e)		Proper waste bins and waste removal
	A16	Fire prevention	Open Fires	3	3	13	Construction Regulation 29(a)		SANParks EMP & Code of conduct
			Inadequate firefighting equipment	4	3	17	Construction Regulation 29(g)(h)		Inspection register, supervision
			Run away fires	4	4	21	Emergency evacuation plan		SANParks EMP & Code of conduct
			Accidental Fires	3	4	18	Construction Regulation 29(a)(d)(iii)		Designated smoking areas
	A17	Environmental pollution	Pollution of ground,air,workspace	3	2	8	Environmental Regulation 6(d)		SANParks EMP & Code of conduct
			Littering	4	2	12	SANParks Environmental Management Plan		Induction Training, Provide proper trash bins
	A18	Working near hazardous animals incl snakes, spiders & scorpions	Poisons bites/ attack by large animals	3	3	13	SANParks Environmental Management Plan		Induction Training, SANParks ranger where required, Proper treatment in first aid kit

Steps in operation	Ref No.	Hazard	Risk	P	F	S	Controls Measures	Action Period (AP)	Action to mitigate
	A19	Working in close proximity of water	Falling into water & drowning	3	4	18	Construction Regulation 26(1)(a)(b)		Safe work area, Induction Training, barricades
			Pollution of water body	3	4	18	SANParks Environmental Management Plan Construction Regulation 26(2)		Induction Training
Plant or vehicle & equipment	B1	Construction vehicles	Equipment Failure	4	4	21	Construction Regulation 23(1)(k)		Vehicle check list and regular maintenance
			Unroadworthy vehicles	3	4	18	Construction Regulation 23(2)(i)(j)(k)		Vehicle check list and regular maintenance
			Speeding/ Operation	3	4	18	Construction Regulation 23(2)(l)		Safe traffic route, imply penalties, traffic calming measures
			Potential accident/collision	4	4	21	General Machinery Regulations 7(a)		Induction Training, Reflective vests, safe work area
			Material/equipment fall from vehicle	4	4	21	Construction Regulations 23(1)(b)(g)(h)		Properly secure all goods
			Vehicle/plant not used for correct purpose	3	3	13	Construction Regulations 23(1)(b)(c)		Supervision, controlled access to vehicle/plant
	B2	Licencing of operators	Unauthorized operation of equipment	3	3	13	Construction Regulation 23(1)(d)(i)(ii)		Valid operator, restricted access to machinery, supervision
			Expired licenses	3	1	6	Construction Regulation 23(1)(d)(i)(ii)		Keep OHS file up to date
	B3	Parking of vehicles	Runaway vehicle	3	4	17	Safe Operation Procedures (SOP)		Vehicle check list, use stop block behind tyres
			Parking in unsafe areas	3	1	4	Construction Regulation 23(2)(i)(j)		Demarcate proper parking areas
Transportation	C1	Transportation of employees	Interaction with other vehicle-collision	4	4	21	Construction Regulation 23(1)(b)(j)		Supervisor
			Equipment not roadworthy	3	1	4			Vehicle checklist, vehicle must meet required standards

Steps in operation	Ref No.	Hazard	Risk	P	F	S	Controls Measures	Action Period (AP)	Action to mitigate
			Equipment not licensed	3	1	4	Construction Regulations 23(a)(b)		Supervision and monitor
			Operator of vehicle transporting employees not licensed and authorized	3	1	4	Construction Regulation 23(2)(i)(j)		Supervision and monitor if Driver has Valid PDP
			Vehicle not equipped to transport employees	3	1	4	Construction Regulation 23(d)(i)(j)		Vehicle checklist, vehicle must meet required standards
			Not Adhering traffic legislation	3	1	4	Construction Regulation 23(2)(j)		Supervision, implement fines
	C2	Transportation of material or equipment with people	Material/equipment fall from vehicle	4	4	21	Construction Regulation 23(g)(h)		Properly secure all goods
			Potential accident/collision	4	4	21	Construction Regulation 23(2)(g)(h)(j)		Induction Training, Reflective vests, safe work area
	C3	Towing a Trailer	Vehicle accident	4	4	21	Construction Regulations 23(e); Occupational Health and Safety Act 24(1)(c)(iii)(iv)		Awareness, trained operator
			Towing coupler failure	3	3	13	Construction Regulation 22(e)		Inspection Register
Hand Tools	D1	Injury Due to	Incorrect tools used	4	3	17	Hand tool register, Induction Training,		Supervision
			Defective tools	4	3	17	Safe Operation Procedure		Supervision
			Struck by flying debris	3	3	13	Safe Operation Procedure		PPE

Steps in operation	Ref No.	Hazard	Risk	P	F	S	Controls Measures	Action to mitigate
	D2	Hand Drills	Clothing being grabbed by rotating drill	3	3	13	Safe Operation procedure, Toolbox Talks Electrical Machinery Regulations 10(3)(4)	PPE, Supervision
			Unsecured work piece rotating with drill	3	3	13		PPE, Supervision
			Shaving flying into eyes	3	3	13		PPE, Supervision
			Accidental injury	4	3	17	Electrical Machinery Regulations 10(4)	PPE, Supervision
			Electrocution	3	5	22	Electrical Machinery Regulations 10(1) (a)(b)	Tool inspection register
	D3	Explosive actuated fastening device	Malfunction of equipment causing injury/damage	3	3	13	Explosive Regulations 15(a)(b)	Tool inspection register, inspect extension cord
			Accidental injury	3	3	13	Explosive Regulations 15(b)	PPE, Supervision
			Accidental discharge	3	3	13	Explosive Regulations 15(a)(b)	Safety mechanism working, Store in unloaded condition
	Site Clearance	E1	Site/Bush Clearing	Moving machinery accident	4	3	17	Construction Regulation 23(2)(b)
Injury due to hand tools				4	3	17	Safe Operation Procedures (SOP)	Induction Training, PPE, First Aider
Snakes/ Spider bites				3	3	13	SANParks Environmental Management Plan	Induction Training, Proper First Aid treatment available
Dangerous animals in vicinity				3	3	13	SANParks Environmental Management Plan	Induction training, armed rangers escort
Electrical cables and other services in way of work area				3	4	17	Construction Regulation 24(c)	Properly mark & demarcate existing services
E2		Tree felling	Injury from chainsaw	3	3	13	Safe Operation Procedures (SOP)	Trained operator, PPE
			Injury from falling tree	3	3	13		Safe work area, PPE
			Felling from height	3	3	13		Safety Harness, Fall Protection Plan, PPE

Steps in operation	Ref No.	Hazard	Risk	P	F	S	Controls Measures	Action to mitigate
			Exposure to electrical cables	3	3	13	Electrical Installation Regulations(5)(1)(2)	Safe work area, PPE
	E3	Removal of waste	Moving machinery accident	4	4	22	Construction Regulation 23(1)(b)(c)	Reflective vests, restricted access, induction training
			Waste material falling of vehicle	3	3	13	Construction Regulations 23(h)	Secure load, stay within maximum vehicle load capacity
			Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
	E4	Demolition	Structure/rubble falling on person	3	3	13	Construction Regulation 14(1); 4(ii)	Induction Training, PPE, demarcate area
			Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
			Presence of lead	2	4	14	Lead Regulations (3)	PPE, Induction Training
			Presence of Asbestos	2	4	14	Asbestos Regulations (4)	PPE, Induction Training
			Hitting electrical cable - electrocution	3	5	22	Construction Regulation 24(a)	Induction training, Site map indicating existing services
			Hitting of gas line - explosion	3	5	22	Construction Regulation 14(1)(2)	Induction training, Site map indicating existing services
Excavation & backfilling	F1	Hand Digging of holes/trenches	Injury due to defective tools	4	3	18	Construction Regulation 13(a)	Hand tool register, Induction Training
			Injury due to improper work method	4	3	18		Induction training, supervision
			Trip/fall into holes	3	3	13		Demarcate area, induction training, PPE
	F2	Machine Digging of holes/trenches	Collapse of trench	3	3	13	Construction Regulation 14(4)(iii)	Excavation inspection register by component person daily
			Collapse of adjacent structure	3	3	13	Construction Regulation 11(1)(a)	Safeguard adjacent structures
			Malfunction of machinery	3	3	13	General Machinery Regulations 2(2)	Machinery Inspection Register
			Unauthorized driver	2	2	5	General Machinery Regulations 2(1)	Trained operator, supervision, restricted access to machinery
Steps in operation	Ref No.	Hazard	Risk	P	F	S	Controls Measures	Action to mitigate

			Unnecessary Damage to environment	3	2	9	SANParks Environmental Management Plan	Induction Training, designated work area
	F3	Tipping of material	Material falling on to person	3	3	13	Construction Regulation 23(g)	PPE, Safe Work area, Flag men
			Malfunction of equipment causing injury/damage	3	3	13		
	F4	Hitting of electrical cable and services	Electrocution	3	5	22	Construction Regulation 24(a)(b)(c)	Induction training, Site map indicating existing services
	F5	Opening trenches	Risk of collapse	3	3	13	Construction Regulation 13(h)(l)	Stabilize trench, work permit, induction training
			Fall, slip into trench	4	3	17	General Safety Regulations 2(5)(6)	Barricade trench, PPE
	F6	Compaction	Personal Injury	3	3	13	General Safety Regulations 2(5)	PPE, Trained operator
			Collision of machinery	3	3	13	General Machinery Regulations 4(1)	Induction Training, Reflective vests, safe work area
			Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
Temporary Works	G1	Stop & Go Procedures - Moving Vehicles	injuries to employees involved in an accidents whiles setting up and taking down Stop/Go procedure	4	4	21	Construction Regulation 12(3)(d)	Visibility jackets, radio communication
			Injuries to employees involved in an accidents - in the midst of Stop/Go activity	4	4	21		
			Injuries to road users involved in an accidents - approaching a Stop/Go activity	4	4	21	Construction Regulation 12(3)(d)	PPE, Competent person conduct work
			Injury during assembly/dismantling	3	3	13	Construction Regulation 12(3)(a)	Induction Training, PPE, Supervision

Steps in operation	Ref No.	Hazard	Risk	P	F	S	Controls Measures	Action to mitigate
Installation of Pipes/cables	K1	Installation of sewer/water pipes in trenches	Fall, slip into trench	4	3	17	Electrical Installation Regulations(5)(1)(12)	Barricade trench, PPE
			Exposure to Hazardous biological agents	3	3	13	Hazardous Biological Agents Regulations 5(2)	Hazardous biological
			Pipe handling/lifting resulting in injury	3	3	13	Hazardous Biological Agents Regulations 5(2)	Hazardous biological
	K2	Installation of electrical cable in trench	Fall, slip into trench	4	3	17	Electrical Installation Regulations(2)(1)(2)	Barricade trench, PPE
			Cable handling/lifting resulting in injury	3	3	13	Electrical Installation Regulations(2)(1)	Induction Training, PPE
Concrete	J1	Manual Mixing	Cement dust inhalation	3	2	8		Material Safety Data Sheet , PPE Supervision
			Hazardous substance contact dry cement mix	3	3	13	Hazardous Chemical Substances Regulations 9A(2)(2) Material Safety Data Sheet (MSDS)	PPE, Induction Training
			Spillage/pollution	3	3	13		PPE, Concrete mixing sheet
			Injury during mixing/cement burns	3	3	13		Induction Training, Supervisor, PPE
	J2	Concrete Mixer Machine	Poor ventilation causing ill health	3	2	8	General Safety Regulations 5(5)	PPE, Additional ventilation
			Accidental injury through flying objects	3	3	13		Induction Training, Supervision
			Spillage/Pollution	3	3	13	Hazardous Chemical Substances Regulations 10(3)	Induction Training, PPE
			Clothing/body parts getting caught in open pulley V -BELT	3	3	13		Induction Training, inspection register, moving parts covered with guard

Steps in operation	Ref No.	Hazard	Risk	P	F	S	Controls Measures	Action to mitigate
Concrete	J3	Bulk Mixing Plant	Unauthorised operations	3	3	13	Construction Regulation	Competent Operator, Supervision Maintenance register, inspection register
			Malfunction of equipment causing injury/damages	3	3	13	Construction Regulation	PPE, Fall Protection Plan, Safe Work area
	J4	Road Construction	Risk of being struck by vehicle while working next to road	4	4	21	Occupational Health and Safety Act 24(3)(a)(b)	Traffic Management Plan, Road Signs, reflective vests, Flag man
			Failure of regulating traffic causing collisions	3	4	18		Competent person, supervision
			Injury from road users and public	4	4	21	Construction Regulations 23(1)(e)(j)	Restrict access to site, Signage
			Noise pollution	3	2	8	Noise Induced Hearing Loss Regulations 7(1)(a)(b)(c)(d)	PPE
			Inhalation of dust	3	2	8	Hazardous Chemical Substances Regulations 8(a)(b)(c)	PPE

Risk Rating Matrix

		Likelihood				
		5	4	3	2	1
Consequence	5	25	24	22	19	15
	4	23	21	18	14	10
	3	20	17	13	9	6
	2	16	12	8	5	3
	1	11	7	4	2	1

Actions

High 20-25	Immediate action to reduce risk. Introduce hard barriers and adequate controls to reduce risk. Control hazards. Monitor regularly
Moderate 11-19	Urgent attention to improve controls and reduce inherent risks. Monitor systems controls & audit quarterly & implementation of controls
Acceptable 1-10	Controls in place. Tolerable risk levels. Ensure monitoring is as per H&S Policy

INITIALS	SURNAME	DESIGNATION	CONTACT DETAILS	HIRA TRAINING	SIGNATURE	DATE
J	Kruger	Park Technical Services Manager	054 561 2022	Yes		

COVID -19 RA

DEFINITIONS		Probability (1 - 5)		Determining your prioritisation rating (A/P)			
Hazard	Is a condition, activity, object or substance that has the ability to cause harm.	1	Highly improbable	%	Prioritization indicator	Action	
Risk	Is the chance or likelihood of a hazard causing harm or damage.	2	Less than even chance	1% - 20%	E	Monitor the situation	
Probability	The likelihood of a specific outcome/consequence	3	Improbable	21% - 40%	D	Within six months	
Frequency	A measure of the rate of occurrences of an event expressed as the number of occurrences at a given time	4	Probable	41% - 60%	C	Within one month	
Severity	Degree or harm of the outcome/consequence	5	Inevitable	61% - 80%	B	Within one week	
This HIRA does not necessarily cover all hazards associated with the operation / equipment. It is designed as a guide to compliment the Operational Specific HIRA, which must be carried out for each task forming part of an operation.				81% - 100%	A	Immediate	
Frequency (1 - 5)		Severity (1 - 15)					
1	Hazard arise 2 yearly	1	Superficial injuries, minor cuts and bruises, nuisance and irritations (e.g. eye irritations & headaches), ill health leading to temporary discomfort.	6	Laceration, burns, concussion, serious sprains, minor fractures, deafness, dermatitis, asthma, work related upper limb disorder, ill health leading to permanent minor disablement.	11	Amputation, major fractures, poisoning, multiple injuries, fatal injuries, Occupational cancer, other severely life shortening diseases, acute fatal diseases.
2	Hazard arise yearly	2		7		12	
3	Hazard arise every month	3		8		13	
4	Hazard arise every week	4		9		14	
5	Hazard permanently present	5		10		15	