

DEVELOPMENT BANK OF SOUTHERN AFRICA



BASELINE RISK ASSESSMENT

DBSA SCHOOLS INFRASTRUCTURE UPGRADES, REPAIRS AND RENOVATIONS

WORKS FOR: POPANO SECONDARY SCHOOL

Scope defined in Tender 42.2.1 and Project BOQ

FEBRUARY 2026

Prepared For: DBSA

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1 TITLE

Baseline risk assessment undertaken in terms of Construction Regulation 5(1) to identify the operational risks to be addressed by the project specific health and safety specification

2 TERMS OF REFERENCE

A health and safety risk assessment based on the scope of work as detailed in the project concepts reports was conducted at the site. The assessment was conducted in February 2026 and includes the identification of occupational health and safety hazards and risks associated with the proposed works as well as the evaluation thereof. A risk profile is created and presented in the report

3 EXECUTIVE SUMMARY

All construction and maintenance activities subject workers to levels of environmental stressors and safety hazards such as noise, fumes, revolving machinery, tools, moving vehicles, electricity, etc., which permanently harm the health and physical wellbeing of persons at work and greatly reduce productivity. The Occupational Health and Safety Act of 1993, and its relevant regulations, require employers to conduct occupational health and safety risk assessments of work activities at every site. Assessments must be conducted, and the identified problems addressed by the employer. Improved conditions ensure better worker morale, loyalty and greater productivity.

This assessment was made for Popano Secondary School in the Freestate under the conditions as illustrated in the design report. Detailed conclusions are given in the relevant sections of this report.

4 HAZARD IDENTIFICATION AND RISK ASSESSEMENT

4.1 OBJECTIVE OF ASSESSMENT

A baseline risk assessment was conducted based on the scope of work as indicated on the concept report of the proposed infrastructure upgrade and repairs

The objective of the assessment was to comply with statutory requirements, inform the client of the occupational health and safety risk factors to which persons will be exposed when executing the intended works.

It must be noted that perceptions were used during the assessments and is not a quantifying survey and should only be used as an indicator for risk areas.

4.2 STATUTORY REQUIREMENTS

Section 9(1) of the Occupational Health and Safety Act 1993 (Act no. 85 of 1993), requires inter alia that the employer shall establish as far as is reasonably practicable, what the hazards to the health and safety of persons are attached to any work which is performed, further establish what precautionary measures should be taken with respect to such work and he shall provide the necessary means to apply such precautionary measures. The Construction Regulations 2014 further requires that a baseline risk assessment for an intended construction work project be compiled and a suitable, sufficiently documented and coherent site-specific health and safety specification for the intended construction work based on the baseline risk assessment to be prepared.

4.3 RISK ASSESSMENT METHOD

During the assessment the presence of health, safety and environmental hazards were considered, the impact, exposure and likelihood were considered for the assessment.

The risk rating was obtained by multiplying impact by exposure by likelihood, i.e.

$$\text{Risk Rating} = \text{Impact} \times \text{Exposure} \times \text{Likelihood}$$

4.4 RATING MATRIX

The matrix indicated below was used to rate the risk

			2% to 33%	34% to 50%	51% to 66%	67% to 96%	97% to 100%
		Almost Impossible	Very Unlikely	Unlikely	Likely	Very Likely	Almost Certain
	Basis Points	1%	18%	42%	59%	82%	100%
Extreme	100	1,0	17,5	42,0	58,5	81,5	100,0
Major	50	0,5	8,8	21,0	29,3	40,8	50,0
High	25	0,3	4,4	10,5	14,6	20,4	25,0
Moderate	13	0,1	2,3	5,5	7,6	10,6	13,0
Minor	6	0,1	1,1	2,5	3,5	4,9	6,0
Insignificant	3	0,0	0,5	1,3	1,8	2,4	3,0

Factor	Rating	Prescribed legal limits (PLL)**	Frequency	Duration	Extent	Environment
1,00	Very high	>200%	2 X per Shift	<40Hrs	over 101m	Extensive
0,80	High	101%-200%	1 X per Shift	<8hrs>40Hrs	51-100m	Widespread
0,60	Medium	75%-100%	Weekly	<2hrs>8 Hrs	11-50m	Significant
0,40	Low	50%-75%	Monthly	<1Hrs>2Hrs	6-10m	Restricted
0,20	Insignificant	< 50%	Annually	> 1 Hrs	1-5m	Negligible

Likelihood/ Probability rating	Description	Percentage
Almost certain	The event is expected to occur in most circumstances	100%
Very likely	The event will probably occur in most circumstances	67% -96%
Likely	The event should occur at sometime	51% -66%
Unlikely	The event could occur at sometime	34% -50%

Very unlikely	The event may occur only in exceptional circumstance.	2% - 33%
Almost impossible	The event may never occur	1%

Colour Code	Detail	Basis Point Range
	Tolerable risk	0 to 3
	Medium risk	3.1 to 24.9
	High risk	25 to 100

	Level	Outcome Description	Impact Values	Safety	Health	Environment
1	Extreme	Extreme event with the potential to lead to collapse of business and is fundamental to the achievement of objectives.	100	Multiple fatalities, Very serious irreversible injury from 10 people and above	May cause multiple deaths	Transboundary/National environmental disaster with long term or irreversible ecological impacts with high risk of legal and public liability.
2	Major	Major event which can be endured but which may have a prolonged negative impact and extensive consequences.	50	Fatality, multiple Major injuries or disability, Significant irreversible injuries to up to 10 people	Life threatening affects	National environmental disaster with long term ecological impacts with high risk of legal and public liability.
3	High	High impact events, which can be managed but requires additional resources and management effort.	25	Single major injury or disabling reportable	Irreversible significant health effects	Event that leads to environmental contamination (failure to manage appropriately, but contained within site boundaries)

4	Moderate	Event which can be managed under normal operating conditions.	13	Minor injuries, lost time,	Reversible significant health effects	Event which can be contained. Is limited to immediate area of occurrence associated with short term ecological disturbances, and/or is a transgression of internal standard
5	Minor	Events of which consequences can readily be absorbed under normal operating conditions.	6	Minor injuries, no lost time	Reversible minor health effects	Minor negative impact, no corrective action necessary. Must be monitored.

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6	Insignificant	Frequent minor risks that do not disrupt business, or with no adverse health effect or injuries.	3	No Health effects	Negligible	Negligible
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5 RESULTS AND DISCUSSION

From the baseline risk assessment, 16 of the hazards that were identified were found to be high risk. These include driving onsite, fall protection, access scaffolding, lifting, electrical work, excavations and high/medium voltage electrical equipment amongst others. Fall protection and access scaffolding will apply for all the work that is going to be done at height for the construction activities. Construction of the substation will be associated with high-risk electrical work and high or medium voltage equipment hazards. Immediate action is required for all high-risk activities. Strong mandatory action is also required, and the required action must be documented on the risk assessment record

17 medium risk activities were also identified. Accommodation of transport, emergency preparedness, first aid, inclement weather among others. Planned approach to controlling the hazard is required and this also applies to temporary measures when required. Required action must be documented on the risk assessment record

Tolerable risk activities included housekeeping, occurrence of natural disasters, dangerous animals amongst others. Minor or no action is required.

Risk is tolerable/acceptable and further reduction may not be necessary.

6 ANNEXURE 1: RISK ASSESSMENT FORM

ACTIVITIES	HAZARDS	RISKS	RAW RISK EVALUATION			R R	CONTROL MEASURES	RESIDUAL RISK EVALUATION			R R
			C (1 – 3)	L (1 – 3)	O R (C x L)			C (1 – 3)	L (1 – 3)	O R (C x L)	
Driving to and from site	Unroadworthy vehicles	Injuries and fatalities resulting from road accidents	3	2	9	H	- Vehicle inspections - Vehicle maintenance and servicing - Road safety awareness	2	1	2	L
Driving to and from site	Incompetent drivers	Injuries and fatalities resulting from road accidents	3	1	3	M	- Licensed drivers - Road safety awareness	2	1	2	L
Driving to and from site	Poor weather conditions, e.g. misty, rain	Injuries and fatalities resulting from road accidents	3	2	6	H	- Exercise extreme caution - Reduce speed - Avoid driving during extreme weather conditions	2	1	2	L

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Driving to and from site	Poor road conditions	Injuries and fatalities resulting from road accidents	3	2	6	H	- Exercise extreme caution - Reduce speed - Avoid driving on extreme poor road conditions	2	1	2	L
Site establishment	Site identification, clearing and access routes	Injuries resulting from use of tools, mobile plant, exposure to animals and poor weather conditions	2	2	4	M	- PPE - Exercising caution - Inspections and maintenance programs - Awareness training	1	1	1	L
	Supply of office containers, storage and ablution facilities	Injuries resulting from poor manual material handling and lifting operations	2	3	6	H	- Training in manual material handling - Safe lifting procedures - Job observations	2	1	2	L
Administrative work, planning activities in site offices	Office work hazards e.g. cables, poorly designed workstations, defective office equipment	Injuries associated with poor ergonomics, paper cuts, tripping and falling, electrical shocks etc	2	2	4	M	- Office safety training, - Ergonomically designed workstations - Proper cable routing	2	1	2	L

Trenching	- Defective equipment and plant - Open excavations - Unstable excavations	Injuries or fatalities associated with defective equipment, falls into excavations or trench collapse	3	2	6	H	- Inspection and maintenance of equipment - Barricade open excavations - Brace or shore unstable walls	2	1	2	L
Trenching	Employees using picks and shovels to dig trenches	- Injuries from manual handling of picks and shovels - Injuries from use of defective picks and shovels	3	2	6	H	- Use of gloves - Inspection of tools to ensure that they are in good working order - Defective tools to be scrapped off	2	1	2	L
	Employees working too close to each other	Injuries and fatalities from pick swings	3	1	3	M	Ensure adequate spacing in between employees	2	1	2	L
	Poor weather conditions	Discomfort or illnesses from poor weather conditions	2	2	4	M	- Avoid working in extreme weather conditions - Use of PPE	2	1	2	L
	Open trenches	Injuries associated with falling in open trenches	3	2	6	H	- Open trenches to be barricaded - Signs to be posted to warn employees of open trenches	2	1	2	L

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	Existing underground services	- Property damage - Injuries or fatalities associated with electrocution from underground electrical cables - Flooding caused by broken pipeline	3	2	6	H	Existing underground services to be located and clearance given	2	1	2	L
Use of power tools	Poorly manufactured power tools	Injuries from use of poorly manufactured power tools	3	1	3	M	Only power tools that conform to applicable SABS standards to be purchased and used	2	1	2	L
	Poorly maintained power tools	Injuries from use of poorly maintained tools	2	2	6	H	Maintenance programme for tools to be developed and implemented	2	1	2	L
	Inappropriate use of power tools	Injuries from inappropriate use of power tools	3	2	6	H	- Employees to be trained in the safe use of power tools - Job observations and corrective actions	2	1	2	L
	Vibrating power tools	Hand and arm vibration syndrome	3	2	6	H	- Employee rotation - Maintenance of power tools to ensure they are in good working condition	2	1	2	L
	Poorly manufactured power tools	Cuts, sprains, concussions arising from the failure of hand tools through poor manufacture	2	2	4	M	Only power tools that conform to applicable SABS standards to be purchased and used	2	1	2	L
	Poorly maintained power tools	Cuts, sprains, concussions arising from the failure of hand tools through poor maintenance	2	2	4	M	- Maintenance programme for power tools to be developed and implemented - Inspection of hand tools to be done	2	1	2	L
	Inappropriate use of power tools	Cuts, sprains, concussions arising from the failure of hand tools through inappropriate	2	2	4	M	- Employees to be trained in the use of hand tools - Job observation to be conducted	2	1	2	L
Manual handling	- poor lifting methods - lifting heavy objects - failure to use PPE	musculoskeletal injuries	2	2	4	M	- Training in manual material handling - Job observations - PPE use enforcement	2	1	2	L

Machinery	Exposure to dangerous machine parts,	Injuries, fatalities, amputation, loss of limb or sight	3	2	6	H	- Machinery inspections - Training - Provision of guards	3	1	3	M
Electrical installations	Failure to do isolation of electricity from the mains	Injuries from electrocution	2	3	6	H	Isolating electricity from the mains before work	2	1	2	L
	Exposure to live electrical cables	Injuries from electrocution	2	3	6	H	- Inspect cables before handling for damages - Use insulating gloves	2	1	2	L
	Incompetent work on electricity	Injuries from electrocution	2	3	6	H	Ensure that employees are competent to do work	2	1	2	L
Stacking and storage	- Inadequate storage areas - unstable stacks	injuries associated with unsafe stacks and inadequate storage areas	2	2	4	M	- Provide adequate storage areas - Stacking and storage inspection and supervision - Training on stacking and storage	2	1	2	L
Work at height	Inadequate fall protection and prevention methods	Fatal injuries from falls	3	2	6	H	- Adequate fall protection plan - Adequate fall protection and prevention methods	2	1	2	L
Use of Mobile Elevated Work Platforms (MEWP)	- Defective MEWP - Incompetent operation - Uneven surfaces - Windy conditions - Failure to use fall arrest methods	Fatal injuries	2	3	6	H	- MEWP inspection and maintenance - Trained and competent operators - Operating on level surfaces - Calm weather conditions - Use safety harnesses	2	1	2	L

Installation of fixings	Poorly manufactured fixings	Injuries arising from the failure of fixings through poor manufacture	2	3	6	H	Only fixings manufactured to a certain SABS/ISO standard to be used	2	1	2	L
	Inappropriate use of fixings	Injuries arising from the failure of fixings through inappropriate use.	2	3	6	H	Safe working instruction in the use of fixings	2	1	2	L
	Inappropriate drilling of holes	Injuries arising from the drilling of fixing holes.	3	2	6	H	Safe working instruction on drilling of holes	2	1	2	L
Concrete and plastering work	Concrete splashes	eye injuries	2	2	4	M	Use of safety goggles	2	1	2	L
	contact with wet cement	skin dermatitis	2	2	4	M	- Use of safety clothing i.e. overalls and gloves - personal hygiene e.g. washing	2	1	2	L
Roof work	Unprotected roof edge	injuries from falls from the roof	2	3	6	H	- Edge protection - Training in fall protection - Medically fit employees	2	1	2	L
	Fragile roofs	injuries from falls from the roof	2	3	6	H	- Provision of supports - Training in fall protection - Medically fit employees	2	1	2	L
	Falling objects	Injuries from falling objects	2	2	4	M	- Barricading area underneath - Securing tools and materials at height	2	1	2	L
Hazardous Chemical Substances	Uncontrolled exposure to hazardous chemical	- Respiratory illnesses - Discomfort	2	2	4	M	Training of users on hazardous chemicals	2	1	2	L

	substances during use and storage	Skin dermatitis					- Use of PPE e.g. respirators and chemical resistant gloves - Medical examinations - Hygiene surveys				
Use of ladders	Defective ladders	Injuries associated with falls from ladders	2	3	6	H	- Inspection of ladders - Defective ladders to be scrapped off	2	1	2	L
	Inappropriate use of ladders	Injuries associated with falls from ladders	2	3	6	H	Safe working instruction on the use of ladders	2	1	2	L
Lone working	Lone working	Person having an accident, or feeling ill, and not being able to contact anyone	2	3	6	H	- Avoid lone working - Keep in regular contact with the supervisor	2	1	2	L
Working in noisy environment	High levels of noise	Noised induced hearing loss (NIHL)	3	2	6	H	Use of hearing protectors	2	1	2	L
Working in a dusty environment	Inhalation of dust	Respiratory problems	2	2	4	M	Use of dust masks	2	1	2	L
Use of chemicals such as paint and solvents	Inhalation of chemical fumes, vapour, mist etc	Respiratory problems	2	3	6	H	Use of respirators	2	1	2	L
	Skin contact with hazardous chemicals	Chemical burns or skin dermatitis	2	3	6	H	- Use of gloves - Training	2	1	2	L
Use of scaffolding	Defective scaffolding	Injuries associated with falls from scaffolding	3	2	9	H	- Scaffolding inspection - Training on work at height	2	1	2	L
	Failure to use fall prevention or arrest equipment	Injuries associated with falls from scaffolding	3	2	9	H	- Training on work at height - Enforce use of fall arrest or prevention equipment	2	1	2	L

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Public access to construction areas	Exposure of the public to construction work	Injuries from hazards associated with construction work	3	2	6	H	- Barricade work areas - Warning signs	2	1	2	L
Employee competency	Incompetent installation technicians	Accidents or incidence caused by incompetent employees	2	3	6	H	- Training of employees - Inductions - Skilled employees	2	1	2	L
Employee fitness	Unfit employees	Accidents or incidence caused by unfit employees	2	3	6	H	medical examinations and certificates of fitness	2	1	2	L
Alcohol or drugs use	employees working under the influence of alcohol or drugs	Accidents or incidences	2	3	6	H	- drugs and alcohol policy - awareness training - drugs testing	2	1	2	L
Ablution and welfare facilities	Absence of ablution and welfare facilities	Ill-health	2	2	4	M	Sanitary and welfare facilities to be provided	2	1	2	L
Ablution and welfare facilities	Facilities not being maintained in clean and hygienic conditions	Ill-health	2	3	6	H	Facilities to be kept in clean and hygienic conditions	2	1	2	L

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7 ANNEXURE 2: RISK RANKING AND PROFILE

Risk	Risk	Rank	Risk Control
1.	Fall protection	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
2.	Access scaffolding	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
3.	Structures	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
4.	Lifting equipment	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
5.	Lifting tackle	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
6.	Electrical installations	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
7.	Electrical and mechanical lockout	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
8.	Excavations	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record

9.	Demolition work	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
10.	Public health and safety	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record

11.	Asbestos	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
12.	Hazardous chemical substances and flammable chemicals	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
13.	Vessels under pressure and gas cylinders	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
14.	Competency	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
15.	Fitness for Work	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record
16.	High /medium voltage electrical equipment, underground, overhead power lines	High	Immediate action required; Strong mandatory action required. Required action must be documented on the risk assessment record

17.	Welding and flame cutting	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
18.	Working in confined spaces	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
19.	Security	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
20.	Waste Management	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
21.	Stacking and storage	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record

22.	Pressure, Air hoses and equipment	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
23.	Explosives	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
24.	Inclement weather	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record

25.	Accommodation of traffic	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
26.	Emergency preparedness, contingency planning and response	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
27.	First-aid	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record

28.	Construction vehicle and mobile plant operators	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
29.	Construction vehicles and mobile plant	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
30.	Use and storage of flammables	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
31.	Fire prevention and protection	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
32.	Portable electrical tools and equipment	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record

33.	Temporary work	Medium	Planned approach to controlling the hazard and applies temporary measure when required. Required action must be documented on the risk assessment record
34.	Poisonous animals or insects	Tolerable	Minor or no action required. Risk is tolerable/acceptable and further reduction may not be necessary
35.	Natural disasters	Tolerable	Minor or no action required. Risk is tolerable/acceptable and further reduction may not be necessary
36.	Welfare facilities	Tolerable	Minor or no action required. Risk is tolerable/acceptable and further reduction may not be necessary
37.	Housekeeping	Tolerable	Minor or no action required. Risk is tolerable/acceptable and further reduction may not be necessary
38.	Incident Reporting and Investigations	Tolerable	Minor or no action required. Risk is tolerable/acceptable and further reduction may not be necessary

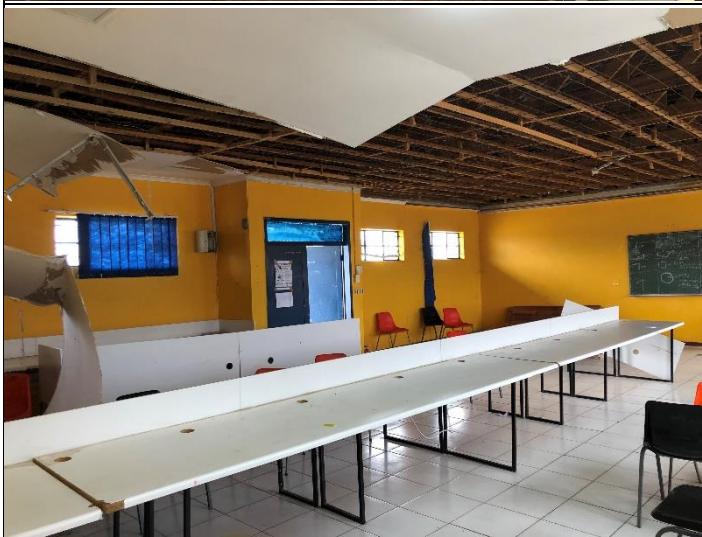
Pictures taken in school	Comments
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Exposed electrical wires and installations which can result shock/electrocution



Poor hygiene in ablution facilities which can result in health issues. Also there is no proper ventilation in the area.



Ceiling boards are partially collapsed and could fall on person/s



Ceiling boards are partially collapsed and could fall on person/s.