



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION: BASELINE RISK ASSESSMENT

PROJECT NUMBER:	JW 14425
PROJECT LOCATION:	Bushkoppie WwTW
PROJECT DESCR:	Bushkoppie WwTW Infrastructure Renewal Project

BASELINE RISK ASSESSMENT



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ACTIVITY: TRANSPORTATION OF MATERIALS TO SITE

Task	Hazard	Risk	Consequence	Rating	Controls
Transportation of material to site	<ul style="list-style-type: none"> ✓ Unsafe road conditions ✓ Un-road worthy vehicles ✓ Equipment and material not safely secured ✓ Incompetent drivers ✓ Driving under the influence of alcohol ✓ Inclement weather ✓ Speeding ✓ Slippery road 	<ul style="list-style-type: none"> ✓ Overturning vehicles ✓ Vehicle collisions ✓ Bumping pedestrians / employees 	<ul style="list-style-type: none"> ✓ Injuries ✓ Property damages ✓ Third party liability 	M	<ul style="list-style-type: none"> ✓ Adherence to the speed limit ✓ Only competent/ authorised drivers should operate the vehicle ✓ Inspection of vehicles ✓ Equipment and material to be properly secured ✓ Alcohol testing to be done ✓ The road to be paved to prevent accidents ✓ Traffic control to be implemented to avoid collisions
Offloading of material	<ul style="list-style-type: none"> ✓ Faulty lifting machinery & equipment ✓ Suspended load ✓ Poor housekeeping 	<ul style="list-style-type: none"> ✓ Malfunctioning ✓ Falling on employees ✓ Obstructed walkways by materials 	<ul style="list-style-type: none"> ✓ Injuries 	M	<ul style="list-style-type: none"> ✓ Inspect lifting equipment prior to use. ✓ Ensure the safe working load prior to use ✓ Train the employees in manual lifting ✓ Ensure proper housekeeping ✓ The correct PPE must be worn ✓ Designate the stacking areas and put signs ✓ Stacking and storage inspector must be appointed and in charge



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ACTIVITY: SITE ESTABLISHMENT

Task	Hazard	Risk	Consequence	Rating	Controls
Site establishment	<ul style="list-style-type: none"> ✓ Sharp objects/ wires ✓ Uneven surface ✓ Faulty connection ✓ Poor ergonomics ✓ Falling objects ✓ Inadequate security services ✓ Not enough welfare facilities e.g. toilets, change rooms and lockers 	<ul style="list-style-type: none"> ✓ Cuts ✓ Slips and trips ✓ Damage to services ✓ Using the environment as ablution facilities 	<ul style="list-style-type: none"> ✓ Injuries ✓ Back strains and injuries ✓ Crime, theft, fights ✓ Contracting of communicable diseases ✓ Soil, water pollution 	M	<ul style="list-style-type: none"> ✓ Supervisors to plan during site set up and induct employees ✓ A competent electrician must be appointed to connect electrical wires to the site offices and Distribution Board. ✓ Ensure there are welfare facilities on site for health and hygiene purposes ✓ Awareness on hygiene and use of ablution facilities ✓ Detailed Risk Assessment must be drawn before any work commences on site.
Installing containers	<ul style="list-style-type: none"> ✓ Using lifting equipment ✓ Faulty equipment ✓ Faulty slings / chains 	<ul style="list-style-type: none"> ✓ Wind ✓ Incompetent personnel ✓ Heavy load ✓ Failing of lifting equipment 	<ul style="list-style-type: none"> ✓ Serious injuries ✓ Property damage 	H	<ul style="list-style-type: none"> ✓ Check wind speed prior to using the crane. ✓ Inspect the crane, slings and chains before use. ✓ Load test the crane before use ✓ Only carry loads certified to be carried by the crane



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Electrical installation	<ul style="list-style-type: none"> ✓ Electricity ✓ Incompetent personnel ✓ Wrong tools ✓ Damaged cables 	<ul style="list-style-type: none"> ✓ Contact with live electricity ✓ Incompetent person connecting electricity ✓ Electric shocks 	<ul style="list-style-type: none"> ✓ Electrocution ✓ Serious injuries 	H	<ul style="list-style-type: none"> ✓ Follow lock out procedure ✓ Ensure that equipment are earthed to an approved earthing point ✓ Ensure a zero potential test is performed for electricity is isolated ✓ Inspect all tools ✓ Use correct tools for the job ✓ Appoint a competent electrician/ technician ✓ Wear task specific PPE ✓ Ensure that there are no exposed wires on the cables
Entry and exit	<ul style="list-style-type: none"> ✓ No access control 	<ul style="list-style-type: none"> ✓ Unauthorised entry into the construction site 	<ul style="list-style-type: none"> ✓ Injuries ✓ Theft 	M	<ul style="list-style-type: none"> ✓ Appoint a full time, registered security guard on site
Stacking and storage	<ul style="list-style-type: none"> ✓ Unsafe stacks of materials or pallets 	<ul style="list-style-type: none"> ✓ Falling of pallets and material on employees 	<ul style="list-style-type: none"> ✓ Injuries ✓ Property damage 	H	<ul style="list-style-type: none"> ✓ Supervision of all stacking of materials on site ✓ Materials of same base and heights stacked together ✓ Barricade the stacking area ✓ Unsafe stacks to be removed immediately ✓ Never stack materials during knocking off time or late at night ✓ Use task specific PPE



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ACTIVITY: EXCAVATION

Task	Hazard	Risk	Consequence	Rating	Controls
Excavation	<ul style="list-style-type: none"> ✓ Deep excavations ✓ 	<ul style="list-style-type: none"> ✓ Collapse ✓ Falling ✓ Unsafe entry and exit 	Fatalities	H	<ul style="list-style-type: none"> ✓ Geotechnical surveys to be conducted prior to construction ✓ Shoring of the excavation ✓ No unauthorised entry into the project site. ✓ Fencing off of the excavation and prompt supervision of the area. ✓ Full time security on site to monitor entry and exit. ✓ Safe method of entry and exit to be provided for employees ✓ Spoil material to be stored at least 2m away from the excavation ✓ Signage to be displayed indicating deep excavations
	<ul style="list-style-type: none"> ✓ Incompetent operator ✓ Faulty excavator 	<ul style="list-style-type: none"> ✓ Overturning ✓ Bumping against people 	<ul style="list-style-type: none"> ✓ Serious injuries 	H	<ul style="list-style-type: none"> ✓ Only competent personnel may operate the excavator ✓ All excavators must be inspected prior to use



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ACTIVITY: EXCAVATION

Task	Hazard	Risk	Consequence	Rating	Controls
Mechanical excavation	✓ Ignition on	✓ Accidental movement	✓ Fatalities ✓ Property damages	H	✓ Operators should ensure that the ignition is off prior to leaving the plant. ✓ Keys should be removed from the ignition and returned to the office for safekeeping,
Deep excavation	✓ Lack of safety signage	✓ Employees falling into excavations	✓ Fatalities	H	✓ Ensure that deep excavation signage is placed and visible. ✓ Deep excavations must be fenced off and access controlled.
	✓ Spoil material	✓ Collapse of excavation walls. ✓ Entrapment	✓ Fatalities	H	✓ Excavated soil to be placed at least 2m away from the excavation wall.
	✓ Underground service	✓ Contact with plant	✓ Injuries ✓ Property damages ✓ Electrocution	H	✓ All underground services to be identified and marked prior to excavation.
	✓ Unsafe access and exit	✓ Falling	✓ Injuries	H	✓ TLB / Excavator may not be used by employees to access and exit the excavation



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ACTIVITY: MECHANICAL LIFTING

Task	Hazard	Risk	Consequence	Rating	Controls
Lifting using a crane	✓ Overhead lines	✓ Contact with crane	✓ Electrocution ✓ Property damages	H	✓ All lifting activities to be planned at least 2m away from overhead lines ✓ Obtain wayleaves from Eskom ✓ Appoint ORHVS
	✓ Wind / Unfavourable weather	✓ Deflection ✓ Loss of control	✓ Injuries ✓ Property damages	H	✓ Do not use during unfavourable weather conditions
	✓ Incompetent operator	✓ Loss of control ✓ Hitting structures and people	✓ Injuries ✓ Property damages	H	✓ Only trained and competent operators may operate the crane
	✓ Overloading	✓ Collapse of material	✓ Injuries ✓ Property damages	H	✓ Display safe working load on the crane
	✓ Faulty crane	✓ Malfunctioning	✓ Injuries ✓ Property damages	H	✓ Cranes to be inspected by competent persons prior to being used ✓ All faulty cranes to be tagged and locked out



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ACTIVITY: WORKING AT HEIGHTS

Task	Hazard	Risk	Consequence	Rating	Controls
Working at heights	<ul style="list-style-type: none"> ✓ Heights ✓ Unfit employees ✓ Using hand tools ✓ Unsecured tools and equipment 	<ul style="list-style-type: none"> ✓ Falls ✓ Falling onto employees 	<ul style="list-style-type: none"> ✓ Injuries 	M	<ul style="list-style-type: none"> ✓ Employees to use proper PPE including safety harnesses when working at heights. ✓ Inspect all tools prior to use. ✓ Provide training for using safety harnesses correctly. ✓ Employees working at heights must be certified fit to work. ✓ Hand tools must be attached to lanyards when working at heights. ✓ Use tool bags ✓ Use netting system below each level. ✓ No work should be done on the ground when work at heights is in progress. ✓ Proper signage to be displayed.



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ACTIVITY: MECHANICAL WORKS

Task	Hazard	Risk	Consequence	Rating	Controls
Installation of pumps and valves	Heavy pumps and valves	Falling	<ul style="list-style-type: none"> ✓ Injuries ✓ Property damages 	M	<ul style="list-style-type: none"> ✓ Use proper lifting equipment ✓ Ensure that only the relevant people are in the work area. ✓ Ensure that lifting equipment is load tested. ✓ Only competent personnel to undertake this task
	Steel fixing	<ul style="list-style-type: none"> ✓ Falling ✓ Slip 	Injuries	L	<ul style="list-style-type: none"> ✓ PPE, including safety boots and goggles must be used
Cutting and drilling	<ul style="list-style-type: none"> ✓ Drilling ✓ Drill bit ✓ Drill sharp metal fibres ✓ High Noise Levels ✓ Cutting Grinder/Disc 	<ul style="list-style-type: none"> ✓ Vibration ✓ Cutting edges ✓ Eye penetration ✓ Finger cuts ✓ Expose to high noise level area ✓ Uncontrolled disc ✓ Electrical equipment failure ✓ Sharp window edges 	<ul style="list-style-type: none"> ✓ Damaged hearing ✓ Carpal tunnel syndrome ✓ Cuts/ injuries ✓ Eye irritation / blindness ✓ Injuries ✓ Eye injuries 	M	<ul style="list-style-type: none"> ✓ Use hearing protection when exposed to excessive noise levels (greater than 85 dB over an 8-hour work period) ✓ Assess noise level with sound level meter if possibility exists that level may exceed 85dB. ✓ Rotate drilling tasks to minimize worker exposure to equipment vibration. ✓ Use right size of a drill to drill different layers of the ground



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ACTIVITY: MECHANICAL WORKS

Task	Hazard	Risk	Consequence	Rating	Controls
					✓ Assess manual guide carefully to ensure correct usage of portable electrical devices.
Welding	✓ Fumes	✓ Inhalation	✓ Respiratory problems	M	✓ Wear respiratory protection
	✓ Sparks	✓ Contact with skin	✓ Skin burns	L	✓ Personal Protective Equipment to include face, eye and skin protection
	✓ Sparks	✓ Fire	✓ Damage to property ✓ Fatalities	H	✓ Provide fire extinguisher ✓ Provide screens ✓ Remove all sources of combustion and hazardous chemicals from welding area
	✓ Welding arc	✓ Starring welding arc	✓ Eye irritation	L	✓ Safety goggles to be worn
Install generator	✓ Lifting equipment	✓ No SWL displayed ✓ Faulty equipment ✓ Employees standing around	✓ Serious injuries ✓ Property damages	M	✓ Load testing of lifting equipment ✓ Inspection of lifting tackle and equipment prior to use ✓ Display SWL ✓ Only competent people to operate the lifting equipment ✓ Access control to the lifting area



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ACTIVITY: MECHANICAL WORKS

Task	Hazard	Risk	Consequence	Rating	Controls
Fueling the generator	✓ Spillages	✓ Slips, trips, falls	✓ Injuries	L	<ul style="list-style-type: none"> ✓ Prevent spillages ✓ Use drip trays ✓ Use funnels for fueling
		✓ Fire	✓ Injuries	M	<ul style="list-style-type: none"> ✓ No smoking allowed near the generator
	✓ Diesel fumes	✓ Inhalation	✓ Respiratory problems	L	<ul style="list-style-type: none"> ✓ Provide employees with respirators
		✓ Skin contact	✓ Skin irritation	L	<ul style="list-style-type: none"> ✓ Provide employees with gloves, safety boots and overalls
	✓ Running engine	✓ Explosion	✓ Injuries	M	<ul style="list-style-type: none"> ✓ Switch engine off before refueling and make sure fuel cap is replaced. ✓ No smoking allowed near the generator
Running the engine	✓ Noise	✓ Over-exposure	✓ Noise-induced hearing loss	M	<ul style="list-style-type: none"> ✓ Provide employees with hearing protection ✓ Provide rest periods for employees



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ACTIVITY: MECHANICAL WORKS

Task	Hazard	Risk	Consequence	Rating	Controls
	✓ Vibration	✓ Over exposure	✓ Raynaud's Syndrome	L	<ul style="list-style-type: none"> ✓ Provide employees with vibration gloves. ✓ Rotate employees or provide rest periods.
	✓ Fumes	✓ Inhalation	✓ Respiratory problems	L	<ul style="list-style-type: none"> ✓ Provide employees with respirators ✓ Never use indoors
Working on live machinery	✓ Energy	<ul style="list-style-type: none"> ✓ Lockout not done ✓ Improper lockout/isolation ✓ 	<ul style="list-style-type: none"> ✓ Electrocution ✓ Fatalities ✓ Burns 	H	<ul style="list-style-type: none"> ✓ Adhere to the lockout procedure ✓ Appoint competent mechanical and electrical employees ✓ Ensure proper lock out is done ✓ Ensure there is proper communication between team members regarding the work ✓ Each employee need to know where the emergency stop button of the conveyor is located



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ACTIVITY: ELECTRICAL WORKS

Task	Hazard	Risk	Consequence	Rating	Controls
MCC installation	✓ Lifting equipment	✓ No SWL displayed ✓ Faulty equipment ✓ Employees standing around	✓ Serious injuries ✓ Property damages	M	✓ Load testing of lifting equipment ✓ Inspection of lifting tackle and equipment prior to use ✓ Display SWL ✓ Only competent people to operate the lifting equipment ✓ Access control to the lifting area
	✓ Live electric cables	✓ Electric Shock	✓ Serious injuries	H	✓ Ensure that electricity supply is switched off during installation ✓ Implement lockout procedures
	✓ Inadequate wiring	✓ Electric fault ✓ Fire	✓ Serious injuries ✓ Property damages	H	✓ Only competent persons to do the electrical work
	✓ Use of faulty cables	✓ Fire ignition	✓ Burns/damages	M	✓ Visual inspection of cable before use



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ACTIVITY: ELECTRICAL WORKS

Task	Hazard	Risk	Consequence	Rating	Controls
Cabling	✓ Cutting	✓ Eye penetration	✓ Eye injuries/ blindness	M	✓ Safety goggles shall be worn by employees when cutting steel
	✓ Unit activation	✓ Struck by equipment	✓ Injuries	M	✓ Lock out/ Tag out
	✓ Live Yard	✓ Electrocution Injury ✓ Working unauthorized ✓ Miscommunication between employees	✓ Injury or death	H	✓ Obtain a permit ✓ Follow cardinal rules ✓ Strict supervision ✓ Fire extinguisher must always be on site ✓ Obtain a permit and follow all procedures listed ✓ Strict supervision ✓ Competent technician operation ✓ Issue test certificate for every testing and inspection done
	✓ Electrical connection	✓ Explosion	✓ Injuries / damage to	L	✓ Emergency stop button must always be serviceable



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ACTIVITY: ELECTRICAL WORKS

Task	Hazard	Risk	Consequence	Rating	Controls
	✓ Extension cords	✓ Faulty cord failure	employees and equipment ✓ fire		✓ Fire extinguishers must always be kept on site
	✓ Electrical equipment ✓ Portable electrical appliances	✓ Use of faulty electrical equipment; ✓ Faulty equipment could also start a fire.	✓ All workers could suffer potentially fatal shocks or burns. ✓ Electric shock/ burns ✓ injuries	M	✓ All tools to be checked and tagged before bringing onto site; ✓ Portable electrical appliances examined and where necessary, tested by a competent person within the recommended time limit; ✓ Defective appliances and leads are removed from use and kept secured until they can be repaired or removed from the site; ✓ Electric tools and installations to be in good condition; ✓ Inspect electric tools before use; ✓ Do not use electric tools in wet / damp conditions;



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ACTIVITY: ELECTRICAL WORKS

Task	Hazard	Risk	Consequence	Rating	Controls
					✓ Use personal protective equipment such as insulated gloves.
Commission & testing	✓ Testing ✓ Inspection	✓ Electrocution Injury /Damage to equipment ✓ Chocking ✓ Electrocution Injury ✓ Working unauthorized ✓ Miss-communication between employees	✓ Fatalities ✓ Property damages	H	✓ Authorized person with C.O.C must do all the installation ✓ Emergency stop button must always be serviceable ✓ Ensure communication between employees ✓ Technical Skills ✓ Fire extinguisher must always be on site ✓ Implement lockout procedure ✓ Strict supervision ✓ Competent technician operation ✓ Issue test certificate for every testing and inspection done



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ACTIVITY: ROAD REPAIR

Task	Hazard	Risk	Consequence	Rating	Controls
Road repair	✓ Preparing the surface	<ul style="list-style-type: none"> ✓ Hot weather conditions ✓ Flying particles ✓ Unsafe working area-incoming traffic 	<ul style="list-style-type: none"> ✓ Burns, heat stress and fatigue ✓ Property damage ✓ Personal injuries 	M	<ul style="list-style-type: none"> ✓ Safe working method must be implemented ✓ Traffic control signs stating the speed zones must be used ✓ Pre-use check must be done for machines
	<ul style="list-style-type: none"> ✓ Compactor ✓ Noise ✓ Dust ✓ Vibration 	<ul style="list-style-type: none"> ✓ In-competent employee using the compactor ✓ Exposure to noise & vibration ✓ Inhalation of dust 	<ul style="list-style-type: none"> ✓ Injuries ✓ Hearing loss ✓ Hand arm vibration system ✓ Respiratory problems 	M	<ul style="list-style-type: none"> ✓ Use of earmuffs by compactor operator ✓ Dust mask to be worn by compactor operator ✓ Compactor operator to be declared competent before using the machine
	✓ Pouring of concrete	<ul style="list-style-type: none"> ✓ Noise from the compactor ✓ Flying concrete particles ✓ Incoming traffic ✓ Manual handling ✓ Sharp edges for shovels 	<ul style="list-style-type: none"> ✓ Personal injuries ✓ Loss of hearing ✓ Irritation to the eyes ✓ Cuts 	L	<ul style="list-style-type: none"> ✓ Safe working method must be implemented ✓ Traffic control signs must be used, and flagmen must be in place ✓ Supervision ✓ Correct PPE must be worn
Coating with bitumen	✓ Bitumen	Contact with hot bitumen	Skin burns	M	<ul style="list-style-type: none"> ✓ Proper PPE for handling bitumen ✓ Provide MSDS for bitumen ✓ Only trained employees may handle bitumen



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ACTIVITY: CONCRETE REPAIR AND JOINT SEALING AT SECOND CLARIFIERS

Task	Hazard	Risk	Consequence	Rating	Controls
Scaffold work	✓ Improper erection	✓ Collapse ✓ Falling of employees and equipment	✓ Property damages ✓ Fatalities	H	✓ Only a competent scaffold erector may erect a scaffold. ✓ Scaffold to be erected on firm, stable base ✓ Check the stability of the scaffold prior to allowing employees to climb on them. ✓ Mobile scaffolds must have their wheels locked before any person is allowed to climb on them. ✓ All parts of the work platform and scaffold must have safe means of access ✓ Unattended or incomplete scaffold should be prevented against unauthorized access. ✓ Suitable access ladder must be provided ✓ A fall arrest harness must be worn. ✓ Never use worn out fall arrest equipment. ✓ Suitable equipment for rescue must be available ✓ Proper bracing of the scaffold ✓ Scaffold to be securely tied to a structure



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Working on scaffold	✓ Overloading	<ul style="list-style-type: none"> ✓ Collapse ✓ Falling of employees and equipment 	<ul style="list-style-type: none"> ✓ Property damage ✓ Fatalities 	H	<ul style="list-style-type: none"> ✓ Display the safe working load of the scaffold ✓ Never exceed the SWL of the scaffold
	✓ Overhead lines	<ul style="list-style-type: none"> ✓ Contact with overhead lines ✓ Contact with employees 	<ul style="list-style-type: none"> ✓ Property damages ✓ Electrocutation 	H	<ul style="list-style-type: none"> ✓ Erect the scaffold away from power lines ✓ Keep tools away from overhead lines ✓ Fall arrest equipment to be attached
	✓ Unstable ground conditions	<ul style="list-style-type: none"> ✓ Collapsing of scaffold 	<ul style="list-style-type: none"> ✓ Injuries ✓ Property damage 	H	<ul style="list-style-type: none"> ✓ Ensure that the foundation / footing of the scaffold is stable and levelled ✓ Only trained and competent persons may erect a scaffold
	✓ Non-compliant scaffolding	<ul style="list-style-type: none"> ✓ Collapsing of scaffold 	<ul style="list-style-type: none"> ✓ Injuries ✓ Property damage 	H	<ul style="list-style-type: none"> ✓ All platforms to be fully boarded and boards used to comply with SANS 085 ✓ All components of the scaffold must comply with SANS 085



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Work platform	✓ Inadequate space	✓ Falling persons and objects	✓ Fatalities ✓ Property damages	H	<ul style="list-style-type: none"> ✓ Work platform should be at least 1m wide and capable of carrying the load that the type of work carried out may require ✓ To prevent persons from falling from the outside edges of work platforms, guardrails and mid-rails must be fitted. ✓ If loose objects or other materials may be present on the platform, edge protection/ toe boards must be provided on work platforms.
Edge protection	✓ Working close to edges	✓ Falling	✓ Fatalities	H	<ul style="list-style-type: none"> ✓ To prevent persons from falling, edge protection must be erected around the perimeter of the work. This must comprise the guardrail and mid-rail designed to withstand any reasonable force, which is expected to fall against it. ✓ Only a competent person may erect an edge protection system ✓ Edge protection can be in the form of hook on boards used as toe boards
Entering the clarifier	✓ Wastewater	✓ Drowning	✓ Fatalities	E	<ul style="list-style-type: none"> ✓ Ensure that water is drained prior to entering the clarifier



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	✓ Confined space	✓ Inhalation of offensive gases	✓ Asphyxiation	H	✓ Develop a confined space entry procedure ✓ Ensure that gases are monitored prior to entering, and at predetermined intervals. ✓ Ensure that ventilation is provided prior to entering
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ACTIVITY: CONCRETE WORKS

Task	Hazard	Risk	Consequence	Rating	Controls
Concrete works	✓ Moving bucket	✓ Hitting employees	✓ Injuries	M	✓ Workers to stand clear of the path of the bucket ✓ Banksman to direct the loading and offloading activities
	✓ Working at heights	✓ Falls from heights	✓ Injuries	H	✓ Only work on platforms that are fully boarded and handrails installed
	✓ Concrete splashing	✓ Skin contact	✓ Dermatitis ✓ Skin burns	M	✓ Use of skin protection ✓ Provide gloves and safety boots ✓ Have MSDS
	✓ Concrete splashing	✓ Eye contact	✓ Eye injuries	M	✓ Provide safety goggles
Operating concrete truck	✓ Incompetent operator	✓ Hitting employees; ✓ Bumping vehicles and properties	✓ Injuries ✓ Property damages	M	✓ Only trained, competent and appointed operators may operate a concrete truck ✓ Flagman to be posted to direct the operator
	Speeding	✓ Hitting employees;	✓ Injuries	M	✓ Site speed limits to be adhered to at all times



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Task	Hazard	Risk	Consequence	Rating	Controls
		✓ Bumping vehicles and properties	✓ Property damages		
	Manual handling of chutes	✓ Incorrect handling	✓ Injuries	M	<ul style="list-style-type: none"> ✓ Training in correct handling methods ✓ Provide employees with gloves ✓ Provide leather gloves for concrete chute
Pouring concrete with a bucket by means of a mobile crane	Incompetent operator	<ul style="list-style-type: none"> ✓ Hitting employees; ✓ Bumping vehicles and properties 	<ul style="list-style-type: none"> ✓ Injuries ✓ Property damages 	M	<ul style="list-style-type: none"> ✓ Only trained, competent and appointed operators may operate a concrete truck ✓ Flagman to be posted to direct the operator
	Unauthorised / unsuitable crane	<ul style="list-style-type: none"> ✓ Hitting employees; ✓ Collapse of material 	<ul style="list-style-type: none"> ✓ Injuries ✓ Property damages 	M	<ul style="list-style-type: none"> ✓ Crane to be inspected by a competent person prior to use. ✓ Unsuitable crane to be tagged and locked out
	Crane parking	✓ Crane overturning	<ul style="list-style-type: none"> ✓ Injuries ✓ Property damages 	M	<ul style="list-style-type: none"> ✓ Crane to be established on solid ground with outriggers fully extended and pads in place



OCCUPATIONAL HEALTH & SAFETY (OHS) SPECIFICATION: BASELINE RISK ASSESSMENT

PROJECT NUMBER:	JW 14425
PROJECT LOCATION:	Bushkoppie WwTW
PROJECT DESCR:	Bushkoppie WwTW Infrastructure Renewal Project

ACTIVITY: GENERAL ACTIVITIES ON SITE

Task	Hazard	Risk	Consequence	Rating	Controls
Traffic Management	<ul style="list-style-type: none"> ✓ Moving vehicles and pedestrians ✓ Improperly placed signage ✓ Incorrect signage displayed ✓ Poor communication between flagmen 	<ul style="list-style-type: none"> ✓ Road accidents ✓ People getting knocked down by cars 	<ul style="list-style-type: none"> ✓ Fatalities ✓ Serious injuries ✓ Property damages 	H	<ul style="list-style-type: none"> ✓ Adhere to traffic management procedures ✓ Ensure good communication between flagmen ✓ Display correct road signage ✓ Employees should wear reflective PPE ✓ Keep area clean & clear of obstacles.
Reinstatement	<ul style="list-style-type: none"> ✓ Inadequate compaction ✓ Construction refuse ✓ Inadequate re-surfacing High ✓ Ground collapse ✓ Hydraulic / pneumatic pressures 	<ul style="list-style-type: none"> ✓ Uneven surfaces 	<ul style="list-style-type: none"> ✓ Injuries 	L	<ul style="list-style-type: none"> ✓ Compaction to specified standard. ✓ Site cleared of debris and refuse. ✓ Re-surface appropriately. ✓ Do not leave gaps in turf or leave uneven surface. ✓ Erect fence around hazardous areas until restored and safe. ✓ Ensure plugs and compressors are installed and secured against movement. ✓ Release air before removing plugs. ✓ Clear area of pipe ends being tested.
					✓



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ACTIVITY: GENERAL ACTIVITIES ON SITE

Task	Hazard	Risk	Consequence	Rating	Controls
✓ Working on site	✓ Unhappy community ✓ Criminals	✓ Community coming to site ✓ Violence against employees	✓ Property damages ✓ Serious injuries	H	✓ Develop an emergency response procedure ✓ Meet with the community and all stakeholders prior to commencement of the project ✓ Keep all gates locked at all times ✓ Have the contact details of the nearest police station / JMPD offices ✓ Liaise with CLO, ward governance and councilor ✓ Stop work and evacuate employees where possible ✓ Have 24/7 security on site
	✓ Unfavourable weather conditions	✓ Exposure to temperature extremes	✓ Heat exhaustion ✓ Frost bite	M	✓ Provide employees with water for cooling down. ✓ Provide employees with warm jackets during winter and gloves ✓ Provide 5-minute rest periods for every 30 minutes of exposure to temperature extremes.
	✓ Housekeeping	✓ Trips and falls	✓ Injuries	M	✓ Ensure that proper housekeeping is maintained on site at all times.
Storage of HCS	✓ Burning or fires on site ✓ Improper labelling of chemical containers	✓ Property damage ✓ Accidental consumption of flammable liquids	✓ Serious injuries ✓ Illnesses	M	✓ A well ventilated cage may be used for storage of all the HCS and flammables ✓ HCS supervisor must record all quantities on a register. ✓ Label containers correctly ✓ Display HCS signage
					✓



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RISK ASSESSMENT MATRIX

Likelihood	Consequences				
	Insignificant (minor problem easily handled by normal day to day processes)	Minor (Some disruption possible e.g., damage equal to R150k)	Moderate (significant time / resources required. E.g., damage equal to R500k)	Major (Operations severely damaged. E.g., damages equal to R1m)	Catastrophic (business survival is at risk. Damage equal to R5m – 10m)
Almost certain (90% chance)	High	High	Extreme	Extreme	Extreme
Likely (between 50-90%)	Moderate	High	High	Extreme	Extreme
Moderate (between 10-50%)	Low	Moderate	High	Extreme	Extreme
Unlikely (between 3-10%)	Low	Low	Moderate	High	Extreme
Rare (<3%)	Low	Low	Moderate	High	High