



HEALTH, SAFETY & ENVIRONMENTAL (SHE) SPECIFICATION: BASELINE RISK ASSESSMENT

PROJECT NUMBER:	JW OPS 014/26
PROJECT LOCATION:	Various WWTW
PROJECT DESCR:	Supply, delivery and off-loading of chemicals disinfectants (calcium hypochlorite) for sewage effluent on an " as and when required basis for a period of thirty-six (36) months.

POSSIBLE RISKS FOR THIS PROJECT

Task	Hazard	Risk	Consequences	Rating	Controls
OHS legal compliance	✓ Not having a safety file ✓ Compliance to OHS act ✓ Safety officer not available on site. ✓ Not appointing competent employees	✓ Non-compliance to OHS requirements	✓ The project will be stopped.	High	✓ Compile safety file according to the SHE specification that JW will provide to the Service Provider. ✓ The Safety Officer should always be on site. ✓ Comply to OHS legal requirements of this project. ✓ Train employees/ appoint competent employees
Transportation of material to site	✓ Unsafe road conditions ✓ Un-road worthy vehicles ✓ Equipment and material not safely secured. ✓ Incompetent drivers ✓ Driving under the influence of alcohol ✓ Inclement weather	✓ Unsafe driving conditions ✓ Accident	✓ Personal injuries ✓ Property damage ✓ Third party liability	Moderate	✓ Only competent/ authorised drivers should operate the vehicle ✓ Inspection of vehicles ✓ Equipment and material to be properly secured ✓ Alcohol testing to be done ✓ Hauling access route must levelled and maintained. Loading area shall be maintained periodically for uneven ground conditions. ✓ Haul roads shall be maintained periodically.

	✓ Speeding				✓ Provide area lighting at haulage routes and at bends and junctions. ✓ Drivers and other newcomers shall complete site safety Induction and should be clearly briefed to follow the site rules, speed limits and road signs. ✓ Use appropriate capacity vehicle as per the load to be transported and the base course mix shall be fully covered ✓ Ensure vehicle condition is good/ proper maintenance. ✓ Reversing horn / alarm must be in place and in working order. ✓ Materials to be fully covered during transport. ✓ All drivers shall have valid driving license. ✓ Drive observing all traffic rules, speed limits, road signs. ✓ Proper parking and surveillance to drivers. ✓ Toolbox talk shall be given by the supervisors before the start of any work ✓ Provide plant operators with approved PPE as per project requirement.
Access control / entry and exit	✓ Unauthorised entry to the site	✓ Theft of tools and material	✓ Injuries to employees	High	✓ Appoint a full time, registered security guard on site.

		✓ Violence and disorderly conduct	✓ Property damage		✓ Enforce mandatory visitor logging, baggage inspections, and clear standard operating procedures for vehicle access. ✓ Provide Security Officers with Personal Protective Equipment (PPE) & training on the use of PPE. ✓ Provide security Officers with necessary gear ✓ Conduct regular drills.
Project Mobilization of Plant and Equipment	✓ Poor / unsafe offloading practices	✓ Load falling on employee's on site.	✓ Serious injuries ✓ Fatalities ✓ Property damage.	Extreme	✓ Method statement / safe operating procedure to be in place for offloading & offloading of plant and equipment. ✓ SOP for loading & offloading to be communicated to employees. ✓ Barricade the worksite. ✓ Employees to stand clear of offloading operations
	✓ Operators under the influence of Alcohol or other substances while transporting machinery and equipment to site establishment area	✓ Bad driving ✓ Not adhering to speed limit ✓ accidents	✓ Fatalities ✓ Disabling injuries	Extreme	✓ Company substance abuse / alcohol policy to be available and implemented by communicating the policy to all employees.
	✓ Unauthorised entry	✓ Lawlessness	✓ Pedestrians / public passing by could be harmed.	Moderate	✓ Camp area to be fenced off to prevent unauthorised entry.

					✓ Unauthorised and general warning signs to be displayed.
	✓ Theft of material, equipment and machinery	✓ Loss of assets	✓ Project interruption	Moderate	✓ Project program to be compiled to prevent machinery and equipment to be left unattended. ✓ Security Guards to be on site.
	✓ Setting up camp & Storage Facilities	✓ Abnormal load	✓ Accident	Moderate	✓ Special arrangements to be made for abnormal loads. ✓ Abnormal load signage to be displayed on trucks if applicable. ✓ Valid driver's licence of driver.
		✓ Containers placed on uneven surfaces	✓ Property damage	Moderate	✓ Containers / offices to be placed on level surface.
		✓ Using defective / incorrect equipment to offload containers. ✓ Load falling on employees	✓ Injuries	Moderate	✓ Lifting equipment to be load tested. ✓ Load test certificates to be available. ✓ Lifting equipment to be placed on register and inspected on a monthly basis. ✓ Employees to stand clear of lifting operations and no employees allowed underneath suspended loads.

		✓ Sub-standard housekeeping	✓ Incidents / accidents	Low	✓ High standards of housekeeping to be maintained. ✓ Stacking and storage supervisor to be appointed in writing. ✓ Monthly inspections to be conducted on stacking and storing on site.
Traffic management	✓ Poor/ no traffic management plan in place ✓ Lack of traffic management training ✓ Unroadworthy plant and vehicle ✓ Collision with other vehicles ✓ Workers exposed to high traffic volume. ✓ Personnel movement and vehicles ✓ Signs not visible to the road users. ✓ Signs being placed at an unreasonable distance. ✓ Personnel in charge of traffic control not familiar with the traffic	✓ Noncompliance with the National Road Traffic Act, Council Road Traffic bi - laws and other applicable Regulations ✓ Blockage/ inconvenient access to worksite areas ✓ Personnel are at risk of being bumped by a vehicle.	✓ Accidents, ✓ Death, ✓ Disabling injuries	Moderate	✓ Inform the public/ road users of the intent to close the road, ✓ Ensure all barriers are secure, positioned in a safe and correct manner, ✓ Consider strong wind and risk of theft when barricading. ✓ All public access is maintained for prams and wheelchairs. ✓ Pedestrian crossing points closed if possible. ✓ No construction materials shall be dumped/stacked on the vehicular access and pedestrian access. ✓ All the gates shall open inwards, away from the live traffic

	management plan.				
	✓ Backfilling	✓ Employees standing too close to machinery.	✓ Bumping / hitting employee with bucket of machine causing serious injury.	Moderate	✓ Employees to stand clear of machinery in operation.
Construction vehicles and mobile Plant operations	✓ Construction vehicles not roadworthy ✓ Intoxicated operator ✓ Vehicles left unattended when not operated ✓ Speeding ✓ Overloading vehicles or Plant	✓ Mobile plant used in the project unsafe or substandard ✓ Negligence	✓ Accidents ✓ Fire ✓ Explosions ✓ Fatality ✓ Land pollution ✓ Air pollution	Extreme	✓ All construction vehicles and mobile plant have to comply with Construction regulations and Driven Machinery Regulations. Other construction vehicles used must have a valid roadworthy certificate ✓ Mobile plant operating on site to fully comply with CR 23. Maintenance / Service history must be available on site and Used in accordance with their design and intention for which they were designed ✓ Random alcohol and drug tests to be introduced and maintained ✓ Ensure vehicles are isolated when not in operation, Construction vehicles and mobile plant left unattended after hours adjacent to roads and areas where there is traffic movement must be fitted with lights, reflectors or adequate

					barricades to prevent moving traffic from a sudden emergency, or to come into contact with the parked construction vehicles and mobile plant. In addition construction vehicles and mobile plant left unattended after hours must be parked with all buckets, booms etc. full lowered, the emergency brakes engaged and, where necessary, the wheels chocked, the transmission in neutral and the motor switched off and the ignition key removed and stored safely. ✓ Operators to drive according to the required speed limit on site and on public roads. ✓ All drivers must be appointed and must have a valid drivers license and PDP/Competency certificate ✓ Vehicles or plant not to exceed the prescribed weight limit of the plant or vehicle. ✓ Construction Vehicle to be Fitted with adequate signaling devices to make movement safe including reversing; Fitted with two head and two tail lights that is in good working condition
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					whilst operating under poor visibility conditions. ✓ No loose tools, material etc. is allowed in the driver and/or operators compartment/ cabin nor in the compartment in which any other people are transported. ✓ The construction site must be organized to facilitate the movement of construction vehicles and mobile plant in such a manner that pedestrians and other vehicles are not endangered. ✓ Traffic routes to be suitable, sufficient in number and adequately demarcate.
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Hazardous Chemical Substance	✓ Handling ✓ Storage & ✓ Use of chemicals	✓ Incorrect handling ✓ Exposed to HCS ✓ Not trained to work with HCS ✓ Incorrect storage of HCS ✓ Incorrect labelling ✓ Fire hazard	✓ Skin irritation ✓ Occupational Illness or Disease ✓ Occupational Illness or Disease ✓ Production time loss ✓ Accidental ingestion ✓ burns ✓ Explosion	Extreme	The Service Provider to ensure that: ✓ Employees receive the necessary information and training to be able to use, handle and store hazardous chemical substances safely ✓ The risk assessments required in terms of Construction Regulation 9 include employee exposure to hazardous chemical substances and that the necessary measures be taken to protect persons from being detrimentally affected by hazardous chemical substances present or used in the workplace, This Risk Assessment must be communicated to all employees exposed to HCS. ✓ Suppliers provide the necessary information in the form of safety data sheets regarding hazardous chemical substances required to ensure the safe use, handling and storage of these substances, This MSDS must be available on site and communicated to employees exposed to the HCS.
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					✓ An up-to-date list is kept on site of hazardous chemical substances stored and used together with the material safety data sheet of the said hazardous chemical substances ✓ Hazardous chemical substances containers be clearly marked as to the contents and main hazardous category e.g. "Flammable" or "Corrosive" ✓ No person eats or drinks in a hazardous chemical substances workplace. ✓ Hazardous chemical substances waste is disposed of safely in terms of hazardous waste disposal requirements at a registered facility. ✓ HCS to be properly stored in a cool locked store room or storage area ✓ Employees handling hazardous chemical substance to be trained on possible preventive measures to be put in place in order to prevent harm to employees. ✓ PPE to be used.
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					✓ Task specific training ✓ Appoint HCS Coordinator ✓ Keep records of SDS ✓ Communicate SDS with employees. ✓ HCS storage inspections ✓ PPE assessment/evaluation ✓ HCA compatibility chat to be available and implemented. ✓ HCA to be stored in accordance with compatibility chart
Stacking & Storage	✓ Stacking and storage of material and equipment	✓ Sub-standard stacking and storing practices	✓ Collapsing of stacked / stored material causing serious injuries	Moderate	✓ Stacking and storage supervisor to be appointed in writing. ✓ Monthly inspections to be conducted on stacking and storing on site
Working near electric powerlines	✓ Incompetent employees	✓ Exposure to electricity	✓ Electrocuted ✓ Fire ✓ Burns	Extreme	✓ Prior to executions commencing consult the utilities suppliers/ site owner about underground gas and electricity supplies, obtain copies of service plans ✓ Before work begins, underground cables must be located, identifies and clearly marked ✓ Clearing the area where service has been detected ✓ Once a locating device has been used to determine cable positions and routes, excavation may take place, with trial holes dug using

					suitable hand tools as necessary to confirm this ✓ Excavate alongside the service rather than directly above it ✓ Final exposure of service by horizontal digging is recommended as the force applied to hand tools can be controlled more effectively ✓ Insulated tools should be used when hand digging near electric cables • Ensure services are supported once exposed, ✓ Identify the service and fulfil any specific reinstatement requirements when backfilling ✓ Find out the maximum height and reach of your own and Contractors equipment (include the height of radio aerials or flashing beacons in the measurements) ✓ Create alternative access routes or work ✓ Use barriers and overhead goal posts to control access and traffic routes. ✓ Retract booms of telescopic handlers and lower crane jibs when they are moving on site ✓ Plant working near overhead power lines is suspended from steel tower;
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					or 9m (plus length of jib) if the lines is supported on wooden poles ✓ Consider the risk of a flashover occurring between the power line and your equipment, actually touching the line is not necessary for an incident to occur and can be fatal
Illumination during night works	✓ Lack of illumination	✓ Slip, Trip, Falls ✓ Poor visibility ✓ Collisions	✓ Injuries ✓ Property damage	High	✓ Proper illumination to be available during night works ✓ If any Work requires to be conducted at night sufficient lighting should be supplied. ✓ All activities to be conducted at night must be approved by Site Management with guidance from competent Safety Professional.
Emergency Preparedness	✓ Fire fighting activities	✓ Smoke inhalation ✓ Incompetent fire fighter ✓ Workers not trained on emergency plan ✓ Emergency numbers not displayed on site for everyone to see. ✓ Fire extinguishers not working and not inspected.	✓ Suffocation ✓ Burns ✓ Injuries ✓ Fatalities ✓ Property damage	High	✓ Train Firefighters ✓ Appoint Firefighters ✓ Conduct fire drills ✓ Emergency plan must be in place ✓ Emergency numbers must be visible to everyone. ✓ Fire extinguishers must be easily accessible and available ✓ Firefighting equipment must be inspected ✓ Use of masks

	✓ Open fire and lit cigarettes	✓ Fires	✓ Property damage and burn people	High	✓ Required amount of fire extinguishers must be available on site. ✓ All fire equipments must be serviced. ✓ Train and appoint fire marshal
	✓ Evacuation during site emergencies and providing first aid	✓ Workers uninformed of emergency evacuation routes ✓ Emergency evacuation signs not visible to Employees ✓ Incompetent first aider ✓ Untrained persons attending to first aid cases ✓ First aider not using PPE	✓ Injuries ✓ Stampede ✓ Fatalities ✓ Escalation of injuries ✓ Fatalities ✓ Bacterial, viral infections	High	✓ Conduct emergency drills ✓ OHS orientation ✓ Supervision during evacuation ✓ Emergency evacuation routes and assembly points must be clearly marked. ✓ Train First Aiders. ✓ Appoint First Aiders ✓ Use gloves and CPR mask
	✓ Use of hand tool	✓ Manual handling of material	✓ Injuries	Moderate	✓ Task specific training to be provided to employees. ✓ Ergonomical risks to be taken into account.
		✓ Wet environment ✓ Exposure to dirt ✓ Improper tools ✓ Improper PPE inspection/selection ✓ Slip, trip and fall ✓ Poor ergonomics ✓ Wet floors	✓ Skin irritation ✓ Back pains ✓ Hand injuries	Moderate	✓ Ensure all employees are wearing the correct PPE. ✓ Ensure employees adhere to the SOP for hand tools.

		✓ Using unsafe hand tools	✓ Injuries	Moderate	✓ Hand tools and equipment to be inspected on a monthly basis and deviations to be recorded and reported.
		✓ Substandard housekeeping	✓ Injuries	Low	✓ High standards of housekeeping to be maintained on site. ✓ Stacking and storage inspections to be conducted on a regular (monthly) basis
		✓ Exposure sewer	✓ Contracting communicable diseases ✓ Vomiting & nausea	High	✓ Ensure employees have been vaccinated for HPV. ✓ Ensure employee are wearing job specific PPE. ✓ Ensure employees bath before going home and PPE is disinfected.
		✓ Unsafe use of hand tools ✓ Using the wrong tool for the task ✓ Using damaged tools ✓ Using inadequate/ wrong tool for the task	✓ Injuries	Low	✓ Wear hand gloves. ✓ Adhere to safe use of hand tool procedure. ✓ Use the correct hand tool for each task. ✓ Inspect all tools and report damaged tools
	✓ Poor ergonomics	✓ Inadequate handling of paving material ✓ Handling heavy material	✓ Caught between/ pinch point injuries. ✓ Back pains/ sprain	Moderate	✓ Pave according to specification. ✓ Handle material with care. ✓ Wear job specific PPE.

Housekeeping	✓ Poor housekeeping	✓ Trip and fall	✓ Injuries	Low	✓ Clean the site at the end of each day. ✓ Provide a laydown area. ✓ Dispose redundant & waste material at an approved landfill site.
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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