	HEALTH, SAFETY & ENVIRONMENTAL (SHE) SPECIFICATION: BASELINE RISK ASSESSMENT	
Johannesburg Water	PROJECT NUMBER:	**RFP**
	PROJECT LOCATION:	**Various JW Wastewater treatment works**
	PROJECT DESCR:	**Servicing, repairs and maintenance of belt press at various JW Wastewater treatment works**

POSSIBLE RISKS FOR THIS PROJECT

Task	Hazard	Risk	Consequence	Rating	Controls
Compliance with applicable legislation for safety, health and environment	Contractor processes and/or procedures not developed according to legislation requirements.	Not complying with applicable legislation and client SHE specifications.	Litigation, multiple injuries and death. Work stoppages	**M**	✓ Planning, design and implementation to comply with legislative requirements, especially for Health, Safety and Environment together with Quality. ✓ Appointment of a qualified person to assist with the development of legislative guided processes and procedures.
Conducting SHE Induction training	Employees, contractors, suppliers, and visitors not aware of applicable legislating for the project and policies.	Non-compliance to legislation.	Work stoppages Multiple injuries	**M**	✓ Every new employee or visitor must be inducted before entering company premises or starting work. ✓ All employees absent from work or on leave for a period of 14days must be inducted. ✓ Inducted visitors must at all times be accompanied when walking around company premises.
Arranging Medical surveillance or examination	Employees not medically fit for work appointed for. No proof of medical fitness certificate.	Non-compliance to statutory requirements. Exposure to unidentified contagious diseases carriers.	Work stoppages. Incidents resulting to injuries	**L**	✓ Medical examination or assessments must be conducted prior to start of work and annually by an

	Employees not Vaccinated				Occupational Medical Practitioner. ✓ Every person must be declared medically fit for the type of work they performing and copies of employees' medical certificates to be kept on site. ✓ Employees must be vaccinated prior to work on site
Gate access to site premises - by people	Walking on the vehicle's driveways Lack of observation Intoxicated pedestrian employee or visitor entering security gate Employees, visitors or contractors entering with firearm Unauthorized entry	Personal injuries due to vehicles driving over people. Personal fight due to arrogant intoxicated people. Theft due to unauthorized entry.	Personal fight due to arrogant intoxicated people. Work stoppages resulting in delay to production Theft due to unauthorized entry.	**L**	✓ Only Authorised entry on JW premises ✓ Zero alcohol tolerance ✓ All Employees, contractors, suppliers and visitors to walk only on designated walkways in and around site/client premises.
Obtain necessary JW documentation and JW approvals	Working without authorization from JW	JW removing Contractor from site	Delay in production	**L**	✓ No work is allowed to start without the necessary documentation and approvals in place. ✓ Occupational notices must be available on site kept on site in the Health and Safety File
Working on site	✓ Working during peak hours	✓ Employees and vehicles moving around the vicinity	✓ Serious injuries ✓ Vehicle damages	**M**	✓ Access to the work area must be restricted/monitored ✓ Designated pedestrian routes must put in place to restrict unauthorized access ✓ Work must be planned for quieter times of the

					day when reduced/restricted pedestrian access is required to the area ✓ Safe working area must be cordoned off around the area and signage must be used as appropriate ✓ High visibility clothing worn by Site Supervisor if working on traffic route.
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 ✓ Speeding ✓ Slippery road	✓ Over-turning vehicles ✓ Vehicle Collisions	✓ Injuries ✓ Property damages ✓ Third party liability	**M**	✓ Adherence to the speed limit ✓ Only competent/ authorized 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	✓ Faulty lifting machinery & equipment ✓ Suspended load ✓ Poor housekeeping	✓ Malfunctioning ✓ Objects falling on employees ✓ Obstructed walkways by materials	✓ Injuries	**M**	✓ 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
Entry and exit	✓ No access Control	✓ Unauthorized entry into the construction site	✓ Injuries ✓ Theft of tools and material	**M**	✓ Appoint a full time, registered security guard on site
Working close to or on sludge conveyer belts	✓ Conveyor belts turning at a higher speed	✓ Part of the employees' body can get stuck into the belts which can result into serious body injury or death	✓ Fatality ✓ Injuries ✓ Property damage	**M**	✓ Employees to wear their full PPE and ensure they do not come too close to the moving conveyors. Conveyer belt to be stopped when the are employees working closer to it. Repair and inspect (3-monthly) trip wires
Operating a conveyor belt	✓ Exposure to moving conveyer belt	✓ Uninformed personnel can get serious injuries or die	✓ Injuries	**M**	✓ Starting siren to be installed on all conveyors. Employees to wear their full PPE and ensure they do not come too close to the moving conveyors. Conveyer belt to be stopped when the are employees working closer to it. Tripwire and siringe. training
Working on the belt press	✓ Exposure to belts and rollers turning at a high speed and splashing of	✓ Part of the employees body can get stuck into the belts which can result into	✓ Fatality ✓ Injuries ✓ Property damages	**M**	✓ Employees to wear their full PPE and not to stand too close / touch moving rollers

	the sludge into the employees body	serious body injury or death			
	✓ Inhaling of sludge fumes from belt press	✓ Inhalation can lead to drowsiness and unconsciousness	✓ Drowsiness ✓ Unconscious	**L**	✓ Employees to ensure that they wear their full PPE and ensure that the top covers of the belt press are always closed
Repair the damaged Conveyor Belt	✓ No proper access control to the working area	✓ Employees falling inside the screens	✓ Injuries ✓ Fatality	**H**	✓ There must be a strict access control to the working area.
	✓ Working on a conveyor belt manually	✓ Belt collapse ✓ Employees injured from the tools	✓ Injuries	**M**	✓ Ensure that workers are protected against any injuries while performing this task. ✓ Where conveyor belt is higher than 1,5meter it is important that fall protection plan must be implemented. ✓ Employees must be provided with the ladder to access the working space if the conveyor belt is high than a ground level. ✓ Ensure that the Conveyor belt is isolated
	✓ Passing tools, equipment to other employees who are working	✓ Tools, Equipment can fall on person while working. ✓ Repetitive handling of tools, Equipment can	✓ Injuries	**M**	✓ Ensure that tools, Equipment is handed to the person working at a controlled pace. ✓ Workers handling the tools, Equipment should be relieved where and when possible.

		cause back or hand injuries			✓ Ensure that PPE is used while performing the task
	✓ Placing of Idler Roller, return roller, head pulley, splicing	✓ Handling Idler Roller, return roller, head pulley, splicing can cause hand and back injuries.	✓ Back pains ✓ Muscles stretches	**M**	✓ Ensure that manual handling is performed is terms of the required standard. ✓ Employees should be taught how to handle any item safely.
Loading/offloading of the Conveyor Belt, Idler Roller, return roller, head pulley, splicing by the untrained personnel	✓ Heavy loads	✓ incorrect way of installation	✓ injuries ✓ Back strains	**M**	✓ employees must be under supervision at all times ✓ Employees must be provided with the full PPE ✓ Employees must follow the procedure at all times ✓ Employees must carry appropriate load
	✓ Idler Roller, return roller, head pulley, splicing fitting	✓ Incorrect lifting of sheet ✓ Swinging load	✓ Injuries	**H**	✓ Correct manual handling techniques ✓ Use mechanical aids where possible ✓ Maintain control of loads when lifting and moving ✓ Carry Idler Roller, return roller, head pulley, splicing close to ground while moving providing mechanical aid is used
Use of hazardous chemical substances	✓ The use of Chemicals (grease, oil, diesel)	✓ Inhalation of chemicals ✓ Fumes from the grease, oil, diesel ✓ Wrong handling of the grease, oil, diesel ✓ Grease, oil, diesel getting into the eyes.	✓ Skin burns or irritation caused by contact with a grease, oil, diesel ✓ Material in contact with the employee's skin resulting in skin irritation.	**M**	✓ Using respiratory mask; replace ✓ Respirators/Dust musk to be used at all times when working with hazardous material. Rotate workers working with hazardous material. ✓ Grease, oil, diesel risk assessment, SDS must be communicated work

			✓ Grease, oil, diesel dropping into the eyes resulting in blindness. ✓ Inhaling fumes from hazardous material resulting in lung infection/problem		✓ Visual inspection for any signs of damage must be conducted before work commences ✓ Wear gloves at all times, wear full PPE to avoid skin contact. ✓ Ensure standard safety procedures are followed; ✓ Wear safety googles properly at all times. Training on SDS.
Stacking and Storage	✓ Unsafe stacks of materials or Pallets	✓ Falling of pallets and material on employees	✓ Injuries ✓ Property damage	**M**	✓ 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
Lifting and pulling of a belt press	✓ Manual handling ✓ Incompetent employees	✓ Muscles stretch due to pulling heavy Belt press ✓ Employees can get their hands/finger trapped ✓ Twisting of ankle	✓ Back pain ✓ Injuries ✓ Fatality ✓ Property damages	**H**	✓ Correct PPE must always be used e.g. Hardhat with chin straps, gloves & shoes ✓ Observe proper lifting techniques ✓ Obey sensible lifting limits (60 lb. maximum per person manual lifting) ✓ Supervision and training on pulling methods. ✓ Housekeeping must be maintained prior to pulling of belt press.
Cutting and drilling	✓ Drilling ✓ Drill pit ✓ Drill sharp	✓ Vibration ✓ Cutting edges	✓ Damaged hearing	**M**	✓ Use hearing protection when exposed to excessive noise levels

	metal fibres ✓ High Noise Levels ✓ Cutting Grinder/Disc	✓ Eye penetration ✓ Finger cuts ✓ Expose to high noise level area ✓ Uncontrolled Disc ✓ Electrical equipment failure ✓ Sharp window edges	✓ Carpal tunnel syndrome ✓ Cuts/ injuries ✓ Eye irritation / Blindness ✓ Minor cuts resulting into injury ✓ Injuries to persons operating ✓ Eye injuries		(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 ✓ Assess manual guide carefully to ensure correct usage of portable electrical devices.
Using hand tools	✓ Using hand tools (spanners, screw drivers etc.)	✓ Damaged Tools	✓ Injuries	**L**	✓ Conduct training about using hand tools and provide proper PPE. Hand tool SOP. Use proper PPE
Working at heights	✓ Heights ✓ Unfit employees ✓ Using hand tools ✓ Unsecured tools and equipment	✓ Falls ✓ Unfit for the job ✓ Damaged hand tools ✓ Falling onto Employees	✓ Injuries	**M**	✓ 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

Weather conditions	✓ Weather conditions; high winds, heavy rain, hot weather etc	✓ Eye strains	✓ Fall injuries, sun burn, heat exhaustion	**M**	✓ Employees assesses the weather conditions before undertaking external work and does not undertake the task if conditions unsuitable ✓ Employees wears clothing appropriate to the weather conditions ✓ Employees wears clothing to cover skin and wears sunscreen in hot sunshine ✓ Employees keeps well hydrated and takes regular breaks in hot weather.
Ladder	✓ Use of Ladder	✓ Fall from ladder	✓ Injuries	**M**	✓ SOP when using ladder must always be adhered to
Climbing down on ladder or structure	✓ Working at heights	✓ Falling onto / Falling objects ✓ Mechanical failure of step ladder bolts ✓ Loosing footing and falling to ground ✓ Smooth angle iron surfaces that can be slippery	✓ Employees falling from heights which may result in fatality ✓ Personal injuries from elevated equipment	**M**	✓ Admin: provide training for personnel working at heights ✓ Developing a safe working procedures and inspections should be conducted on regular basis
Clean site and remove Rubble	✓ Waste Disposal	✓ Injuries or property damaged	✓ Injuries	**H**	✓ A proper waste disposal system should be in place ✓ Waste should be removed daily and placed in the correct waste disposal system
	✓ Poor house keeping	✓ Trip and fall	✓ Injuries	**H**	✓ Good housekeeping to be maintained

General activities in and around site	✓ Protection of public	✓ Injury to member of public from site works	✓ Injuries	**M**	✓ Barriers and signage to be in place.

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