	FORM		Form. No.	HSEF-001
Al Jazeerah Drilling	**HSE Risk Assessment Form**		Version No.	01
	Activity – Block Works, Plastering & Painting Works	**Project # Potable Water Supply to Jabal Al Deem - Kalba Package-2 Main Pumping Station and Booster Pumping Station**	Page	1 of 13

Sl. No.	ACTIVITY	HAZARDS	RISKS	LIKELIHOOD	SEVERITY	RISK	EXISTING CONTROLS (Describe all pre-existing or current control measures If none, state so)	LIKELIHOOD	SEVERITY	REDUCED RISK	ADDITIONAL CONTROLS	LIKELIHOOD	SEVERITY	REDUCED RISK
				L	S	R1		L	S	R2		L	S	R3
1	Delivery of material to site	• Contact with delivery truck. • Persons being struck by other plant/equipment t in and near the work area.	• Personal Injury • Fatality	4	4	16	• Ensure the operator is having valid driving license. • The delivery truck must be in good condition and must be inspected. • Speed limit of 20 Km/h must be complied always. • Clearly defined access routes with entry and exits points and erect appropriate warning signs. • Trucks to be under the control of a banks man always. • Reversing to be avoided where possible or only undertaken with the assistance of a trained banks man with appropriate vehicle warning systems displayed • Closed supervision at all the time. • Reverse alarm and beckon light to be functional for the delivery truck. • Ensure materials are loaded & stored as per the materials MSDS	1	4	4				

2	Working at height by using scaffold	• Collapse of scaffolding structure/step ladder resulting in human injury / material damage. • Risk of falling object from scaffold. • Fall of men while working at height	• Major injury • Fatality	4	4	16	• Toolboxes talk to be conducted prior to start the activity. • When climbing up & down a step ladder, always maintain a 3-point contact and face the ladder. Use a tool belt or hoist to lift tools. • Only one person on the ladder at a time. • Don't overload • Tag & remove defective ladders from the job site. • Never use step ladder for demolition work. • Trained & competent personnel to be deputed • Adequate, appropriate and safe scaffold platform to be used under strict active supervision. • Only approved and inspected scaffold platform will be used. • All erection and dismantle activities of scaffold shall be performed under competent supervision and with certified operatives. • The Engineers and Supervisors must ensure that the provided scaffold and ladder are safe to use and inspected and tagged by competent person. • Training to all involved employees to safe use of scaffold, risk involves in work at height and basic safety requirements to use a scaffold. • Adhere to SWL (Safe Working Load) of scaffold, date of inspection and sign of competent inspector. • Ensure adequate supervision to control the behavior of the work force and training to the workers that use only those scaffolds which shows ready to Use (Showing Green tag). • Constructed Manger and site engineers are responsible to ensure safe scaffold is erected and inspected through proper coordinated with scaffold inspector and ensure all the scaffolds are safe and timely inspected by the competent person.	1	4	4				

3	Scaffolding and Ladders	• Collapse of scaffold • Fall from height • Falling from ladders • Falling objects • Crane associated hazards • Splinters, protruding nails, sharp edges • Unsafe positioning of ladders	• Major injury/Fatality • Minor injuries (Burn, Eye, hand Injury)	4	4	16	• Internal, external and mobile Scaffolding must be erected by competent person/ under competent supervision. • Correct use of required Personal Protective Equipment (Hard hat, hand gloves, safety harness, safety shoes) • Barricade off safe work area • Sole and base plates stand on level compacted ground • An effective access/egress design is to be followed • All platforms are to be fully boarded and hand railed • Toe boards are to be installed on all used platform levels. • More than 2m above the ground guard rails to be installed on all sides except on closed working face • Substantial guard rails not less than 900 mm and no more than 1000 mm apart • Toe boards at least 15cm in height • No open spaces between board and platforms • Wooden toe boards at least 25mm thick • Tool-retainers (boxes and buckets) to be used to reduce the risk of tools falling form scaffold. • All workers in elevated positions are to wear a safety harness. • Ladder must be inspection and colour coded by competent person on monthly basis. • The scaffold is only to be put into use once the scaffold inspector has inspected the scaffold and deemed it safe and placed the 'Scaftag 'marker stating that the scaffold is safe. • Regular cleaning will be done to minimise trip hazards and the buildup of surplus materials on platforms	1	4	4				

4	Masonry Block Work	• Working Posture • Falling objects	• Sprain/Strain to the muscles including back pain	4	3	12	• Proper scaffolding platform shall be provided wherever necessary for the Masonry block & plaster works. • Proper access ladder with handrails shall be provided and will be properly secured. • Masonry block works shall be in plumb and no. Of layer shall be in accordance to quality control procedures to avoid collapse of block work on to workers. • Safe and secure work platforms shall be provided and full body safety harness with double lanyard will be utilised at all times for any height above ground level. • Safe & easy reachable anchor point should be provided. • Blocks shall be stored at proper locations and not on top of work platform. • Access/Egress shall not be blocked/obstructed. • Materials basket used for lifting blocks shall be certified and valid. • Broken and damaged pieces of block works shall not be thrown from height neither be stored on high elevations. • Concrete mixing machine is place in safe area and provide proper signs and area should be barricaded. • Only trained operatives to be used. • The emergency exit shall be provided and the operatives working there shall be notified about the exit. • Ensure fall protection with scaffold platform provided at level-01. • Daily housekeeping shall be carried out. • Provide rubber hand gloves, duct mask and clear goggles for all along with basic mandatory PPE's	1	3	3				
5	Access and Egress	• Slip, trip and fall	• Fracture/ severe back injury)	4	3	1 2	• Safe access and egress, including ladders, steps, ramps, or other safe means of exit for employees working. • Aluminum ladders to be secured at both ends, 1m above landing • Proper housekeeping to be maintained at all times. • Ladder not be used as a working platform.	1	3	3				

6	Use of Hand powered tools (Drill, Grinder & Powered Chisel, Powered Shaw, Block cutting machine etc.)	• Risk of getting electrical shock. • Risk of injury property damage. • Risk of electric sparks by loose connection / overheated wire become fire. • Use of unsafe power tools	• Personal injury • Major Injury	4	3	12	• All power tools should be maintained with care. • All electrical tools should be inspected by competent electrician and provide sticker. • All power tools need to be equipped with fixed guards to protect the operator and others. • All necessary isolation to be done before the work. • Visual checks must be done by operatives on tools prior to their use. • Trained & competent persons shall be employed. • Supervision to be done in a safe manner. • All Electrical system should be connected through circuit breaker system and fittings should be of industrial standard • Proper type of Personnel Protective Equipment (PPE) like eye protective glasses, industrial type hand gloves, overall, ear plugs, safety shoes, helmet etc. should be worn. • Trained and competent operatives shall only allow using these machineries. • Carryout a prestart inspection for damages and conduct a pre-start training on its hazards and safe usage. • Ensure the protective guard on the rotating blade. • Protect the live cables from any external impact and damages. • Work table to be provided to reduce the work-related illness or Injury. • Close supervision required by competent supervisor.	1	3	3				
7	Motor preparation and placement	• Contact with motor	• Personal Injury	3	3	9	• Materials should be properly stacked in a designated area. • Site to be supervised by competent person. • First aid facility should be available on site. • Adequate washing facility to be available on site. • Only trained and experienced workers to be engaged • Safety goggles, hand gloves (rubber), Safety shoes (Rubber Boots), and coverall should be worn.	1	3	3				

		• Inhalation of cement/sand	• Lung diseases / silicosis	3	3	9	• Water to be used to suppress • Site to be under competent supervision. • Only trained and experienced worker to be engaged. • PPE: - Particulate dust masks to be worn.	1	3	3				
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8	Painting	• Fire • Health (Inhaling) • Environmental pollution	• Serious Injury • Fatality	4	4	16	• Provide standard scaffolding for external and safe working platform. • Use Safety harness while working above 1.8 m height. • Communicate MSDS to everyone involved • Ensure proper signage and ventilation and other requirements to be arranged as stipulated in the MSDS • Switches, circuits, cables and equipment shall be maintained properly • Use PPE always like respirator mask, hand gloves, clear goggles, helmet, safety shoes and cover all, etc. • Required PPE shall be provided based on MSDS • Avoid hot works near the painting area, keep safe distance for both activities • Housekeeping to be conducted before the end of each shift.	1	4	4				

9	Storage and Handling of COSHH Material	• Chemical burns. • Explosion or fire • Uncontrolled use of hazardous materials. • Uncontrolled spills of hazardous materials.	• Burn • Trip/Fall • Noise Hearing loss • Vibration Dust	4	3	1 2	• Identify all hazardous substances used, stored, handled or generated in their area of work and compile an inventory. • Ensure that all hazardous substances are securely and appropriately stored. • Ensure that Material Safety data sheets (MSDS) are obtained for new substances prior to purchasing. • MSDS requirements shall be communicated to all those handling it, store keepers, first aiders, etc • Take into account all relevant routes of exposure - inhalation, skin absorption and ingestion - when developing control measures. • Control exposure by measures that are proportionate to the health risk from MSDS. • Designated areas to be set up to store hazardous materials. • Materials to be stored as per manufacturers recommendations/MSDS. • Access to hazardous materials to be controlled by the store man. • Use by dates to be monitored by the store man. • Firefighting arrangements as per MSDS to be readily available. • Spill Kit to be readily available (if required by the MSDS) • Correct & mandatory PPE shall be used by hazardous material user. i.e., Safety goggles, hand gloves, safety shoes, hard hat etc. • Regular TBT / training and MSRA training conducted accordingly for all workforce including engineers and foreman. •	1	3	3				
10	Manual Handling	• Sustained awkward posture - long duration, - repetitive / sustained actions, high force - heavy loads	• Back injuries, falling objects, • injuries sustained from improper lifting and Untrained workers	3	3	9	• Minimize the manual handling and increase the mechanical handling. • Determine the number of persons required to carry out work in safely. • Team lifting. • Adequate rest and Job rotation. • Safe manual handling lifts to be trained. • Conducted toolbox meeting before start work.	1	3	3				

	Working with Plants/Equipment and machinery	• Rotating parts of machinery • Vehicles incidents • Noise • Electrocution • fire explosion	• Major Injury • Severe cuts • Trauma • Death	4	4	1	6	• Competent supervision. • TBT to be given to the work force. • Experience and trained work force to be deployed • Certified Banks-man to be assigned. • All Heavy plant and vehicles operators must have valid U.A.E. driving license • Daily operator visual checks must be undertaken for all Plant & Equipment in use • Nobody allowed working close to running heavy equipment. • All equipment should be checked and certified by a 3rd Party. • No open flame near operating equipment. • No smoking is allowed while on site activities and near machineries. • Moving parts of the machinery to be covered at all times. • Authorized personnel to only operate the machines. • Fire Extinguishers shall be available in the area. • Emergency procedures should be communicated to the workers. • PPE [Ear plugs, gloves, goggles, overalls, etc to be worn. • Loose clothing should be avoided; pumps / machinery should be regularly maintained by mechanics to ensure safe operation. • Flanges are to be properly rubber sealed to avoid any leaks. • When refueling, ensure noncombustible goods in the area. • All electrical connections are to be inspected and have records • Mobilization checklist for all the plant & Equipment coming to the site to be checked by the workshop engg and provide with the colour code sticker.	1	4	4				

12	Housekeeping work	• Slip / Trip / Fall	• Injury (cuts and bruises) to the work force	4	3	12	• Ensure that before and after any work execution, proper housekeeping to be done. • Remove all unnecessary materials and place it in storage area. • All electrical outlets that are not in use should be removed and stored. • Full isolation in work sites before leaving the site and no gaps in fences. • Ensure tidiness and frequent removal of waste.	1	3	3				
		Dropped Loads	Injury (fracture, back strains) to the work force	4	3	12	• Manual handling training shall be implemented for the workforce to ensure that they are aware of the hazards present and the precautions necessary • Ensure the load is secure prior to lifting it. • Ensure that suitable PPE (overall, hand gloves, helmet, safety shoes. Reflective jackets etc.) are used.	1	3	3				
13	Loading/Unloading materials on truck	• Improper loading • Defective equipment • Overloading • Over tightness/slackness • Dimension of the load, etc	• Fatality • Major/minor injury • Property damage	4	4	1 6	• Follow proper lifting/loading procedure • Use proper restraining devices & procedure • Use of trained & competent driver/operators • Competent supervision • Usage of site mandatory PPE & task specific PPE • Barricade the swing area • Daily Tool box talk	1	4	4				

14	**Lifting Operations**	• Fall of materials • Failure of equipment • Collapse of load • Struck by materials / equipment • Wrong communications • Overhead Utilities	• Fatality • serious injuries • Property Damage	4	4	16	• 3rd party Inspection of Equipment and accessories • Periodic maintenance of lifting equipment and accessories, Inspection of plant and accessories before entry to site, daily inspections by operator and weekly checks 8 • Cordon off the lifting zone • Safe load and the load radius indicators will be checked periodically for accuracy • Before lifting all loads are checked to ensure they are within the safe working load of the equipment • Works controlled by a rigger; all needed/ necessary PPE's will be worn by employees involve in work activities • All involved will be aware of the procedures to be followed, helps to ensure equipment is in good working order • Trained & competent rigger will be provided where required. • Will reduce the likelihood of misunderstanding signals which could lead to dangerous situations • Risks identified in pre-task briefings • All lifting operations must be under the supervisor and control of the lifting appointed person/the lifting supervisor. • Ensure Lifting PTW is obtained prior starting the lifting operations. • SWL of the crane should be in functional condition. • Under no circumstances SWL should be crossed. • Crane shall be standing on leveled and well compacted area and outriggers fully extended before starting the lift.	1	4	4				

15	**Working in extreme heat /Summer**	• Heat Stress / Sun Stroke	• Major Health Hazard (extreme dehydration, loss of body fluid)	4	4	16	• Ministry of labour official summer working hours shall be followed. • Job rotation, short breaks and scheduled timings will be followed. • Ensure that heat stress awareness sessions to familiarize causes is to be given to all levels or working personnel. • Training will be carried out in workers language. • Safety tool box talk and basic first aid trainings to be given to workers for emergency situations. • Provide and advise to drink water in order to regain sweat or loss and avoid dehydration. • Rehydration drinks or ORS to be supplied. • Ventilated rest shade and sitting areas to be provided so that employees can sit and cool themselves. • Trained First-Aider Shall be provided. • Regular heath surveillance will be carried. •	1	4	4				
		• Exhaustion	• Major Health Hazard (extreme dehydration, loss of body fluid)	4	3	12	• Obtain Doctor's medical and physical condition check-ups regularly. • Provide rotation short breaks and scheduled timing. • Ventilated rest shades and sitting areas. • Emergency preparedness training & drill to be conducted. • Emergency vehicle to be on standby.	1	3	3				

16	**Working in confined space**	• Lack of oxygen • Poisonous gas, fume or vapour • Liquids and solids which can suddenly fill the space, or release gases into it • Fire and explosions • Residues left in tanks • Hot conditions	• Fatalities • Respiratory disorders • Burns • Major injuries	4	4	1 6	• Modify the confined space itself so that entry is not necessary • Safe systems of work to be followed • Permit to Work to be followed • Appointment of a competent & trained supervisor • Competent persons to perform these works • Consider other factors (claustrophobia, fitness to wear breathing apparatus, medical fitness, size) • Mechanical and electrical isolation of equipment • Cleaning before entry • Increase the size of the entrance, if feasible • Ventillation (Forced, Local) • Ambient Air Testing • Non-sparking tools and specially protected lighting where flammable or potentially explosive atmospheres are likely • Rescue Tripod • Proper access • Adequete Communication • Confined Space Attendant • Respiratory Protection in additiion to mandatory PPE • Emergency Response Plan & team • Rescue Harness	1	4	4				
17	**Environmental Pollution**	• Smoke, exhaust emissions from vehicles, mobile equipment's	• Deterioration of air quality. (Air Pollution) • Soil contamination	3	3	9	• Inspection and maintenance of all equipment will be conducted regularly. • Provide drip trays to avoid direct leak on the ground. • Spill kit provisions to minimize the impact. • Workers to be trained in environmental protection & pollution prevention. • Contaminated soil to be collected and disposed of adequately.	1	3	3				

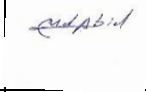
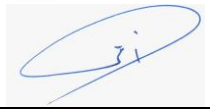
Note:.

1. Control measure shall follow AJD and consultant hierarchy of controls.
2. Keep dummy flag man wherever adjacent to road premises.
3. Revolving flash lights shall be fixed over vehicle whole working nearby main roads.

<u>Required & Recommended safety equipment's</u>:

1. Hard Helmet
2. Safety shoes (gum boots).
3. Gloves
4. Safety harness
5. Coverall

0 – 5 = Low Risk 6 – 10 = Moderate Risk 11 – 15 = High Risk 16 – 25 = extremely high unacceptable risk		Severity of the potential injury/damage				
		Insignificant damage to Property, Equipment or Minor Injury 1	Non-Reportable Injury, minor loss of Process or slight damage to Property 2	Reportable Injury moderate loss of Process or limited damage to Property 3	Major Injury, Single Fatality critical loss of Process/damage to Property 4	Multiple Fatalities Catastrophic Loss of Business 5
Likelihood of the hazard happening	Almost Certain 5	5	10	15	20	25
	Will probably occur 4	4	8	12	16	20
	Possible occur 3	3	6	9	12	15
	Remote possibility 2	2	4	6	8	10
	Extremely Unlikely 1	1	2	3	4	5

		Name	Signature	Date
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