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Operation: LP-UIV-EL- MST-0007 Construction for Sub-base & Road base Works		Rev: 00	Date: 24/12/2020

For method of rating risks, see detail at the end of this document

Note: This Risk Assessment is provided as a guidance document for the control of the all related risks of the activity aforementioned above

Activity	Hazard/Risk associated with the activity	Initial Ratings			Existing Control Measures Required	Controlled Ratings			Responsible Person
		Likelihood	Severity	Risk Rating		Likelihood	Severity	Risk Rating	
Mobilization of Manpower	Workers/Foremen/Engineers/Supervisors/HSE Officer/CM Unfamiliar site conditions & rules, Untrained workers PPE Non-Compliance, Emergency Response Unawareness, TBT Non Conformance, PTW Non-Conformance, Lack of Supervision, Insufficient Welfare Facilities, Poor Communication	3	4	12	<ul style="list-style-type: none"> All workers, drivers and visitors to undergo site HSE Induction/orientation prior access to site. Daily toolbox talk/STARRT briefing before works starts All workers and visitors must wear required mandatory PPE inside the site. Workers must be adequately supervised All personnel mandatory to wear the standard and basic PPE at all times on the required zone areas as per QCS/Section-11/Part 1.1.6.5 Personal Protective Equipment Job specific PPE for doing specific task. During Safety induction, awareness of all personnel in proper emergency response will be provided. Provide permanent vehicle at site for emergency purpose. Daily toolbox/Safe Start shall be conducted by site supervisor to his workforce and discuss all the hazards involve and apply 	1	4	4	Site Managers, Engineers, Supervisors, HSE Officers

					<p>mitigating controls to avoid any incident / accident.</p> <ul style="list-style-type: none"> • Compliance of PTW System is must. Excavation activity will not commence unless compliance of Permit to Excavate is fulfilled. • Supervision should always be at the work front to monitor the safe execution of ongoing activities. • Provide adequate welfare facilities for the entire workforce prior to execution of the job, close to the work location as per QCS/Section-1/Part10. OCCUPATIONAL HEALTH AND SAFETY. • Proper communication between supervisory, foreman and workforce shall be established. • Regular coordination with the construction & HSE team members should be maintained at all times. 				
Site Planning & Preparation - Surveying & setting up Works	Unauthorized/ Incompetent Personnel	3	5	15	<ul style="list-style-type: none"> • Only competent / authorized personnel to execute the job. • Workforce shall undergo Project Safety induction and required training prior to mobilization on site as per QCS/Section-11/Part 1.1.5 Induction Training • Safe Start to be conducted by supervisor prior to start of job in which briefing of Risk Assessment will be. • JV to ensure that detailed reviews of available as built plans for identified buried services are available and referred to. • JV to survey each site to identify the services with a CAT scanner and pipe finder, plus record and mark the locations of all services. 	1	5	5	Site Managers (CM), Engineers, Supervisors, Surveyor, HSE Officers
Screening & mixing of sub base materials	Unauthorized personnel, lack of control, Plant and equipment movement, poor operator visibility, poor maintenance of equipment / vehicle collision and accident between equipment and property damage, environmental impact due to spillage of oil etc. and malfunctioning of equipment/dust/uneven ground /Noise	4	4	16	<ul style="list-style-type: none"> • Reporting of incidents/ near misses. • Use water as a means of suppression on roadways or in work areas, applying a water spray allows remixing of the subbase material and helping in dump down of dust at source. • Have trucks and equipment keep speeds down if dusty conditions are present onsite. • Stay out of areas where dust levels are high as well as avoiding being downwind from these areas. • Prior to starting, operator shall walk completely around the equipment, and ensure no one is under it, on it or close to it. Operator shall sound horn before startup. • Operators are not allowed to lift, move or swing loads over 	1	4	4	Site Managers (CM), Engineers, Supervisors, Operators, HSE Officers

	<p>No exclusion zone & signage's/No guards on rotating parts/Obstructed access & egress/No supervision</p>			<p>anyone.</p> <ul style="list-style-type: none"> • Exercise extreme caution should be exercised while backing up. Parking, operation shall be planned so that the backup maneuvers are limited to a minimum. • Overhead clearances shall be checked prior to startup in the vicinity of overhead power lines. • Ground personnel must wear the appropriate dust mask and safety goggles. • Water trucks shall be used for dust control along haul roads. • All equipment must be inspected monthly basis from PMV Plant Dept. • Daily equipment pre-check shall be done by the competent operator prior to start & operate the equipment • Adequate supervision shall be done by the competent site engineer/foreman • Only competent operators shall be allowed to operate on rusher plant equipment • No crusher shall be allowed to operate within 100 meters vicinity of any temporary or permanent human occupancy • Screening equipment shall be inspected to ensure the result of screened materials is based on the size of the requirements • Permits issued by the MoE shall be renewed if the crusher or stockpile is expected to be continued after the date of expiry of the current permit. • Whenever any operations are in progress continuous water sprinkling is required in a crusher including the access roads to the crusher area to prevent huge amount of dust accumulation that could pose poor visibility in the working area. • Warning signs communicating the potential hazards associated with the isolated materials shall be installed near the stockpiles <p>Rotating mechanism of the equipment shall be protected or Guarded</p>			
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					<ul style="list-style-type: none"> Adequate illumination shall be installed around crusher area especially during night works work shall be suspended in a weather conditions like rain, foggy, heavy sandstorm, extreme heat wave, extreme humidity level & wind speed of 25 knots(46kph) <p>Ensure PPE shall be worn such as cloth gloves, eye protection, safety shoe, hard hat, high visibility vest, coverall, ear plugs/ear muffs when noise exceeding 80dB & dust mask</p>				
loading and unloading of sub base material	Unskilled operator/ Uneven/non compacted surfaces/ Untrained vehicle operatives/ Overloading/Over head obstruction/No standard distance/in between tipper truck/No/absence of banks Man/Dust inhalation	4	3	12	<ul style="list-style-type: none"> All plant / Equipment's should be operated only by the competent and certified Operators. Safe distance shall be maintained between the Men & plant movements. Driver to ensure that the cargo compartment shutter is properly closed after each loading & offloading operation. Ensure that the ground of offloading area is properly levelled. All site personnel are familiar with accident/Incident reporting procedures and emergency telephone number is known Competent Banks man shall be assigned on site with each plant / Equipment, Plant & equipment to have all round operator visibility. Reversing alarm and beacon lights must be operational. Unauthorized access strictly prohibited. The signalmen/ banks men always visible to the operatives/ drivers. Segregation of plant & operatives with barriers & signage, operatives briefed not to walk / stand around rear of machinery or items of plant. All people involved in the task must be trained and competent. Close supervision shall be done throughout the activities Maintenance of equipment shall be done in safe designated area. Appropriate safety signage's will be displayed at prominent locations so that staff/ subcontractors & visitors will be aware of associated risk released from the ongoing work. 	1	3	3	<p>Site Managers (CM), Engineers, Supervisors, Operators, HSE Officers</p>

					<ul style="list-style-type: none"> • Periodic inspection and maintenance of equipment and vehicle. • No loading unloading activities under overhead power cable. • Ensure unloading area is clear of the people and equipment. 				
Use of Tripper Trucks	Low Tire Pressure/uneven ground/uneven load/wet materials/soft ground/slop ground/	4	3	12	<ul style="list-style-type: none"> • Ensure the load is evenly distributed. The load does not exceed the carrying capacity of the vehicle or axel loadings. Tyres and low-level equipment have not been damaged when going off road. Mud and stones are not deposited on the public highway. There are no stones, bricks, etc. trapped between tyres that could become a hazard to other road users or pedestrians. • Wet loads are adequately drained before transporting. • Ensure that 15 meters tipping exclusion zones maintained • Personal Protection Equipment (PPE) including a hard hat, gloves, safety boots and a high visibility vest or jacket and if appropriate eye and ear protection are available and worn at all times when outside the cab • Tyre pressures are checked regularly by operators. • The driving technique is adjusted to suit the vehicle and load centre of gravity as excessive speed effects stability • Ensure the area around the point of discharge is clear of personnel and obstructions. All personnel are well clear of a swinging tailboard • Overhead cables and other obstructions are well clear of your vehicle at all times and do not put you or others at risk. A check is always made for overhead obstructions before tipping. • Site rules are known, understood and observed by operatives. The manufacturers operating instructions and safety rules are known, understood and implemented • An exclusion zone is maintained around the vehicle during the tipping process. Only one truck will be tipped at a time unless they are at least 15metres apart and each has their own Banksman to direct the operation. • When empty, then Banksman instructs driver to lower the trailer 	1	3	3	Operators/ Supervisor/ Engineer/CM /HSE Officers/Plant and Equipment Incharge

				<p>fully until it is locked in position and then to leave tipping area by designated route.</p> <ul style="list-style-type: none"> • At all times the driver must be able to clearly see the banksman assigned to his location and when he cannot see to not proceed with the next action until instructed to do so. • No tipping will take place during high winds or sand storms. • Tipping to take place on even compacted ground at least 2 metres away from any excavation. • Drivers are not allowed to have curtains or cardboard or any other type of window cover as this greatly reduces the safe sighting of a driver. • No one is allowed to stand/seat in Exclusion Zone for whatsoever reason during tripping. • Don't discharge the load if the vehicle is leaning sideways or on unstable ground • Do not continue to discharge if the vehicle begins to lean sideways whilst tipping. Discharge the load from an articulated vehicle if the tractor unit is not in line with the trailer. Drive with the body raised (other than the 10% to check/clear tailgate) • Don't Allow personnel to stand adjacent to a tipping body • Ensure that not to drive onto soft ground or close to excavations • Ensure that no one go under an un-propped body or tailboard, don't Allow other persons to go under an un-propped body or tailboard • Don't Use violent movements to release a 'sticky' load • Avoid overloading of vehicle, load limit need to be mentioned on tripper truck so that it can be easily verified or safe loading capacity need to be written on inspection sticker for verification on wedges bridge. • All ramps to have adequate edge protection on both sides and are to be demarcated, flickering light should be fixed on edge to make alert in night work time. • Top of Stockpiles area must be protected with soil berms and 			
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					<p>trucks need to be controlled by banksman/flagman and only one tripper truck will be allowed to go on top of stockpile to dump material under supervision of flagman while other tripper trucks will wait at ground level for its turn.</p> <ul style="list-style-type: none"> • Banksman need to stay away/clear where tripper truck operator direct eye contact will take place during offloading of materials. 				
Dumping & Spreading Sub-base Material	Collision/hit by vehicle/tripping of tripper truck trunk	4	4	16	<ul style="list-style-type: none"> • Trained spotters shall be deployed at dump areas to control traffic and dumping • Truck drivers should be alert for other machines, personnel, obstructions and overhead utility lines as they approach the dumping area. • Truck drivers should follow the directions of the spotter • Prior to starting, operator shall walk completely around the equipment, and ensure no one is under it, on it or close to it. Operator shall sound horn before startup. • Operators are not allowed to lift, move or swing loads over anyone. • Exercise extreme caution should be exercised while backing up. Parking, operation shall be planned so that the backup maneuvers are limited to a minimum. • Overhead clearances shall be checked prior to startup in the vicinity of overhead power lines. Truck drivers shall make sure that no personnel are close to the machine before the dump body is raised. • Steering movements shall not be made if the dump body is raised with a stuck load. This could cause the machine to tip over. • Before pulling away from the unloading area, the dump body shall be fully lowered. 	1	4	4	<p>Site Managers (CM), Engineers, Supervisors, Operators, HSE Officers</p>
Road area where sub base to be layed.	Over speeding, uncontrolled drivers, Reversing, narrow access and egress, overloading vehicle with sub base material /collision/ hit with vehicle, property damage	3	4	12	<ul style="list-style-type: none"> • All plant / Equipment's should be operated only by the competent and certified Operators. • Safe distance shall be maintained between the Men & plant movements. • Competent Banks man/Flagman shall be assigned on site with 	1	4	4	

					<p>each plant / Equipment,</p> <ul style="list-style-type: none"> Plant & equipment to have all round operator visibility. Reversing alarm and beacon lights must be operational. Unauthorized access strictly prohibited. The signalmen/ banks men always visible to the operatives/ drivers. Appoint trained and competent vehicle signal man. Segregation of plant & operatives with barriers & signage, operatives briefed not to walk / stand around rear of machinery or items of plant All work to be planned in advance and experienced person to be deployed. Adequate supervision of site location by qualified site foreman. No vehicle to reverse without banks man. No unauthorized persons in reversing zone. No horse play with machine / equipments. All vehicle must be equipped with flashing amber beacon. All plant /equipment to be equipped with functional reverse alarms. Ensure to turn off the engine when equipment not in use & hand brake shall be engage 				<p>Site Managers (CM), Engineers, Supervisors, Operators, HSE Officers</p>
Transportation of materials	Tipper Trucks, Flying (wind-blown) grit, stones, sand and dust, Entanglement, Noise	2	4	8	<ul style="list-style-type: none"> Hauling access route must levelled and maintained. Loading area shall be maintained periodically for uneven ground conditions. Haul roads shall be maintained periodically. Provide area lighting at haulage routes at 100 meters intervals 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. 	1	4	4	<p>Site Managers, Engineers, Supervisors, Surveyor, HSE Officers, Operators</p>

					<ul style="list-style-type: none"> 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 Approved PPE as per project requirement. 				
Temporary Traffic Management (access in/out of work zone)	Inappropriate placing/setting out of TTM/ Entry/Exit point without the banksman/Unauthorized vehicles entry	3	5	15	<ul style="list-style-type: none"> Work zone shall be established using approved TTM plan Ensure all worker working behind the concrete barriers with hording Ensure continuous water supply to avoid live road crossing. In case working out the concrete barriers ensure lane closure using TMA with close supervision. All entry/Exit point shall have mesh type gates to control the plants entry/exit and to avoid the unauthorized vehicles entry. "Construction Traffic only" or "Access" sign shall be installed. one meter width of pedestrian access shall be maintained all the time. 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 	1	5	5	Site Managers (CM), Engineers, Supervisors, HSE Officers
Sub base laying next to the live diversion/traffic road	Construction plant/ equipment collision with road vehicles/workers being struck by the construction plant	4	3	12	<ul style="list-style-type: none"> Area shall be barricade with adequate signage's posted in visible location to prevent unauthorized personnel from accessing /crossing onto working area Ensure concrete barriers with mesh fence of 2m height on the carriageway phase of the trench Ensure plastic interlocked barriers with appropriate signs on rest of the phases of the trench Engineer shall maintain 1.5m buffer zone from the live traffic road wherever possible. Pre-task briefing, supervisor's checklist and plan inspection checklist to completed daily prior to the activity. Valid Qatari license, competency certificate and fitness certificate 	1	4	4	Site Managers (CM), Engineers, Supervisors, Operators, HSE Officers

					<p>should be made available.</p> <ul style="list-style-type: none"> • Ensure trained and competent banks man available throughout the job. • plant/equipment's cabin should be free of obstruction for 360-degree view. • Plant/equipment's extended arm should not extend the exclusion work zone. • Ensure none of the construction worker exit to the live traffic road. • Ensure proper supervision is in place and all trained operatives deployed for work. • Workers need to advise by supervisor during safe start related to hazard associated with assign task and its control measures. • Flagman/banksman need to deploy with the plant and equipment to monitor the movement. • Workers to make a safe distance with traffic and work in work zone area, inside the barraication. • Crossing of road to be avoided and if it is unavoidable then watch both side of road for coming vehicle before crossing of road. Care must be taken while crossing road. 				
Diesel Fueling/Maintenance	Fire/explosion/Spillage/Overfills/spills, and leaks	4	4	16	<ul style="list-style-type: none"> • Provision of appropriate gloves during handling • Toolbox Talk/Daily Job Safety Analysis to be done prior to commencing work & record to be maintained. • Engineering control assessed by COSHH to be implemented • Proper PPE indefinite by COSHH to be used • Only authorized and trained people to work with hazardous substance • Minimize the no of personal working in the area • All environmental damage substance to be placed in a compound wall • Hazardous substance to be use and handled as per MSDS • MSDS to be conveyed to work force through training /Tool Box • Spill kits to be provided. • Drip tray to be used to avoid contamination of ground • Don't store more fuel than the minimum amount needed. • Use approved containers, away from heat sources and in well- 	2	4	8	Site Manager, Engineers, Supervisor,

				<p>ventilated areas.</p> <ul style="list-style-type: none"> • Don't allow smoking near fuel trucks, as vapors may ignite • ensuring the engine is turned off when fueling, checking for any kinks in the fuel hose and maintaining contact with the tank while fueling to prevent static electricity. • When filling portable approved containers with fuel, ensure all sources of ignition are off. Place the container on the ground and fill it slowly. Avoid breathing in the vapors, and refrain from overfilling containers. Leave a little extra space for expansion. • fuel transfer hose and nozzle must be in the upright position. The nozzle shall be kept clear of the ground when returned to the reel or storage position. • Welding and/or burning operations within 20 metres must be stopped while fuelling is in progress. • All spills or suspected spills of petroleum products, on land or into the water, regardless of size, will be reported immediately to the Supervisor. The Supervisor will report the spill immediately to the Emergency Number of Site, or his delegate, who shall ensure that action has taken immediately after notification and cleanup of the area by help of spill kit. • Fire extinguishers shall be located near the fuel storage areas and be of a suitable type and size to permit the evacuation of workers during a fire. • Any worker who may be required to use a fire extinguisher shall be trained in its use. • Waste oils, lubricants, greasy and oily rags, or other materials subject to spontaneous combustion will be retained in a labelled container used for that purpose exclusively and will be properly disposed of at frequent intervals. • Regular preventative maintenance, in accordance with the manufacturer's recommendations, should be planned and carried out at predetermined intervals. Such intervals will usually be based on time (hours of use) or distance (Kilometers). • All repairs, modification, maintenance or servicing must be carried out by a competent person. • Maintenance and service records must be kept for all workplace vehicles. 				<p>Plant Incharge, Logistic Supervisor, Mechanic, HSE Officers</p>
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Equipment operation/working near moving equipment's	Operatives on foot at blind spot to operator/driver Unauthorised operation of plants and machine/People working at blind spot of the equipment/Collision with mobile/stationery plants/Misuse of plant/ Operative run over by plants/ vehicle, Noise, Dust	4	5	20	<ul style="list-style-type: none"> • Only trained and certified operators shall be allowed to operate the Moving Equipment's. • Operator/mechanics shall use 3-point contact while ascending or descending equipment. • Extreme caution should be exercised while backing up. Parking, operation shall be planned so that the backup maneuvers are limited to a minimum. • Extreme caution shall be exercised while working along the edge of high banks and steep slopes. The machine shall never be operated close to the edge of an overhang. • Equipment that produces high level of noise and vibration will be replaced/ repaired immediately. • Defective equipment shall be tagged and taken out of service until it gets fixed by site mechanics. Safety devices such as backup alarms should be given priority. • Backup alarms shall be checked prior to beginning of the shift and no machines shall be allowed to work with malfunctioning backup alarms. • All employees working nearby the equipment must wear safety vest and work by maintain safe distance. • Curtains should not be used in windows of equipment's to increase the blind spots or distract the vision. • No use of headphone to destruct the concentration. • Workers operating the plant and equipment and working in the vicinity must have ear plugs or ear defenders • Supervisor must ensure the Operation is stopped during Poor visibility. • Flashing warning lights to be used on moving plant during night and low visibility working. • Reverse alarm to be used on all plant. • Proper safe exit route shall be for the trucks, equipment. 	2	5	10	Site Managers, Engineers, Supervisors, Surveyor, HSE Officers, Operators
Compaction Works	noise/vibration, Fumes, Heatstroke/ Incompetent employee working with	3	3	9	<ul style="list-style-type: none"> • Employee to be issued with steel toe cap safety boots, all injuries to be reported. • Safe working condition of the compactor will be ensured including 	1	3	3	

	<p>compacting equipment/ Compacting equipment defective/ No exclusion zone & signage's/No supervision Inhalation of dust/ Poor visibility/Obstructed by hanging materials</p>			<p>safety guard covers for rotating parts, free of oil leaks etc.</p> <ul style="list-style-type: none"> • Preventive / predictive maintenance of all equipment shall be conducted by PMV Section to keep the equipment in safe and proper working condition. • Rotate compaction tasks to minimize worker exposure to equipment vibration as per QCS/Section-11/Part 1.2.1.4 Vibration • Task to be supervised by a competent supervisor. • Employee to make use of approved hearing protection, supervisor to ensure that the correct P.P.E is provided and used. • Daily excavation inspections to be done by the appointed responsible person. • Minimise the use of petrol and diesel driven machines in the excavations, if used, complete inspected and well maintained equipment to be provided which is fit for the purpose. • Only trained and competent employees to work with any compacting equipment. • Employees to make use of hand protection, hand gloves need to be provided and supervisor of task need to makes sure that its worn. • All compacting equipment to be inspected before used, supervisor to ensure that the equipment is in a safe working condition. Findings to be recorded on a register. Defective equipment to be removed from site. Equipment/Tools to be visually checked by competent person prior to use and must be color coded. • Rotation of job to be implemented for those workers using compaction equipment and regular breaks to be provided. • Welfare arrangements near to the working area. • Only start equipment engine whilst in the operators' seat. • Park on level ground. Provide signals for jobs involving multiple numbers of machines • Fueling of vehicles/equipment should be avoided in site. • Conduct daily equipment inspections and park properly the equipment, don't leave unattended equipment. 			<p>Site Managers, Engineers. Supervisors, Surveyor, HSE Officers</p>
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					<ul style="list-style-type: none"> Area shall be barricade with adequate signage's posted in visible location to prevent form unauthorized from accessing or crossing in the working area Competent plant equipment operator shall only be allowed to operate the equipment Operator training and awareness on Whole Body Vibration, reduce of time exposure of vibration and job rotation shall be applied No materials shall be hanging on windows or windshield of the equipment that could pose obstructed visibility Banks man shall be always in visible location & with continuous communication with the equipment operator Separate routes for vehicles/plants and pedestrians Work shall be suspended in weather condition like heavy rain, foggy, heavy sandstorm, extreme heat wave, extreme humidity level & wind speed of 25 knots(46kph) 				
Night Works	Collision due to lack of illumination/Slip, Trip, Falls	2	5	10	<ul style="list-style-type: none"> Safe Start briefing to be conducted prior to start task. Signage with illuminating stickers shall be placed at any diversion and haul roads Workmen shall have proper PPE while in Site. Obtain Night Work Permit and comply to its requirement Provide area lighting at haulage routes at 100 meters intervals and at bends and junctions. To provide task lightings at material unloading/embankment construction/pick-up and drop-off points. To provide lightings at rest areas, toilets. Competent banksmen to be located at unloading and reversing areas and must be equipped with luminated batons. Ensure buddy system during the night to prevent from working alone. Works should be supervised by competent person. Adequate lighting shall be provided during night time operations 	1	5	5	Site Managers (CM), Engineers, Supervisors, Surveyor, HSE Officers

					<p>and survey activities shall be limited to minimum during nighttime.</p> <ul style="list-style-type: none"> • Advance planning of site set up during the day regarding the: <ul style="list-style-type: none"> ⇒ Designated access for personnel and vehicle/equipment. ⇒ Lighting location ⇒ Equipment location and position must be carried out in preparation for the night work. • Signalmen with signal torch, batters will be posted at required locations on junctions, curves etc. off roads to provide signals to the vehicles / drivers. • All persons working on the site will wear reflective vests for easy vision to each other. 				
Covid-19 Protection	Individual Risk factors	4	5	20	<ul style="list-style-type: none"> • Reducing the number of people working in the same area especially in closed places (unventilated area), maintain safe distance i.e. 1.5 meters. • Wearing gloves and mask. • Daily Safe Start briefing in which Covid-19 prevention subject also included to educate workforce to take precautions as directed by Qatar Government. • Provide and educate for practicing excellent personnel hygiene habits. • Discard the used mask in waste bins. • Wash hands before eating and avoid touching mouth/nose. • Don't shake hands. • Cover face during coughing. • Providing training, education, alert, posters and PPE for Coronavirus Prevention Tips - Disease outbreak in line with the local legislations, state and federal laws and international standards e.g. (MoPH, MOI, MOL, HMC), WHO and OSHA. 	3	5	15	Site Managers, Engineers, Supervisors, Surveyor, HSE Officers/All employees
Working in Adverse climate	Heat Stress Sand storm, Rain & Fog Lone working	3	5	5	<ul style="list-style-type: none"> • Follow Latest Ministerial Resolution for working during hot and humid condition, mid-day break in summer • Rescheduling work wherever possible so the hot tasks are performed during the cooler part of the day • Train site staff and supervisors about the hazard leading to heat stress and ways to prevent them. TBT to all employees on different heat related illnesses and accompanying symptoms for each type and case and method of prevention and treatments. 	2	5	10	

				<ul style="list-style-type: none"> • Work will be suspended during rain, sand storm, foggy weather or in extreme heat by considering the site condition and visibility and workers will be directed to safe area i.e. rest area till the weather get settled. • Provide adequate cool drinking water and instruct employees to drink adequate quantity of water to compensate losses of water by sweating • Provide Electrolyte replacement drinks to operatives • Wearing light clothing that still provides adequate protection • Enough water and shelters be provided/ saline soluble always available • Rotation of work force / shift working • Always monitor the allowed temperature in working on outside work. • Always ensure the “buddy system” to avoid working alone. • Ensure welfare facilities are available, rest shelters, rest breaks provided, easy access to cool water, and toilets available in work area. • Establish a schedule for work and rest periods during hot days. • Train workers to recognize signs and symptoms of heat stress disorders. • Workers should be advised to drink water periodically. • Implement Summer Management Plan. 					<p>Site Managers (CM), Engineers, Supervisors, Surveyor, HSE Officers</p>
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Risk Categorization

The measure both Probability and the consequences (severity) of a specified untoward event caused by an identified hazard. Level of risk shall be determined by Probability and Severity using the risk matrix shown below.

Probability		Severity				
		Insignificant	Minor	Moderate	Major	Catastrophic
Rare	(1)	1	2	3	4	5
Possible	(2)	2	4	6	8	10
Likely	(3)	3	6	9	12	15
Often	(4)	4	8	12	16	20
Frequent	(5)	5	10	15	20	25

The resultant risks can then be categorised as follows:

Risk Range	Tolerance Rating	Risk Action
15 - 25	High Risk	Activity Should not proceed in current form.
5-12	Moderate Risk	Activity or industry can operate subject to management and or modification.
1-4	Low Risk	No action required, unless escalation of risk possible.