



Project Risk Register

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Project / Location:		Assessment Date:	
Next Assessment Date:		Assessed by:	

SR.	Activity (s)	Hazards	Risks	Risk Level			Existing Risk Control Measures	Residual Risk			Remarks
				L	S	RR		L	S	RR	
1.	Site clearance	<u>Uneven Terrain:</u> May cause slips, trips, and falls. Presence of Hidden <u>Underground Utilities:</u> Risk of damaging gas pipes, electrical cables, or water lines. <u>Manual Handling of Debris:</u> Potential for musculoskeletal injuries.	<u>Worker Injury:</u> Cuts, bruises, or fractures due to uneven ground. <u>Explosion or Electrocutation:</u> From hitting underground gas lines or live electrical cables. <u>Back Strain or Other Injuries:</u> From improper lifting techniques or overexertion.	3	5	H	<u>Uneven Terrain:</u> Conduct a pre-assessment of the site and mark hazardous areas. Use appropriate PPE (e.g., safety boots with anti-slip soles). Level or stabilize the ground where possible before work begins. <u>Hidden Underground Utilities:</u> Conduct utility surveys before site clearance (e.g., ground-penetrating radar). Mark locations of utilities and enforce no-dig zones where applicable. Use trained personnel and follow permit-to-dig procedures. <u>Manual Handling:</u> Provide training on proper lifting techniques. Use mechanical aids like wheelbarrows or cranes for heavy loads.	1	5	L	



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							Limit the weight of manual loads to safe limits per worker.				
2.	Work at Height	Falls from height, falling tools/materials.	Severe injury, fatality.	3	5	H	Use fall protection (harness, lanyards), edge protection (guardrails), proper ladder inspections, and ensure worker training.	1	5	L	
3.	Confined Space Work	Toxic gases, lack of oxygen, engulfment.	Asphyxiation, poisoning, entrapment.	3	5	H	Conduct atmospheric testing, provide ventilation, and have rescue equipment and trained personnel on standby.	1	5	L	
4.	Electrical Work	Electrical shock, arc flash.	Burns, electrocution.	3	5	H	De-energize circuits, lockout/tagout (LOTO), and use insulated tools and PPE.	1	5	L	
5.	Hot Work (Welding, Cutting, Grinding)	Sparks, heat, fire, explosion.	Burns, property damage.	3	5	H	Provide fire blankets, fire extinguishers, and hot work permits, and clear flammable materials from the area.	1	5	L	
6.	Manual Handling	Lifting heavy loads, awkward postures.	Musculoskeletal injuries.	3	5	H	Use mechanical aids, follow correct lifting techniques, and provide manual handling training.	1	5	L	
7.	Scaffold Erection/Dismantling	Collapse of scaffolds, falling materials.	Crush injuries, falls.	3	5	H	Ensure scaffolds are erected by trained personnel, inspect scaffolds regularly, and secure materials.	1	5	L	
8.	Excavation and Trenching	Cave-ins, falling objects.	Burial, suffocation.	3	5	H	Provide shoring, sloping, and benching; conduct underground utility detection.	1	5	L	



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9.	Chemical Handling	Chemical spills, inhalation of fumes.	Burns, poisoning.	3	5	H	Use appropriate PPE (gloves, goggles), ensure proper labeling, and provide MSDS for chemicals.	1	5	L	
10.	Working Near Moving Machinery	Entanglement, crush injuries.	Severe injury, amputation.	3	5	H	Install machine guards, provide training, and enforce lockout/tagout procedures.	1	5	L	
10	Traffic Management on Site	Vehicle collisions, struck by moving vehicles.	Injury, fatality.	3	5	H	Designate walkways, use high-visibility clothing, and appoint traffic marshals.	1	5	L	
11	Use of Power Tools	Electric shock, flying debris.	Lacerations, eye injuries.	3	5	H	Inspect tools before use, provide training, and use PPE such as safety goggles and gloves.	1	5	L	
12	Firefighting and Emergency Response	Heat, smoke inhalation.	Burns, asphyxiation.	3	5	H	Conduct fire drills, maintain firefighting equipment, and ensure proper escape routes.	1	5	L	
13	Painting Activities	Toxic fumes, flammable materials.	Respiratory problems, fire.	3	5	H	Use respirators, provide ventilation, and avoid open flames near paint materials.	1	5	L	
14	Noise Exposure	High decibel noise levels.	Hearing loss.	3	5	H	Use hearing protection and implement noise monitoring programs.	1	5	L	
15	Concrete Pouring	Skin contact with concrete, equipment failure.	Chemical burns, crush injuries	3	5	H	Use gloves, ensure proper equipment maintenance, and monitor for overloading.	1	5	L	
16	Working in Extreme Weather	Heat stress, hypothermia.	Fatigue, dehydration, frostbite.	3	5	H	Provide hydration, proper clothing, and work/rest schedules.	1	5	L	



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17	Demolition Activities	Structural collapse, flying debris.	Crush injuries, cuts.	3	5	H	Use controlled demolition techniques, barricade the area, and provide PPE.	1	5	L	
18	Ladder Work	Ladder instability, overreaching.	Falls.	3	5	H	Inspect ladders before use, ensure three points of contact, and avoid overreaching.	1	5	L	
19	Housekeeping	Slippery surfaces, clutter.	Slips, trips, and falls.	3	5	H	Keep walkways clear, clean spills immediately, and provide non-slip mats.	1	5	L	
20	Use of Cranes and Lifting Equipment	Load falling, equipment failure.	Crush injuries, fatalities.	3	5	H	Conduct pre-use inspections, follow lifting plans, and ensure proper signaling by trained personnel.	1	5	L	
21	Confined Space Rescue Operations	Limited visibility, toxic atmosphere, restricted access.	Injury to rescuers, delayed rescue.	3	5	H	Train rescuers, provide emergency breathing apparatus, and establish clear rescue plans.	1	5	L	
22	Material Storage	Falling items, improper stacking.	Injuries from falling objects.	3	5	H	Stack materials securely, use racks or shelves, and follow weight limits.	1	5	L	
23	Working with Compressed Gas Cylinders	Explosion, gas leaks.	Burns, asphyxiation.	3	5	H	Store cylinders upright, secure them with chains, and use appropriate regulators.	1	5	L	
24	Roadwork Activities	Traffic, uneven terrain.	Struck-by incidents, slips.	3	5	H	Use barricades, high-visibility clothing, and traffic control measures.	1	5	L	
25	Use of Generators	Carbon monoxide, fuel spills.	Poisoning, fire.	3	5	H	Ensure proper ventilation, regular maintenance, and avoid overloading.	1	5	L	
26	Use of Pressurized Systems	Sudden release of pressure.	Explosions, flying debris.	3	5	H	Install pressure relief valves and inspect systems regularly.	1	5	L	
27	Soil Compaction Work	Vibrations, machine rollover.	Vibration injuries, crush injuries.	3	5	H	Train operators, use seat belts, and inspect equipment.	1	5	L	



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28	Asbestos Handling	Inhalation of fibers.	Respiratory diseases (e.g., asbestosis).	3	5	H	Use respiratory protection, isolate the area, and dispose of asbestos as per regulations.	1	5	L	
29	Roof Work	Fragile surfaces, falls.	Injury, fatality.	3	5	H	Install guardrails, use fall protection, and conduct roof inspections.	1	5	L	
30	Working Over Water	Drowning, slips.	Fatality, hypothermia.	3	5	H	Provide life vests, use safety nets, and ensure lifeguards or rescue teams are available.	1	5	L	
31	Blasting Operations	Flying rocks, vibrations, noise.	Serious injury, hearing damage.	3	5	H	Establish exclusion zones, use blasting mats, and ensure communication with workers.	1	5	L	
32	Erection of Steel Structures	Falling steel beams, unstable structures.	Crush injuries, falls.	3	5	H	Use lifting plans, secure beams, and train workers in proper assembly techniques.	1	5	L	
33	Working with Vibratory Tools	Prolonged vibration exposure.	Hand-arm vibration syndrome (HAVS).	3	5	H	Limit exposure times, use anti-vibration gloves, and maintain tools.	1	5	L	
34	Fuel Handling and Storage	Spills, fire, explosion.	Burns, environmental damage.	3	5	H	Store fuels in approved containers, provide spill kits, and enforce smoking bans.	1	5	L	
35	Sandblasting	Silica dust, flying particles.	Respiratory diseases, eye injuries.	3	5	H	Use dust control systems, provide respirators, and enforce PPE requirements.	1	5	L	
36	Temporary Power Supply	Overloading circuits, loose connections.	Electrical fires, shocks.	3	5	H	Conduct load assessments, secure connections, and use circuit breakers.	1	5	L	



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37	Tree Felling	Falling branches, use of chainsaws.	Cuts, struck-by injuries.	3	5	H	Use proper cutting techniques, wear chainsaw-resistant PPE, and clear work zones.	1	5	L	
38	Pipe Laying	Heavy loads, trench collapse.	Crush injuries, entrapment.	3	5	H	Use proper lifting equipment, inspect trenches, and follow lifting procedures.	1	5	L	
39	Temporary Structure Erection (e.g., Tents, Stages)	Collapse, high winds.	Structural failure, injury to workers.	3	5	H	Anchor structures, inspect materials, and consider weather conditions.	1	5	L	
40	Emergency Evacuations	Panic, blocked exits.	Trampling, delays in evacuation.	3	5	H	Conduct regular drills, ensure clear exit routes, and post emergency plans.	1	5	L	
41	Welding at Heights	Sparks, falling materials, fire.	Burns, falls, fire outbreaks.	3	5	H	Use fireproof PPE, secure welding tools, and have fire extinguishers readily available.	1	5	L	
42	Demobilization of Heavy Equipment	Equipment rollover, struck-by incidents.	Injuries to workers, equipment damage.	3	5	H	Use spotters, follow equipment demobilization plans, and inspect the area.	1	5	L	
43	High-Pressure Water Jetting	High-pressure water streams, flying debris.	Lacerations, eye injuries.	3	5	H	Provide PPE, maintain no-entry zones, and inspect hoses and nozzles.	1	5	L	
44	HVAC System Maintenance	Electrical shock, exposure to refrigerants.	Burns, respiratory irritation.	3	5	H	Isolate energy sources, use leak detectors, and wear appropriate PPE.	1	5	L	
45	Working on Sloped Surfaces	Slipping, falling.	Broken bones, head injuries.	3	5	H	Use non-slip footwear, secure access points, and install fall arrest systems.	1	5	L	



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46	Floor Tiling	Wet floors, handling adhesives.	Slips, skin irritation.	3	5	H	Use gloves, ensure proper ventilation, and clean spills immediately.	1	5	L	
47	Use of Forklifts	Overturning, collisions.	Crush injuries, property damage.	3	5	H	Train operators, provide clear pathways, and conduct pre-use inspections.	1	5	L	
48	Tree Climbing for Pruning	Falling branches, unstable footing.	Falls, cuts.	3	5	H	Use climbing harnesses, inspect trees, and provide helmets.	1	5	L	
49	Loading and Unloading Materials	Falling loads, improper stacking.	Injuries to hands and feet.	3	5	H	Use proper lifting equipment, secure loads, and follow safe procedures.	1	5	L	
50	Painting in Confined Spaces	Toxic fumes, fire risks.	Respiratory illness, burns.	3	5	H	Provide ventilation, use fire-resistant paints, and enforce PPE requirements.	1	5	L	
51	Solar Panel Installation	Falls, electrical exposure.	Injuries, burns.	3	5	H	Use fall protection, de-energize panels, and provide training.	1	5	L	
52	Crane Operations Near Power lines	Electrocution, load swings.	Fatal injuries, property damage.	3	5	H	Maintain safe distances, use spotters, and follow lifting plans.	1	5	L	
53	Sewer Line Cleaning	Toxic gases, biological hazards.	Illness, asphyxiation.	3	5	H	Provide gas detectors, wear chemical-resistant PPE, and ensure proper ventilation.	1	5	L	
54	Snow Removal Activities	Slippery surfaces, cold exposure.	Falls, frostbite.	3	5	H	Use proper footwear, wear thermal clothing, and follow safe removal techniques.	1	5	L	
55	Working with Flammable Liquids	Spills, fire, explosions.	Burns, environmental contamination.	3	5	H	Store liquids in approved containers, provide spill kits, and	1	5	L	



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							ensure fire extinguishers are available.				
56	Operation of Mobile Elevated Work Platforms (MEWP)	Tip-overs, falling objects.	Fatal falls, equipment damage.	3	5	H	Train operators, inspect platforms, and use fall protection.	1	5	L	
57	Cleaning High-Rise Windows	Falls, strong winds.	Fatal injuries, broken equipment	3	5	H	Use proper safety harnesses, ensure secure anchoring, and monitor weather conditions.	1	5	L	
58	Pest Control Activities	Toxic chemicals, insect bites.	Skin irritation, allergic reactions.	3	5	H	Use PPE, follow chemical handling guidelines, and conduct risk assessments.	1	5	L	
59	Underground Cable Installation	Electric shock, trench collapse.	Fatalities, buried hazards.	3	5	H	Conduct cable detection, follow trench safety practices, and de-energize lines.	1	5	L	
60	Demolition of Hazardous Structures	Asbestos, lead exposure, structural collapse.	Respiratory illness, crush injuries.	3	5	H	Conduct hazardous material surveys, use PPE, and establish exclusion zones.	1	5	L	
61	Handling Radioactive Materials	Radiation exposure.	Cancer, radiation sickness.	3	5	H	Use shielding, monitor exposure levels, and provide specialized training.	1	5	L	
62	Storm Drain Maintenance	Flooding, biological hazards.	Drowning, infections.	3	5	H	Use waterproof PPE, monitor weather, and provide confined space training.	1	5	L	
63	Emergency Generator Installation	Heavy lifting, electrical shock.	Injuries, fires.	3	5	H	Use cranes for lifting, isolate power sources, and follow proper wiring practices.	1	5	L	
64	Soil Sampling for Environmental Testing	Contaminated soil, heavy metals.	Skin irritation, poisoning.	3	5	H	Wear chemical-resistant gloves, avoid direct contact, and label samples accurately	1	5	L	



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65	Wind Turbine Maintenance	High winds, falling tools.	Falls, equipment failure.	3	5	H	Use personal fall arrest systems, secure tools, and monitor weather conditions.	1	5	L	
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NOTE: The activities, hazards, risks, and associated control measures should be tailored to the specific conditions of the site. It is strongly recommended to conduct a thorough site-specific assessment and regularly update the existing Risk Register to ensure alignment with the project's HSE (Health, Safety, and Environment) requirements and standards.

Risk Matrix

SEVERITY								Consequences: 6 – Catastrophic – Multiple fatalities 5 – Major - Single Fatality 4 – Serious – Permanent disability 3 – Moderate – Lost Time Injury 2 – Minor – Medical Treatment 1 – Insignificant – First Aid Case
LIKELIHOOD		Insignificant	Minor	Moderate	Serious	Major	Catastrophic	
	1	1	2	3	4	5	6	
	2	2	4	6	8	10	12	
	3	3	6	9	12	15	18	
	4	4	8	12	16	20	24	
	5	5	10	15	20	25	30	
	6	6	12	18	24	30	36	
	24 - 36	Extreme	Immediate action required, Activity should not to proceed in current form					
	15 - 20	High	Prompt action required, including interim actions. Activity should be modified to include remedial action and planning.					
	8 - 12	Medium	Schedule action including any interim countermeasures e.g. implement safe work procedures, signage, instructions					
	4 - 6	Low	Activity can operate subject to management and or modification,					
	1 - 3	Very Low/ Negligible	Risk almost certainly acceptable, no action required unless escalation of risk is possible					



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Likely Frequency:

Likelihood (of Adverse Event Occurring)			
	Description	Health & safety	Environmental
6	Almost certain or imminent	Occurs all the time	Continuous or will happen frequently
5	Highly likely	Common occurrence, Occurs multiple times in a year	Happens 5 – 10 times per year
4	Likely or could occur	Know to occur in the last 12 months	1 – 5 times per Year
3	Not likely, but possible	Has occurred in an industry worldwide	Once every 5 years
2	Unlikely	Has not occurred in over 10 years of the same activity	Not happened in over 10 years
1	Rare	Theoretically possible, but not expected to occur	theoretically possible, but not expected to occur

Prepared by: HSE Engineer		Reviewed by: HSE Manager		Approved by:	
Sign:	Date:	Sign:	Date:	Sign:	Date: