CLIENT	CONSULTANT	CONTRACTOR	SUB-CONTRACTOR

TASK RISK ASSESSMENT WORKSHEET

CONTRACT NO	REF	DATE	REV
—	RA-2026-wThQ7C45	17.10.2026	A

PROJECT —

CLIENT	CONSULTANT	MAIN CONTRACTOR	SUBCONTRACTOR
—	—	—	—

ACTIVITY **Lifting Operation**

ASSESSORS	— PROJECT MANAGER *signature*	— HSE ENGINEER *signature*	— PROJECT MANAGER *signature*	— CIVIL ENGINEER *signature*	— HSE ENGINEER *signature*

SN	Activity	Hazard / Aspect	Consequence	Groups Exposed	Existing Controls	Initial Risk P × S = R	Additional Controls	Residual Risk P × S = R
1	**Mobilization and transit of heavy mobile telescopic cranes to construction site**	- Overturning on public roads or internal haul roads - Collision with third-party light vehicles and pedestrian traffic - Overhead contact with live overhead utility lines - Structural bridge collapse due to exceeding axle weight limits - Brake fade or mechanical steering failure on inclined approach ramps	- Multiple fatalities or permanent catastrophic disabilities - Severe structural damage to public and site infrastructure - Prolonged vehicular blockage and civil liability claims - Hazardous fluid spillage into public storm drainage	Crane Operator, Escort Vehicle Drivers, Site Logistics Marshals, General Road Users	- Conduct Route Survey Assessment prior to dispatch specifying road load capacities - Secure transportation permits from local transport authorities (e.g., DOT, RTA, ADM) - Provide certified escort vehicle with amber flashing beacon trailing at 30m distance - Strictly observe designated maximum haul road speed limit of 15 km/h on site - Verify driver possesses valid heavy articulated vehicle license and defensive driving certification - Deploy banksman with high-visibility vest at site entry access gates - Confirm clear overhead clearance of at least 1.5m above crane boom travel profile	**P 4 × S 5** **20**	- Implement real-time GPS tracking and driver telematics to monitor speed violations - Restrict crane movement strictly to off-peak road hours (22:00 to 05:00) - Require mandatory pre-dispatch mechanical brake and tire pressure audit checklist - Comply with ISO 45001:2018 – Occupational Health and Safety Management Systems - Comply with ILO Convention C155 – Occupational Safety and Health	**P 2 × S 3** **6**
2	**Ground condition assessment, soil compaction testing, and outrigger pad civil verification**	- Punching shear failure of crane outrigger foot through soft soil - Setting up over hidden underground voids, drainage culverts, or live utilities - Uneven ground settlement leading to crane out-of-level tilt - Soil wash-out or embankment slope failure caused by rain or dewatering - Insufficient outrigger mat surface contact area	- Catastrophic crane tip-over and structural boom collapse - Crushing injuries and fatalities of surrounding workers - Major utility pipeline rupture and site-wide flooding - Severe asset damage exceeding crane total loss	Lifting Engineer, Geotechnical Surveyor, Crane Operator, Lifting Supervisor	- Obtain geotechnical Plate Load Test / California Bearing Ratio (CBR) report prior to setup - Maintain minimum safety clearance of 1.5 times trench depth from edge of un-shored excavations - Mandate structural engineer sign-off on allowable bearing capacity (minimum 200 kPa) - Use certified steel spreader mats or engineered hardwood timbers sized via outrigger load calculations - Locate all buried utilities using Ground Penetrating Radar (GPR) and obtain excavation clearance permits - Ensure crane level indicator (spirit bubble) confirms 0.0-degree deviation - Inspect ground integrity daily before and after heavy rainfall or high-tide shifts	**P 4 × S 5** **20**	- Install automated settlement monitoring pins around the crane base perimeter - Require Appointed Person (Lifting) to formally inspect and sign the Crane Pad Handover Certificate - Mandate re-verification of compaction following any nearby civil trenching activities - Comply with ISO 45001:2018 – Occupational Health and Safety Management Systems - Comply with ILO Convention C155 – Occupational Safety and Health	**P 2 × S 3** **6**

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SN	Activity	Hazard / Aspect	Consequence	Groups Exposed	Existing Controls	Initial Risk P × S = R	Additional Controls	Residual Risk P × S = R
3	**Deployment and fully extended leveling of hydraulic crane outriggers and stabilizers**	- Crushing of fingers and hands during mechanical outrigger extension - Structural failure of internal hydraulic stabilizer rams or check-valves - Incomplete extension of outrigger beams contrary to duty chart settings - Slippage of outrigger float from non-level or contaminated spreader plates - Outrigger sinking during hydraulic pressure transfer	- Traumatic amputation of rigger digits - Sudden crane tilting during load pickup - Total structural failure of crane chassis - Fatal crush injury against nearby fixed structures	Rigging Crew, Mobile Crane Operator, Banksman, Mechanics	- Verify 100% full extension of all outrigger beams unless load chart explicitly supports intermediate mode - Ensure mechanical safety locking pins are fully engaged on all outrigger slider beams - Position crane floats squarely in the center of timber/steel outrigger mats - Elevate crane wheels completely off the ground to clear tires of all load bearing - Verify operational integrity of hydraulic pilot-operated check valves prior to set-up - Maintain visual contact between Crane Operator and Rigger during cylinder stroke - Keep hands clear of pinch zones marked with hazard warning stripes	**P 4 × S 4** **16**	- Install proximity warning alarms or interlock sensors confirming outrigger deployment - Conduct daily visual leak audit of all outrigger hydraulic hoses and fittings - Prohibit crane operations if any single outrigger shoe is not fully planar to the mat - Comply with ISO 45001:2018 – Occupational Health and Safety Management Systems - Comply with ILO Convention C155 – Occupational Safety and Health	**P 2 × S 2** **4**
4	**Tower crane foundation structural inspection, anchor stool embedment, and torque verification**	- Anchor bolt failure due to insufficient concrete cure strength - Anchor stool bolt shearing caused by improper torque tightening - Sub-base structural cracking or shear deflection under cyclic dynamic loading - Moisture ingress leading to corrosion and fatigue failure of fixing studs - Omission of high-tensile locking washers or double-nut locking mechanisms	- Sudden catastrophic tower crane collapse - Multiple workplace and public fatalities - Total destruction of adjacent multi-story buildings - Substantial financial insolvency and legal prosecution	Structural Inspector, Tower Crane Erection Technicians, Site Engineers	- Mandate concrete cube test certification confirming 100% specified design compressive strength (e.g., 40 MPa) - Use calibrated hydraulic torque wrench to tighten anchor bolts to OEM specified values - Perform Non-Destructive Testing (NDT/Ultrasonic) on 100% of embedded anchor stools - Obtain Third-Party Structural Engineer Foundation Sign-off Certificate before assembly - Apply heavy-duty anti-corrosive grease and protective caps over exposed anchor threads - Install earth-pit bonding achieving electrical grounding resistance under 10 Ohms - Re-torque all foundation bolts within 100 operational crane hours post-commissioning	**P 3 × S 5** **15**	- Implement weekly precision surveyor monitoring for tower plumbness (max allowable 1:1000) - Require OEM technician sign-off prior to handing over the anchor base for erection - Fit vibration telemetry sensors on tower stool to detect dynamic cyclic displacement - Comply with ISO 45001:2018 – Occupational Health and Safety Management Systems - Comply with ILO Convention C155 – Occupational Safety and Health	**P 1 × S 3** **3**

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LIKELIHOOD / FREQUENCY

Descriptor	Likely Frequency	Probability
Frequent	Occurs frequently	5
Often	Occurs several times per year	4
Likely	Has occurred more than once	3
Possible	Has occurred	2
Rare	Never occurred	1

RISK MATRIX — PROBABILITY × CONSEQUENCE

Probability	Consequence				
	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
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 / Almost Certain (5)	5	10	15	20	25

15 – 25	Extreme Risk	Activity or industry should not proceed in current form.
8 – 12	High Risk	Activity or industry should be modified to include remedial planning and action and be subject to detailed EHS assessment.
4 – 6	Moderate Risk	Activity or industry can operate subject to management and/or modification.
1 – 3	Low Risk	No action required, unless escalation of risk is possible.