Excavator Use as Crane

Business Name:	ABN:	
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

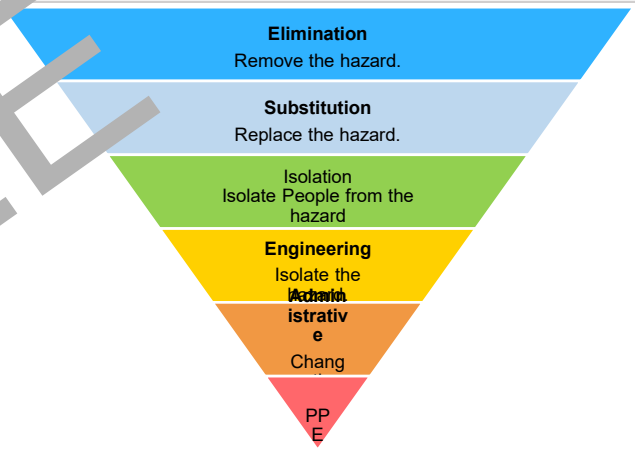
CLIENT OR PRINCIPAL CONTRACTOR DETAILS

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date Risk Assessment supplied to Project Manager:	

RISK MATRIX

LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE		
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Rev before work
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACU	2M MO RATE	Ensure control measures in place.
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 H	1L LOW	Monitor and keep records.

HIERARCHY OF CONTROLS



Risk Rating & Required Action:

4A	Stop work. The risk is intolerable. E inate the hazar redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or hi er-level authorisati is required.
3H	Review and approve additional c rols b ask arts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in ace and effe ive. Proceed with caution; monitor conditions.
1L	Proceed, following standard operating procedures Monitor and keep records.

Consequence Scale:

Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
Catastrophic	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
Major	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
Moderate	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
Minor	First-aid only, no lost time	negligible delay	Isolated non-conformance
Insignificant	No injury	no schedule impact	Deviation caught and corrected on site

Notes on Hierarchy of Controls:
Remember to apply controls in the preferred order shown by the coloured pyramid:

1. **Eliminate**
2. Substitute
3. Isolate
4. Engineering
5. Administrative
6. PPE

Always document **why** a lower-order control is accepted if elimination or substitution is not reasonably practicable.

aligned with Safe Work Australia's Managing the risk of fatigue at work *(2023) and ISO 45001:2018 clauses 6–8.*

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. Governance, Legal Compliance and PCBU Duties	• Lack of clear organisational policy on using excavators as cranes leading to ad hoc decisions and inconsistent practices • Failure to recognise that an excavator being used as a crane may be 'plant that lifts or suspends loads' and a potential item of high risk plant under WHS Regulations • Inadequate understanding by officers and senior managers of their due diligence obligations under the WHS Act 2011 in relation to lifting operations • Failure to identify and comply with relevant Australian Standards and Codes of Practice (e.g. AS 1418, AS 2550 series, Safe Design of Structures, Managing Risks of Plant in the Workplace Code of Practice) • No documented risk assessment specific to 'excavator use as crane' across the organisation, leading to inconsistent site-level co[illegible] • Inadequate consul[illegible]ion with workers, HSRs, contractors[illegible]nd principal contractors regard[illegible] the ri[illegible]g excavators as crane[illegible] • Poor integration of lifting risk cont[illegible]s into overall WHS manage[illegible]ent [illegible]tem, project WHS plans and contractor management frameworks • Inadequate process to verify that subcontractors and plant hirers have appropriate systems, competencies and insurances for lifting activities • Lack of clear criteria for when excavator use as a crane is prohibited and when purpose-built cranes are mandatory	High	• Develop and implement a co[illegible]rate 'Lifting Opera[illegible]ns a[illegible] Use of Excavators as Cranes' policy that defines when excavators may o[illegible]ust not be used fo[illegible]ng, aligned with WHS Act 2011, WHS Regulations and a[illegible]cab[illegible] Austra[illegible]n Standards • Undertake[illegible] document [illegible]ormal, [illegible]anis[illegible]n-wide WHS risk assessment specifically addressing excavator use[illegible] a crane.[illegible]h periodic[illegible]ew and endorsement at executive level • Ens[illegible]fficers [illegible]ined in due diligence requirements under WHS Act 2011, including specific briefin[illegible] duties[illegible]ating to plant and lifting operations • Maint[illegible]n a [illegible]al and [illegible]ndards register that identifies all legislative and standards requirements relevant to excav[illegible]ors [illegible]d lifting, with assigned responsibility for monitoring updates and communicating changes [illegible]operat[illegible]ns • Integ[illegible]excavator-as-crane controls into the WHS management system, including policy, procedures, [illegible]mplates, audit tools and induction content • R[illegible]quire project-specific lifting management plans where excavators may be used as cranes, including justification for their use, limits of operation and verification of control measures • Implement a structured consultation process (toolbox talks, HSR forums, pre-start meetings) to review and refine controls for excavator lifting tasks and capture worker feedback • Embed requirements for safe lifting systems (including restrictions on excavator use as cranes) into contractor engagement, pre-qualification, and contract conditions • Introduce a formal approval process (e.g. permit or authorisation) for using excavators as cranes, requiring sign-off by a competent person and site management based on documented risk assessment • Conduct periodic internal and external audits of compliance with the excavator-as-crane policy and procedures, with actions tracked to close-out	Medium
2. Procurement, Hire and Plant Selection	• Procurement of excavators without lifting charts, rated capacity information	High		Medium

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	or manufacturer approval for use as a crane • Selection of excavators that are not designed, configured or fitted with the necessary safety systems to perform lifting (e.g. no load charts, no overload protection, no certified lifting point) • Use of generic hire agreements that do not specify lifting duties, resulting in mismatched plant capability and intended use • Failure to obtain and retain plant documentation, including manuals, compliance plates, proof of inspection and design registrations where applicable • Inadequate evaluation of ground conditions, reach, lifting radius and load characteristics when selecting the size and configuration of excavator to be used as a crane • Using quick hitches or attachments not rated or certified for lifting loads, or with incompatible load rating • Cost-driven decision-making that favours using available excavators in lieu of appropriate cranes without a structured risk-based justification • Poor specification of safety features at procurement, such as rated lifting points, check valves, load moment indicators (LMI) or similar limiting devices		• Establish procurement standards that explicitly address the potential use of excavators for lifting, requiring manufacturer confirmation of suitability and provision of rated load charts and lifting configuration requirements • Implement a pre-purchase and pre-hire evaluation checklist that includes verification of lifting suitability, lifting points, compliance plates, inspections and documentation for each excavator • Require that any excavator intended for lifting duties is fitted with certified lifting lugs or rated lifting points, and has appropriate auxiliary safety systems (e.g. overload protection, slew and boom limiting where required) • Prohibit the use of excavators as cranes where manufacturer guidance or documentation does not support lifting, and require alternative plant (e.g. mobile crane) in these cases • Embed technical sign-off by a competent person (e.g. engineer or plant specialist) in the selection of excavators and attachments for lifting applications, including review of design registrations where relevant • Specify in hire and purchase contracts that the plant may be used for lifting, and require the supplier to provide proof of suitability, maintenance history and inspection records prior to delivery • Ensure that only rated and compatible lifting attachments, quick hitches and lifting accessories are approved for use, and maintain a register of approved combinations with clear load rating information • Include whole-of-life considerations in procurement decisions (e.g. availability of service agents, spares, inspection providers, access to technical information), to support ongoing safe lifting operations • Document clear organisational criteria for when a crane must be used instead of an excavator (e.g. lifts above a certain load, radius, complexity or risk category) and integrate these criteria into procurement and planning decisions	
3. Design, Engineering and Attachment Configuration	• Use of non-engineered or uncertified lifting points, lifting lugs, or home-made attachments on the excavator • Inappropriate quick hitch or coupler systems that are not positively locked or not certified for lifting applications • Lack of engineering verification that the boom, arm, hydraulics and slew system are capable of the intended lifting loads and duty cycles	High	• Require that all lifting points, lugs and specialised lifting attachments for excavators are designed, certified and documented by a competent engineer in accordance with relevant Australian Standards • Mandate the use of only manufacturer-approved or engineer-certified quick hitches and couplers for lifting, with explicit confirmation that they are rated for the anticipated loads and modes of operation • Obtain engineering verification of the excavator's lifting capacity, including allowable working radii, boom and arm configurations, permissible slopes and load cases, and ensure these are documented and accessible to operators and planners	Medium

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	• Failure to consider dynamic effects, side loading, and out-of-radius loading in system design, leading to instability or structural failure • Attachment configuration that changes the centre of gravity or rated capacity of the excavator without updated load charts or engineering assessment • No formal management of change process when new attachments or ancillary lifting gear (e.g. grabs, clamshell buckets, pipe lifters) are introduced • Inadequate design of communication and signalling systems between operator and dogger/rigger, resulting in miscommunication during lifts • Absence of engineered control measures for working near services, structures or public spaces when using an excavator as a crane		• Develop and maintain engineered load charts and configuration diagrams that reflect actual attachment configurations, and prohibit deviations unless reviewed and approved through a formal engineering process • Implement a management of change procedur[illegible]or any modification to excavators or lifting attachments, including risk assessment, engineering revie[illegible]documentation updates and worker communication • Standardise signalling and communication [illegible]thods (e.g. AS 2550 hand signals, dedicated radio channels) and incorporate these into procedur[illegible]ning and pre-lift planning • Ensure engineering assess[illegible]nts explicitly addr[illegible]s interacti[illegible]with adjacent structures, underground and overhead services, exclus[illegible]zones and poten[illegible]col[illegible]se zones when excavators are used as cranes • Maintain an e[illegible]neering [illegible]for ea[illegible]excavato[illegible]sed for lifting, containing certification, design calculations [illegible]ere applicab[illegible]load c[illegible]ts, m[illegible]ification history and records of technical advice	
4. Competency, Training and Licensing	• Excavator operators lacking formal training in lifting operations, crane principles and load cha[illegible]despite being competent in excav[illegible]on tasks • Supervisors, dog[illegible]rs and ri[illegible]t understanding the s[illegible]mitation[illegible] and risks of excavators used as cran[illegible] compared to conventional cranes • Failure to ensure that hi[illegible]work licences (e.g. dogging, rigging) are held where required for lifting operations and load slinging • No formal competency assessment or verification of competency (VOC) specific to excavator lifting tasks and associated procedures • Inadequate training on organisational policies, lifting plans, emergency procedures and communication protocols relating to excavator use as a crane	High	[redacted]	Medium

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	• Over-reliance on informal on-the-job learning without documented training outcomes, leading to inconsistent practices and knowledge gaps • Failure to keep training records current, including licences, equipment-specific familiarisation and refresher training • Contractor personnel undertaking lifts with excavators without the principal contractor verifying licences, competencies and induction completion		[redacted]	
5. Planning, Lift Engineering and Risk Assessment Systems	• Lack of formal lift planning for lifts conducted with excavators, particularly for non-routine, heavy or complex lifts • Inconsistent or superficial risk assessments that do not adequately consider ground conditions, underground services, overhead obstructions, load characteristics or environmental factors • No systematic process to classify lifts (e.g. routine vs non-routine, simple vs complex, critical lifts) and adjust planning and controls accordingly • Failure to coordinate lifting operations with other site activities, leading to conflicts, congestion, exposure of other workers to lifting hazards • Inadequate documentation of lifting plans, including exclusion zones, communication methods, emergency procedures and load paths • Use of generic SWMS or procedures that do not address the specific risks associated with excavators being used as cranes on a particular site • Poor integration of geotechnical or structural information into planning, resulting in unstable ground or insufficient bearing capacity for lifting operations	High	[redacted]	Medium

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	• No formal review or approval process for high-risk or complex lifts using excavators			
6. Supervision, Coordination and Contractor Management	• Insufficient supervision of lifting operations involving excavators, leading to deviations from plans and procedures • Unclear roles and responsibilities between principal contractor, subcontractors, plant hire companies and site supervisors in relation to lifting safety • Contractor supervisors lacking knowledge of the client's policies and expectations regarding excavator use as cranes • Multiple contractors operating plant simultaneously without effective coordination, increasing potential for collisions or encroachment into exclusion zones • Supervisors being responsible for too many activities or work fronts to provide effective oversight of lifting operations • Poor communication between shifts or work crews, leading to changes in lifting arrangements not being communicated or documented • Failure to verify that hired-in plant arrives with competent operators, necessary documentation, or fit-for-purpose attachments for lifting • Inadequate enforcement of site rules relating to lifting, including exclusion zones, permit conditions and communication protocols	High	[redacted]	Medium
7. Inspection, Maintenance and Plant Integrity Management	• Inadequate preventative maintenance of excavators used for lifting, increasing likelihood of mechanical or hydraulic failure under load • Failure to conduct regular statutory inspections where required, including for high risk plant or lifting accessories associated with excavators	High	[redacted]	Medium

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	• Lack of systematic pre-start and post-use inspection processes that capture defects affecting lifting safety • Use of worn, damaged or uncertified lifting accessories (e.g. chains, slings, shackles, hooks) with excavators • Poor record-keeping for maintenance, inspections, repairs and modifications relating to plant used for lifting • Repairs and adjustments carried out by unqualified persons or using non-genuine parts, compromising structural integrity or rated capacity • Failure to quarantine defective plant and lifting gear from service, allowing continued use despite identified issues • Hydraulic leaks, control malfunctions or stability systems not being promptly reported and addressed, particularly where they affect lifting operations		[redacted]	
8. Systems for Load Control, Exclusion Zones and Traffic Management	• Inadequate organisational standards for exclusion zones around excavators operating as cranes, leading to workers or public entering hazard areas • No consistent process to design and implement traffic management plans accounting for excavator lifting operations and suspended loads • Failure to manage interaction between excavators, other mobile plant and pedestrians during lifting tasks • Insufficient controls for working adjacent to public roads, footpaths or occupied buildings when performing lifts with excavators • Variable practices around tagging, barricading and signage for lifting zones, resulting in confusion or non-compliance • No system to manage tandem lifts or interaction between multiple excavators and cranes on the same work front	High	[redacted]	Medium

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	• Inadequate procedures for working near overhead powerlines, underground services or other critical infrastructure while using excavators as cranes • Insufficient planning for unexpected load movements, swing or failure, and lack of pre-defined escape routes for workers		[redacted]	
9. Environmental Conditions, Emergency Preparedness and Incident Management	• Lack of formal criteria for suspending excavator lifting operations during adverse weather conditions (e.g. high wind, lightning, poor visibility, heavy rain) • Inadequate emergency response planning for incidents involving excavators used as cranes, such as plant overturning, dropped loads or contact with services • No clear communication and escalation pathways when unsafe conditions arise during lifting tasks • Insufficient drills or training on emergency scenarios related to excavator lifting, resulting in slow or ineffective response • Failure to systematically investigate and learn from incidents, near misses and mechanical failures associated with excavators used as cranes • Inadequate integration of first aid, rescue capability and emergency equipment with the potential risks of lifting operations • Lack of planning for environmental impacts of major incidents (e.g. hydraulic spills, structural damage to adjacent assets) during lifting	High	[redacted]	Medium
10. Documentation, Records, Monitoring and Continuous Improvement	• Fragmented or incomplete documentation for excavator lifting operations, making it difficult to verify compliance or learn from past work • Poor retention of lift plans, risk assessments, maintenance records and	Medium	[redacted]	Low

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	competency evidence related to excavator use as cranes • Limited monitoring of performance indicators related to lifting safety, such as near misses, non-conformances or plant defects • Lack of structured internal audit or inspection programs targeting lifting operations involving excavators • Inconsistent implementation of corrective and preventive actions following audits, incidents or regulatory inspections • No systematic process to review and improve WHS management arrangements for excavator lifting in light of operational experience, technological changes or legislative updates • Over-reliance on paper-based systems that are not standardised or centrally accessible, leading to outdated or lost information		[redacted]	

EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

LEGISLATIVE REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES FOR ANY STATE THAT ARE NOT APPLICABLE

Queensland & Australian Capital Territory
Work Health and Safety Act 2011
Work Health and Safety Regulations 2011
Legislation QLD: https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws
Codes of Practice QLD: https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice
Legislation ACT: https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations
Codes of Practice ACT: https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice

New South Wales
Work Health and Safety Act 2011
Work Health and Safety Regulations 2025
Legislation NSW: https://www.safework.nsw.gov.au/legal-obligations/legislation
Codes of Practice NSW: https://www.safework.nsw.gov.au/resource-library/list-of-codes-of-practice

Northern Territory
Work Health and Safety (National Uniform Legislation) Act 2011
Work Health and Safety (National Uniform Legislation) Regulations 2011
Legislation NT: https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws
Codes of Practice NT: https://worksafe.nt.gov.au/forms-and-resources/codes-of-practice

South Australia
Work Health and Safety Act 2012 (SA)
Work Health and Safety Regulations 2012 (SA)
Legislation for SA: https://www.safework.sa.gov.au/resources/legislation
Codes of Practice for SA: https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs

Tasmania
Work Health and Safety Act 2012
Work Health and Safety (Transitional and Consequential Provisions) Act 2012
Work Health and Safety Regulations 2012
Work Health and Safety (Transitional) Regulations 2012
Legislation for TAS: https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations
Codes of Practice for TAS: https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.

Victoria
Occupational Health and Safety Act 2004
Occupational Health and Safety Regulations 2017
Legislation VIC: https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations
Codes of Practice VIC: https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice

Western Australia
Work Health and Safety Act 2020
Work Health and Safety Regulations 2022
Legislation Western Australia: https://www.commerce.wa.gov.au/worksafe/legislation
Codes of Practice WA: https://www.commerce.wa.gov.au/worksafe/codes-practice

Safe Work Australia Links
Law and Regulation (All States): https://www.safeworkaustralia.gov.au/law-and-regulation
Model Codes of Practice: https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice

Model Codes of Practice

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work