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

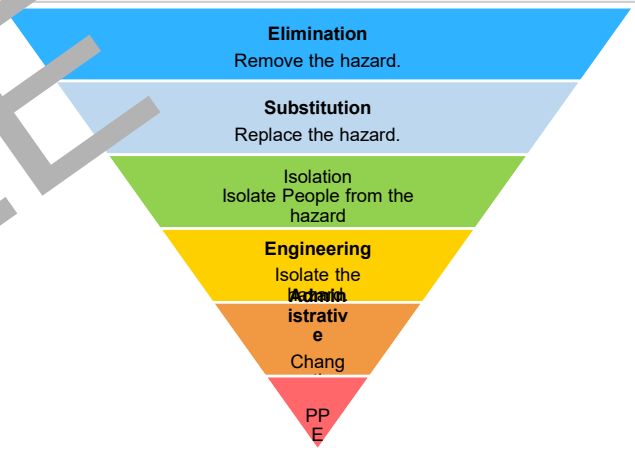
THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT		
Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.		
Full Name:		
Signature:	Title:	Date:

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, WHS Responsibilities and Consultation	• Unclear WHS roles and responsibilities for management of core drilling and rig mounting operations leading to gaps in supervision, resourcing and oversight • Inadequate consultation with workers, health and safety representatives (HSRs), contractors and plant hire providers about core drilling risks and controls • Failure to apply and monitor duties under the Work Health and Safety Act 2011, including primary duty of care, due diligence and consultation duties • Poor integration of core drilling and rig mounting risks into the organisation's WHS management system and risk register • Lack of formal review and approval of core drilling procedures, safe work method statements (SWMS) and risk assessments by competent persons	High	• Define and document WHS roles, responsibilities and accountabilities for core drilling and rig mounting operations in line with WHS Act 2011 (PCBU, officers, workers and contractors), and communicate these in position descriptions and site WHS plans • Establish a formal consultation process with workers, HSRs and contractors regarding core rig mounting activities, including toolbox talks, pre-start meetings and periodic WHS committee meetings with documented minutes and actions • Integrate core drilling and core rig mounting as specific items in the organisation's WHS management system, including inclusion on the corporate risk register and routine reporting to officers on performance and incidents • Require that all core drilling risk assessments, SWMS and procedures are developed and reviewed by competent persons (e.g. experienced driller, supervisor, WHS advisor, engineer if required) and approved by management before implementation • Implement a scheduled review cycle (e.g. annually or after incidents/changes) for all core drilling related documents with version control and document control procedures • Ensure officers exercise due diligence by receiving regular reports on core drilling risks, control effectiveness, incidents, near misses and audit outcomes, and by visibly supporting continuous improvement in the work area • Include contractor management requirements in contracts for core drilling services, specifying expectations for WHS compliance, provision of SWMS, licensing, and evidence of competency and maintenance • Develop a formal escalation and decision-making process for high-risk deviations from standard practice in core rig mounting (e.g. non-standard anchors, unusual substrates), requiring sign-off by a competent engineer or senior supervisor	Medium
2. Planning, Design and Engineering of Core Rig Mounting Systems	• Core drilling rigs and mounting systems not engineered or selected to suit the substrate, orientation (horizontal, vertical, overhead) and loading, leading to rig instability or structural failure • Inadequate structural assessment of the surface to which the core rig will be mounted (e.g. weak concrete, voids, deteriorated masonry, post-tensioned slabs) causing pull-out or collapse • Lack of standardised rig mounting configurations and engineering guidance for typical wall, floor and ceiling applications • Use of incompatible anchoring systems, bolts or adhesives that do not	High	• Adopt an engineering-based design approach for core rig mounting systems, ensuring all rigs, bases, anchors and fixings are selected and configured in accordance with manufacturer guidance, rated capacities and relevant Australian Standards • Develop standard rig mounting design templates and guidance for common situations (e.g. vertical wall, floor slab, overhead soffit) including minimum substrate thickness, edge distances, anchor types and spacing, and maximum core diameter and depth • Require a structural assessment by a competent person (e.g. structural engineer or suitably qualified supervisor using approved criteria) where mounting will occur on critical elements such as suspended slabs, load-bearing walls or deteriorated structures • Implement a formal pre-planning process for each core drilling location that documents substrate type, available fixing methods, known services, structural considerations, and selected rig configuration including anchoring method • Standardise approved anchoring systems (mechanical anchors, chemical anchors, vacuum bases etc.) and maintain a list of approved products with rated capacities, installation instructions and curing times where relevant	Medium

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SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
	meet manufacturer specifications or required load ratings • Poor consideration of interaction between core rig mounting and adjacent structures, services or temporary works (e.g. formwork, scaffolds, penetrations affecting structural integrity) • Insufficient planning for slurry management, run-off and debris containment affecting stability of mounting system or work area conditions • Failure to consider environmental conditions (wind, vibration from nearby plant, water pressure surges) that may compromise rig stability		• Prohibit the use of ad hoc or improvised mounting or bracing (e.g. unsecured timbers, non-rated clamps, makeshift weights) through a clear policy reinforced by supervision and audits • Include requirements for temporary works coordination in project planning so that core rig mounting is assessed in relation to nearby scaffolds, shoring, edge protection and penetrations, with input from the temporary works designer where necessary • Plan slurry and water management at design stage, including containment trays, bunding, sediment control and drainage solutions that do not undermine anchor performance or create slip hazards around the rig • Require review and approval by a competent engineer for non-standard mounting scenarios (e.g. coring in heritage masonry, highly cracked concrete, or where structural adequacy is uncertain)	
3. Procurement, Selection and Verification of Core Drills and Mounting Equipment	• Procurement of core drills, rigs and mounting systems that do not comply with Australian Standards, manufacturer requirements or WHS legislation • Purchase or hire of rigs without suitable mounting accessories (bases, anchors, vacuum pumps) leading to unapproved or unsafe mounting methods on site • Lack of systematic verification of equipment prior to use (e.g. missing guards, inoperable emergency stop, damaged frames, worn anchor points) • Use of non-genuine, incompatible or poor-quality accessories (bolts, anchor rails, vacuum pads, power packs) that compromise rig stability and safety • Insufficient consideration of ergonomics, weight, handling requirements and power source compatibility during procurement resulting in manual handling and electrical risks • Inadequate supplier and hire company WHS vetting, leading to supply of poorly maintained or non-compliant plant	High	• Develop and enforce a procurement standard for core drilling plant that specifies compliance with relevant Australian Standards, WHS regulations and manufacturer requirements for all rigs and mounting systems • Require pre-purchase and pre-hire technical review of core drills and mounting kits by a competent person to confirm suitability for intended applications (e.g. maximum diameter, depth, mounting orientations, available power supply) • Specify that all core rigs must be supplied with complete and compatible mounting systems, including appropriate bases, anchor kits, vacuum systems and safety accessories, as part of purchase or hire contracts • Implement a commissioning and acceptance inspection for each new or hired core rig, using a documented checklist to verify condition, safety features, manuals, serial numbers and evidence of prior maintenance • Standardise on a limited number of core rig models and mounting systems across the organisation to simplify training, maintenance, spare parts and risk control measures • Include evaluation of handling characteristics (weight, lifting points, transport carts) and power source requirements (RCD protection, water supply, GPO availability) in the procurement decision-making process • Establish minimum WHS performance and documentation requirements for suppliers and hire companies, including provision of risk assessments, instructions, test certificates and maintenance records for supplied plant • Maintain a central asset register for all core drills and mounting equipment, including serial numbers, location, service history and status (in-service, out-of-service, decommissioned)	Medium

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SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
4. Training, Competency and Authorisation of Operators and Supervisors	• Operators and supervisors not adequately trained or deemed competent in safe core drilling practices and rig mounting principles • Reliance on informal on-the-job learning without structured competency assessment for rig selection, anchoring decisions and recognition of unstable conditions • Limited understanding of manufacturer instructions, load ratings and anchoring limitations leading to unsafe configurations • Supervisors unable to effectively challenge unsafe mounting practices due to lack of technical knowledge or confidence • Inadequate training on emergency procedures specific to core drilling operations (rig failure, entrapment, wa and electricity interaction, structural compromise) • No clear authorisation s, resulting in inexperie ed personnel setting up or modif g rig mounting without oversight	High	[redacted]	Medium
5. Procedures, SWMS and Permit-to-Work for Core Rig Mounting	• Absence of documented procedure or SWMS for core drilling and rig mo ng, or documents that are ge ic do not address specific site conditions • Procedures focusing only on the drilling task and not adequately covering the rig mounting system, anchoring verification, and interaction with structures and services • Failure to implement a structured permit-to-work or approval process for high-risk core rig mounting scenarios (e.g. overhead work, confined spaces, live facilities) • Poor communication and accessibility of procedures on site leading to	High	[redacted]	Medium

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
	inconsistent application and reliance on memory or informal practices • SWMS not reviewed or updated following changes in plant, methods, materials or incident findings		[redacted]	
6. Plant Inspection, Maintenance and Calibration Systems	• Inadequate preventive maintenance for core rigs, mounts, vacuum systems and anchors leading to mechanical failure or reduced stability • Missing or ineffective pre-use inspection systems, resulting in damaged bases, worn anchor points, leaking vacuum pads or faulty emergency stops going undetected • Uncontrolled use of a[redacted]damaged or modified equipm[redacted] that no longer meets original des[redacted] or manufacturer specifications • Lack of traceability for anchors and mounting components (age, conditi[redacted], load rating, usage history) • Failure to calibrate or verify performance of vacuum gauges, torque tools and other equipment critical to correct rig mounting	[redacted]igh	[redacted]	Low
7. Site Planning, Work Environment and Integration with Other Activities	• Poor site layout and inadequate planning of work zones leading to congestion, trip hazards, and interference with rig stability and mounting integrity • Uncontrolled interaction between core drilling operations and other trades, mobile plant or public areas increasing	High	[redacted]	Medium

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
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	the risk of impact on the rig or unplanned loading • Insufficient lighting, ventilation or access impacting the ability to correctly mount the rig, verify anchors and monitor for movement or failure • Inadequate control of water supply and slurry run-off affecting floor friction, undermining anchor performance or impacting adjacent areas and electrical systems • Failure to account for vibration or dynamic loads from nearby demolition, compaction or heavy vehicle movements that may destabilise mounted rigs		[redacted]	
8. Management of Structural, Services and Underground Asset Risks	• Insufficient identification and isolation of embedded or conce[redacted]vices (electrical, hydrauli[redacted]gas, post-tension cables) prior to co[redacted]rig mounting and drilling • Lack of coordinated review of as-bu[redacted] drawings, service scans and structu[redacted] design leading to penetrat[redacted]critical structural elements or live services • Inadequate system for managing approvals for penetrations in structural or fire-rated elements, compromising building integrity and compliance • Failure to assess the impact of multiple nearby core holes and mounts on the residual capacity of a structural element	High	[redacted]	Medium

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SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
9. Electrical, Water and Energy Isolation Management	• Uncontrolled interaction between water used for cooling and power supply systems (leads, sockets, distribution boards) increasing electric shock risk • Absence of systematic lockout/tagout procedures where core drilling occurs near live services or plant • Use of inappropriate power supplies or lack of RCD protection for core drilling equipment • Inadequate management of water pressure, hose routing and connections leading to sudden movement, hose failure or water ingress into sensitive areas	High	[redacted]	Medium
10. Incident Reporting, Monitoring and Continuous Improvement	• Under-reporting of incidents, near misses and equipment failures related to core drilling and rig mounting, resulting in missed learning opportunities • Lack of targeted performance indicators and monitoring for core drilling safety, leading to limited visibility of emerging trends or systemic issues • Inadequate investigation quality or follow-through on corrective actions after rig instability events, anchor failures or structural incidents • Failure to share lessons learned and updated controls across projects and contractors	Medium	[redacted]	Low

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			[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