Road Profiling Milling and Plant Operations			
Business Name:		ABN:	
Business Address:			
Contact Person:	Phone:	Email:	

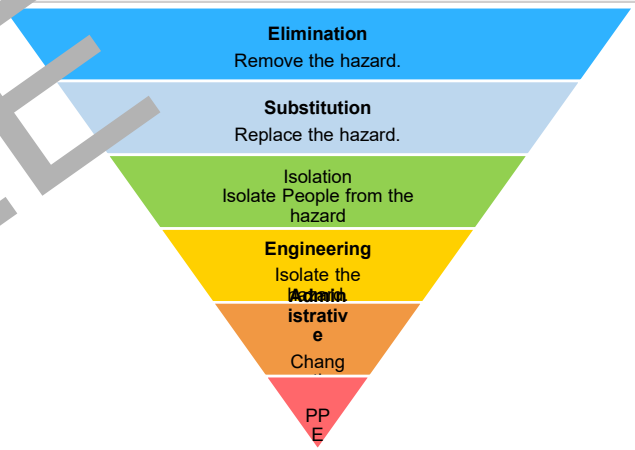
THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT		
Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.		
Full Name:		
Signature:	Title:	Date:

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. WHS Governance, Leadership and Legal Compliance	• Lack of clear WHS roles, responsibilities and authority for milling and plant operations • Failure to comply with WHS Act 2011 and WHS Regulation (e.g. plant, traffic, noise, silica, asbestos, fatigue) • Insufficient PCBU oversight of contractors, sub-contractors and labour hire personnel • Inadequate WHS objectives, targets and performance indicators for road profiling operations • Failure to consult, cooperate and coordinate with other duty holders on shared worksites (clients, principal contractors, councils, utilities) • Poor safety culture that tolerates shortcuts, production pressure and non-reporting of incidents • Inadequate consideration of industrial manslaughter and due diligence obligations by officers	4A	• Establish and maintain a documented WHS Management System aligned to WHS Act 2011, WHS Regulation and relevant Codes of Practice (e.g. Managing Risks of Plant, Traffic Management, Hazardous Chemicals, Noise, Confined Spaces, Demolition • Define and communicate WHS roles, responsibilities and accountabilities for officers, managers, supervisors, leading hands, plant operators, spotters and road workers specific to milling and associated plant operations • Implement an officer due diligence framework including regular WHS reporting to the Board or senior leadership, site visits, and active verification of control for road profiling and milling activities • Develop and enforce a WHS policy signed by senior management that prioritises safety over production, including specific commitments regarding mobile plant, traffic interface and dust/silica control • Establish a documented legal register capturing all relevant WHS, road traffic, environmental and local government requirements applicable to asphalt milling, road profiling, sweeping and associated plant • Implement a formal contractor and labour hire WHS management procedure, including pre-qualification, review of WHS systems, verification of licences/competencies and monitoring of performance on site • Ensure formal consultation mechanisms (e.g. WHS committees, HSRs, toolboxes, pre-start briefings) specifically address road profiling and plant interfaces, traffic staging and night-shift operations • Integrate WHS performance indicators (e.g. leading indicators for inspections, corrective actions closed out, training completion) into business reporting for milling and plant operations • Undertake regular internal WHS audits and management reviews focusing on high-risk areas such as mobile plant movement, dust, noise, vibration, manual task risks and fatigue management	3H
2. Contract, Client and Interface Management	• Contracts that prioritise production, time and cost over safety outcomes • Unclear delineation of WHS responsibilities between principal contractor, client, subcontractors and plant hire providers • Inadequate integration of WHS requirements into tendering and contract award processes • Conflicting work methods between multiple contractors on the same roadway or intersection • Late design or program changes creating unassessed risks for traffic management, staging and plant interaction	4A	• Embed WHS requirements, including risk management expectations for milling, profiling, sweeping and compaction plant, into tender documentation and contracts • Require principal contractors and clients to provide project WHS information (e.g. WHS management plan, traffic management plans, services information, asbestos register) before mobilisation • Use a standard WHS interface agreement template that clearly allocates responsibilities for traffic management, plant coordination, emergency response, environmental controls and public protection • Implement a formal pre-start project kick-off meeting with all PCBUs to review scope, staging, interfaces, plant types, operating hours, and shared controls for the road corridor • Establish a change management process so that any scope, design, staging or programme changes are risk assessed and approved before being implemented on site • Ensure contracts specify minimum WHS standards for mobile plant (e.g. ROPS/FOPS, guarding, proximity detection, cameras) and operator competencies for asphalt milling machines, road profilers, road rollers, road sweepers and routers • Include clear performance and reporting expectations in contracts, such as incident notification timeframes, investigation participation and corrective action tracking	3H

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	• Failure to obtain or comply with road authority permits, traffic guidance schemes and curfew conditions • Poor communication of underground services, heritage constraints and environmental restrictions to crews		• Verify permits and approvals (road occupation licences, traffic control plans, night work approvals, noise exemptions, waste transport permits) prior to commencing work	
3. Planning, Design and Engineering of Works	• Poor planning of staging leading to plant congestion and increased collision or run-over risks • Inadequate planning of milling depths and profiles causing unplanned contact with underground services or structural elements • Insufficient design consideration for access/egress of large profiling and milling machines in confined streets or intersections • Lack of engineering input into selection of milling heads, cutting drums and tooling for specific pavements and structures • Inadequate planning for dust, silica and fumes management when removing existing asphalt or concrete road surfaces • Failure to consider vibration impact on nearby structures, utilities or sensitive receptors • No allowance for safe spacing and maintenance zones for sweepers, rollers and support plant	4A	• Require a formal project WHS risk assessment and constructability review for road profiling, milling and associated plant operations during planning and design stages • Integrate engineering design requirements for milling depths, crossfalls, tie-ins and tolerances to ensure structural integrity is maintained and underground services remain protected • Involve experienced plant operators and supervisors in the planning and design review process to identify practical hazards associated with large road profiler machines, asphalt milling machines, rollers and sweepers • Assess site constraints such as width, curves, gradients, overhead structures and access points to determine suitability and configuration of selected milling and profiling plant • Develop standard engineering specifications for dust, silica and fume controls (e.g. water suppression, local exhaust ventilation on machines, enclosure of conveyors, position of trucks) to be incorporated into project plans • Undertake vibration and noise impact assessments for works in proximity to buildings, utilities and noise-sensitive receptors, and incorporate control requirements into design and work method documents • Plan dedicated safe plant parking, refuelling, maintenance and inspection zones away from live traffic and pedestrian areas • Ensure project planning includes waste and spoil characterisation (e.g. potential asbestos, contaminated road base, tar-containing asphalt) and appropriate disposal routes	2M
4. Plant Procurement, Selection and Fleet Management	• Procurement of milling, profiling and sweeping plant that does not meet Australian standards or WHS requirements • Lack of consistency in safety features across the fleet (e.g. some machines without reversing cameras, proximity sensors or guarding) • Inadequate evaluation of plant suitability for task, ground conditions or gradient	4A	[redacted]	2M

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	• Use of older unguarded equipment with poor dust and noise controls • Hiring short-term plant without proper WHS specifications or verification of maintenance history • Failure to standardise controls and layouts, increasing human error risk between different machine types		[redacted]	
5. Plant Inspection, Maintenance and Reliability Systems	• Inadequate preventative maintenanc leading to plant failure, loss of control unplanned movement • Failure of critical safe ms (e.g. brakes, steering, em gency stops, interlocks, ROPS) e to poor inspection regimes • Uncontrolled leaks of fuel, oil or hydraulic fluid causing fires, slips o environmental harm • Missing or ineffective dust suppression systems on milling, routing and sweeping plant • Use of damaged cutting drums, teeth or router bits leading to projectiles or excessive vibration • Reliance on verbal or informal pre-start checks without documentation or supervision	4A	[redacted]	2M

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			[redacted]	
6. Competency, Licensing, Training and Supervision	• Untrained or inexperienced operators controlling high-risk milling, profiling and sweeping plant • Inadequate verification of high risk work licences, tickets and VOCs for plant operators and traffic controllers • Lack of training on specific models or configurations of road profilers, asphalt milling machines, road rollers and sweepers • Insufficient supervision of new or young workers in dynamic road environments • No ongoing competency assessment leading to skill fade or unsafe habits • Poor understanding of [redacted]unication protocols, hand sign[redacted] and exclusion zones	4A	[redacted]	2M
7. Traffic Management and Public Interface Systems	• Plant and vehicle collisions with workers or members of the public due to ineffective traffic management • Inadequate separation between live traffic, milling machines, road rollers, sweepers and ground crews • Poorly designed or implemented traffic guidance schemes leading to confusion for road users • Insufficient protection at entry/exit points for trucks receiving milled material from conveyors	4A	[redacted]	2M

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	• Inadequate management of vulnerable road users (pedestrians, cyclists, mobility scooters) around work zones • Night-time and low-visibility operations increasing risk of run-overs and vehicle impacts		[redacted]	
8. Worker Health, Fatigue and Welfare Management	• Fatigue from extended shifts, night work and rotating rosters on road projects • Heat stress for workers operating or working around hot asphalt, plant engines and in high ambient temperatures • Exposure to whole-bod[illegible]tion and hand-arm vibration f[illegible] prolonged plant operation and rout[illegible]use • Inadequate mana[illegible]drugs[illegible]d alcohol leading to impaired judgemel and slower reactions • Psychosocial hazards f[illegible] production demands, night shifts, remote work and conflict with road users • Poor access to amenities, drinking water and hygiene facilities on mobile road profiling sites	4A	[redacted]	2M
9. Hazardous Substances, Dust, Silica, Fumes and Noise Management	• Respirable crystalline silica exposure from milling, routing and breaking concrete or asphalt road surfaces	4A	[redacted]	2M

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	• Exposure to asphalt fumes, diesel exhaust and bituminous vapours during removal and re-laying • Inhalation of nuisance and respirable dust from road profiling and sweeping operations • Potential disturbance of asbestos-containing materials or tar-bound roadbase during milling works • Excessive occupational noise from milling drums, engines, breakers and sweepers • Lack of systematic hazardous chemicals management (SDS, labelling, storage, spill response)		[redacted]	
10. Site Establishment, Access, Housekeeping and Services Management	• Uncontrolled interaction between plant, pedestrians and light vehicles in laydown and staging areas • Poor housekeeping creating hazards, obstructions or fire risks around milling, sweeping and rolling operations • Inadequate identification and protection of underground and overhead services prior to milling or breaking road surfaces • Unplanned access by unauthorised persons into work zones (members of public, other contractors, utility providers) • Ineffective management of stockpiles, waste and milled material leading to instability or environmental harm • Congested work areas reducing escape paths and emergency access	3H	[redacted]	2M

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			[redacted]	
11. Communications, Coordination and Change Management	• Miscommunication between plant operators, spotters, traffic controllers and ground workers leading to collisions or entrapment • Lack of clear instructions when multiple plant items (milling machine, roller, sweeper, trucks) operate in a confined work zone • Failure to communicate changes in scope, staging, traffic management or plant allocation to all affected personnel • Inadequate management of language, literacy and cultural barriers in diverse workforces • Poor shift handovers resulting in loss critical safety information • Ineffective escalation pathways for reporting of emerging hazards or near misses	3H	[redacted]	2M
12. Emergency Preparedness and Incident Management	• Inadequate planning for serious incidents involving mobile plant, such as rollovers, entrapments or collisions with road users • Delayed emergency response due to unclear site location, access constraints or communication failures • Lack of spill response capability for fuel, oil and hydraulic leaks from milling and sweeping plant • Insufficient training and equipment for managing fire in plant or in milled material stockpiles	3H	[redacted]	2M

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	• Poorly investigated incidents and near misses leading to repeat events • Absence of site-specific rescue and recovery plans for working adjacent to deep excavations, culverts or water bodies		[redacted]	
13. Contractor, Labour Hire and Subcontractor Management	• Inconsistent WHS standards between direct employees and subcontractor crews operating milling, sweeping and rolling plant • Use of labour hire workers without adequate induction, training or verification of plant competencies • Commercial pressure on subcontractors leading to corner-cutting on safety controls (e.g. dust suppression, traffic management) • Lack of clarity about who controls and supervises subcontracto[redacted]nnel on mixed-crew sites • Inadequate moni[redacted]ring and performance revie[redacted]tracto WHS performance	3H	[redacted]	2M
14. Documentation, Records, Monitoring and Continuous Improvement	• Inadequate documentation of risk assessments, plant risk controls and SWMS for milling and plant operations • Out-of-date procedures, forms and checklists that do not reflect current plant, legislation or work methods • Poor record-keeping for training, maintenance, inspections and incidents, limiting ability to demonstrate compliance • Failure to monitor WHS performance data and identify trends in plant-related incidents or exposures	3H	[redacted]	1L

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	• Lack of systematic review and update of WHS controls following incidents, technology changes or regulatory updates		[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 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