

Road Construction Civil Earthworks and Grading

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

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THIS 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	HIERARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE			Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	Substitution Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review before work starts.	Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.	Engineering Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	Administrative Change	
								PPE	

Risk Rating & Required Action:	
4A	Stop work. The risk is intolerable. Eliminate the hazard or redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or higher-level authorisation is required.
3H	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in place and effective. 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	<ul style="list-style-type: none"> Lack of clear WHS responsibilities and accountabilities across project and contractor teams Inadequate understanding of WHS Act 2011 and WHS Regulations by senior management Insufficient resourcing for WHS (people, time, budget) on civil road construction projects Failure to integrate WHS requirements into project planning, procurement and delivery decisions Inadequate WHS performance monitoring and lagging/leading indicator tracking Poor safety culture and tolerance of shortcuts under programme or cost pressure Inadequate consultation and communication with workers and Health and Safety Representatives (HSRs) 	4A	<ul style="list-style-type: none"> Develop and implement a WHS Management System aligned to WHS Act 2011, WHS Regulations, ISO 45001 and relevant Australian Standards, specifically addressing civil road and earthworks construction Define and document WHS roles, responsibilities and authorities for Officers, PCBU representatives, project managers, supervisors, engineers, surveyors, plant coordinators and leading hands Ensure Officers discharge due diligence obligations through regular WHS reporting, walk-arounds, and verification of effective control implementation on road works and grading activities Integrate WHS requirements into project governance processes, including project initiation, design reviews, cost planning, and construction methodology approvals Establish measurable WHS objectives and KPIs for road construction activities (e.g. plant interaction events, near misses, safety observations, corrective action closure rates) Implement WHS committee and worker consultation framework including toolbox talks, pre-starts and HSR meetings specifically covering road construction hazards (traffic, plant, ground conditions) Conduct regular WHS legal compliance audits and management reviews, and track close-out of non-conformances and improvement actions 	2M
2. Project and Construction Risk Management Planning	<ul style="list-style-type: none"> Inadequate pre-construction risk assessment for full roadworks scope (access roads, base grading, pavement stabilisation, shoulder paving, curbs and gutter, sealing) Failure to identify and manage interface risks between disciplines, contractors and disciplines Insufficient allowance in programme and budget for WHS controls (traffic control, survey controls, geotechnical investigations, environmental controls) Lack of systematic review of design for constructability and safety in construction (e.g. road alignment, batter slopes, drainage structures) Poor management of change when construction methods, plant types or staging are altered 	4A	<ul style="list-style-type: none"> Implement a formal project WHS risk assessment process before mobilisation, including key stakeholders from construction, survey, design, traffic management and subcontractors Establish and maintain a project risk register capturing strategic WHS risks, ownership, controls and review dates for all major road construction elements Undertake safety in design workshops for road alignment, earthworks batters, stormwater infrastructure, pavement build-ups, temporary roads and traffic control layouts Integrate WHS risks and controls into the Project Management Plan, Construction Environmental Management Plan and Traffic Management Plan Implement a structured management-of-change procedure for amendments to construction staging, plant selection, working hours, haul routes or temporary road layouts Conduct periodic multidisciplinary risk review meetings to reassess risks at key milestones (e.g. commencement of bulk earthworks, pavement stabilisation, sealing, night works) 	2M

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	<ul style="list-style-type: none"> Inadequate risk assessment for night works, wet weather works or accelerated programmes 			
3. Contractor, Subcontractor and Supplier Management	<ul style="list-style-type: none"> Engagement of earthworks, stabilising, sealing and curb machine subcontractors with inadequate WHS systems Inconsistent safety standards between principal contractor and subcontractors on shared work areas Poor coordination of multiple plant and trucking subcontractors on constrained road corridors Inadequate verification of licences, competencies and insurances for operators and supervisors Commercial pressure on subcontractors leading to unsafe practices or bypassing controls Insufficient oversight of material suppliers (e.g. quarries, stabilising agents, prime/bitumen suppliers) in relation to WHS requirements 	4A	<ul style="list-style-type: none"> Implement a prequalification process requiring subcontractors and suppliers to provide evidence of WHS systems, previous performance, licences and insurances Develop and enforce project-specific WHS Subcontractor Management Procedure including induction, interface management and performance review requirements Ensure all subcontractors adopt and comply with the principal contractor's Project WHS Management Plan, Traffic Management Plan and Emergency Response Plan Include WHS Knowledge-to-stop-work clauses and penalty/remedy provisions in contracts for civil roadworks, trucking and plant hire services Conduct regular joint inspections and coordination meetings with subcontractor supervisors to address plant interaction, haul routes, work sequencing and shoulder access hazards Maintain central competency and licence register for operators of graders, rollers, stabilisers, curb and gutter machines, watercarts and bitumen sprayers 	2M
4. Worker Competency, Training and Induction	<ul style="list-style-type: none"> Operators of graders, stabilisers, rollers and curb machines lacking formal training and verification of competency Insufficient understanding of hazards associated with road base stabilisation agents, hot bitumen, sealers and heavy traffic environment Inadequate training in spotter duties, plant-pedestrian separation and traffic management principles Failure to provide project-specific induction for new workers, subcontractors and visitors to active roadworks Inadequate training in manual tasks and ergonomic risks associated with surveying, setting out, hand raking and manual handling of survey pegs and kerb forms 	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	1L

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	<ul style="list-style-type: none"> Limited refresher training leading to skill fade, particularly for infrequently performed tasks (night works, emergency response, plant recovery) 			
5. Plant, Equipment and Fleet Management	<ul style="list-style-type: none"> Inadequate selection of graders, stabilisers, rollers, trucks and curb machines for road alignment, slope and ground conditions Poor plant maintenance systems leading to brake failures, steering issues or hydraulic failures on grades or on temporary access roads Lack of proximity detection, cameras or adequate mirrors on large plant and trucks working in shared road corridors Ineffective pre-start inspection processes and fault reporting for critical plant used in road pavement construction and base grading Use of hired or subcontracted plant without verification of maintenance history and safety features Inadequate controls for operating on unstable shoulders, soft subgrades or partially constructed pavement layers 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
6. Traffic, Public Interface and Temporary Road Management	<ul style="list-style-type: none"> Inadequate traffic management planning for road construction, shoulder grading, temporary road diversion and access road works Poor separation between construction traffic and live public traffic, particularly during base grading and pavement construction Insufficient signage, delineation and lighting on temporary roads, detours, single-lane operations and work sites Uncontrolled interaction between trucks, graders, watercarts and the travelling public at site access points and haul road intersections 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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	<ul style="list-style-type: none"> • Non-compliance with relevant road authority permits, approvals and traffic guidance schemes • Lack of systems to manage speed, driver behaviour and queuing on project access roads 			
7. Survey, Set Out and Temporary Works Controls	<ul style="list-style-type: none"> • Inaccurate set-out of road alignment, levels and crossfall leading to unsafe batters, drainage and pavement geometry • Survey personnel working in exposed positions on or near live traffic lanes, narrow shoulders or temporary roads • Inadequate control of survey access tracks and temporary pads for survey instruments, leading to slips, trips and vehicle incidents • Failure to design and certify temporary works such as batter benches, working platforms and temporary culverts used for road construction access • Poor communication of design changes and updated information to grading and earthworks crews 	3H		1L
8. Ground Conditions, Excavation and Pavement Stability Management	<ul style="list-style-type: none"> • Unidentified soft spots, weak subgrades or reactive clays affecting stability of plant and temporary roads • Uncontrolled excavation for road box-out, drainage or services leading to batter or trench collapse • Insufficient geotechnical information for design of road pavement, stabilisation works and subgrade improvement • Inadequate procedures for identifying and treating unsuitable material, contaminated soil or expansive materials • Failure to manage water ingress, groundwater and surface run-off affecting subgrade and pavement stability 	4A		2M

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9. Hazardous Substances, Stabilising Agents and Bituminous Products	<ul style="list-style-type: none"> Exposure to dusts, cements, lime, polymers and other stabilising agents during pavement stabilisation and base treatment Exposure to hot bitumen, primers and sprays during sealing works, including burns and inhalation risks Inadequate management of Safety Data Sheets (SDS) and lack of task-specific information for hazardous products used in road construction Poor storage, handling and spill management systems for fuels, oils, chemicals and bituminous products Inadequate ventilation and control measures for fumes from asphalt, primers and fuel-powered plant in cuttings or confined areas 	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	1L
10. Fatigue, Working Hours and Remote/Isolated Work	<ul style="list-style-type: none"> Excessive working hours and inadequate rest leading to fatigue for plant operators, surveyors and truck drivers Night works and rotating shifts affecting alertness during road preparation, grading and sealing operations Remote or isolated work on access roads, temporary haul roads and rural road projects with delayed emergency response Long commuting distances to remote civil road construction projects increasing cumulative fatigue Inadequate systems for monitoring and managing fatigue risk for subcontracted drivers and plant operators 	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	1L
11. Environmental, Weather and Site Condition Management	<ul style="list-style-type: none"> Adverse weather (heavy rain, heat, fog, high winds) affecting visibility, ground stability and plant operation during grading and sealing Dust generation from unsealed access roads, base course and shoulders 	3H	<p>[REDACTED]</p> <p>[REDACTED]</p>	1L

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	<ul style="list-style-type: none"> impacting workers and nearby communities Heat exposure for workers involved in stabilising road pavement, asphalt and sealing operations Poor lighting during early morning, evening or night works leading to increased plant interaction and trip hazards Failure to integrate environmental controls (erosion, sediment, flora/fauna protection) with WHS requirements 		[REDACTED]	
12. Emergency Preparedness and Incident Management	<ul style="list-style-type: none"> Inadequate planning for plant rollovers, vehicle collisions, bitumen burns, chemical exposure or ground collapse incidents Insufficient emergency access and egress for remote road construction fronts and temporary roads Lack of effective communication and location information, emergency services accessing dispersed work fronts Poor incident reporting, investigation and corrective action systems leading to repeat events Inadequate first aid supplies, trained first aiders and burn/chemical wash facilities on mobile worksites 	3H	[REDACTED]	1L
13. Documentation, Communication and Information Management	<ul style="list-style-type: none"> Workers and subcontractors not having access to current versions of WHS plans, traffic guidance schemes, drawings and specifications Critical safety information (design changes, exclusion zones, haul routes) not communicated to all affected personnel 	3H	[REDACTED]	1L

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	<ul style="list-style-type: none"> Inadequate record-keeping for inspections, maintenance, training, inductions and risk assessments Language barriers or low literacy affecting understanding of procedures among diverse workgroups Over-reliance on informal verbal instructions leading to inconsistent implementation of controls 		[REDACTED]	
14. Health, Welfare and Psychosocial Risk Management	<ul style="list-style-type: none"> Insufficient amenities (toilets, shelter, drinking water) on dispersed road construction fronts and temporary roadworks Psychosocial risks such as high work demands, schedule pressure, remote work isolation and conflict within crews Lack of systems to support mental health and wellbeing for workers on long-duration civil projects Inadequate management of occupational exposure to vibration, noise and whole-body vibration from plant used in grading and excavation Poor integration of health surveillance (e.g. hearing tests) for workers exposed to sustained construction noise 	3H	[REDACTED]	1L

SAMPLE

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>

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>

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-codes-of-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>

Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011
 Work Health and Safety (National Uniform Legislation) Regulation 2011
 Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>
 Codes of Practice NT: <https://worksafe.nt.gov.au/laws-and-compliance/codes-of-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>

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>

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

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.