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

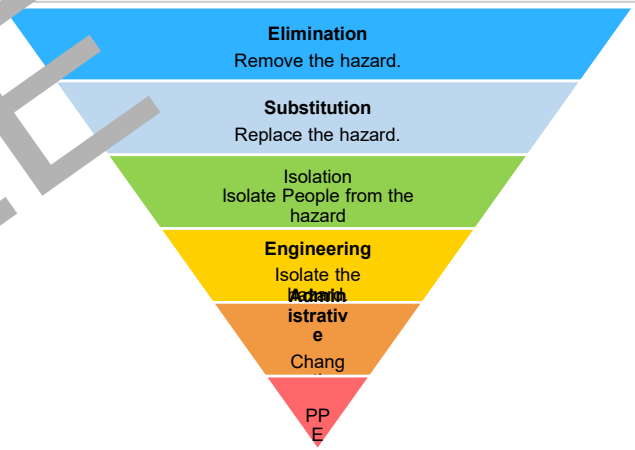
THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT		
Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.		
Full Name:		
Signature:	Title:	Date:

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, Duties and Consultation	• Lack of clear assignment of WHS duties for PCBUs, officers, supervisors and contractors under WHS Act 2011 • Inadequate consultation with workers and health and safety representatives about bulk earthworks, steep slopes and stockpile activities • Poor integration of WHS obligations into contracts for principal contractor, subcontractors and plant hire providers • Insufficient monitoring and review of WHS performance for earthwork operations (e.g. no WHS KPIs, no trend analysis on incidents) • Failure to ensure due diligence by officers (e.g. directors, senior managers) in relation to high-risk earthmoving activities	High	• Establish and document a WHS governance framework that defines PCBU responsibilities, officer due diligence duties, line management accountabilities and reporting lines specific to earthwork operations • Develop a WHS consultation procedure requiring regular toolbox talks, pre-start meetings and issue-resolution processes for all workers involved in bulk earthworks, rock removal, ramp formation and stockpile handling • Embed WHS requirements in all contracts and purchase orders, including obligations to comply with WHS Act 2011, WHS Regulations and relevant Codes of Practice (e.g. Excavation Work, Managing the Risk of Plant in the Workplace) • Set WHS performance indicators (e.g. corrective action closure rates, supervision hours in field, audit scores) for earthwork operations and review these at management meetings with documented actions • Ensure officers receive periodic due diligence briefings on earthwork-specific risks (e.g. working on slopes, overburden stockpiles, steep site preparation) and verify adequate resources are provided for safe system of work • Implement a formal WHS committee or HSR network for projects with ongoing earthworks, with scheduled meetings, documented minutes and follow-up of agreed actions	Medium
2. Planning, Design and Geotechnical Risk Management	• Inadequate geotechnical investigation of natural ground, cut faces and fill areas prior to earthworks on slopes and steep sites • Poor design of ramps, batters, benches and access tracks leading to instability or plant rollover risk • Insufficient assessment of existing ground conditions, underground services and previous land use before site clearance and levelling • Lack of documented design criteria for formation of ramps and slopes, stockpile footprints and maximum allowable batter angles • No systematic review of design changes (e.g. altered ramp gradients, modified stockpile locations) for WHS impacts	High	• Engage a suitably qualified geotechnical engineer to undertake and document geotechnical investigations for bulk earthworks, steep slopes, ramps and overburden stockpiles, with specific recommendations for safe working parameters • Develop engineering designs and drawings for ramps, benches, slopes and stockpiles that specify maximum gradients, batter angles, bench widths, drainage measures and separation distances from structures and services • Implement a formal design risk assessment process for earthworks that identifies geotechnical and stability hazards and records control strategies before works commence • Establish a change management procedure requiring WHS and geotechnical review whenever ramp layouts, slope angles, excavation depths or stockpile locations are altered from the original design • Integrate information about underground and above-ground services (e.g. utilities, pipelines, drainage lines) and environmentally sensitive areas into planning documents, with defined exclusion zones • Ensure design documentation (drawings, geotechnical reports, design assumptions) is controlled, current and communicated to supervisors, surveyors and machine operators	Medium
3. Contractor and Supplier Management	• Engagement of plant hire and earthmoving contractors without adequate WHS prequalification	High	• Implement a contractor WHS prequalification process that assesses safety management systems, incident history, plant maintenance systems and competency records relevant to earthwork operations	Medium

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	• Inconsistent WHS standards and procedures across multiple contractors working on the same earthwork area • Insufficient verification of contractor training, licences and experience in bulk earthworks, rock removal and steep site preparation • Poor coordination of activities between different contractors leading to interaction risks near ramps, stockpiles and work fronts • Lack of clarity over who controls specific earthwork locations, stockpiles and plant interfaces at any given time		• Include project-specific WHS requirements in contract scopes, such as adherence to site traffic management plan, excavation and earthworks procedure, fatigue management and mandatory use of designated communication systems • Require contractors to submit project WHS pla[illegible], including risk assessments and procedures for bulk earthworks, rock removal, overburden stock[illegible]s and steep slopes, for review and approval prior to mobilisation • Establish an interface management plan that [illegible]fies how different contractors will coordinate access to ramps, working platforms, loading points and sto[illegible]pile areas, i[illegible]uding use of permits or allocation boards • Conduct joint pre-start and c[illegible]dination meetings [illegible]th a[illegible] contractors working in or around earthwork areas to review daily p[illegible]ns, inter[illegible]ion points and co[illegible]ls • Audit contract[illegible] against [illegible]reed [illegible]S require[illegible]nts during the project, with a documented process for non-conform[illegible]ce, correctiv[illegible] actions [illegible]d, w[illegible]e necessary, suspension of works	
4. Procurement and Management of Plant and Equipment	• Selection of earthmoving plant (excavators, dozers, graders, dump trucks, loaders) that is unsuitable for work on steep slopes or uneven terrain • Plant lacking critical safety features (ROPS/FOPS, seatbelts, reversing alarms, cameras, load indicators) required for high-risk t[illegible]ine and stockpile work • Use of non-comp[illegible]nt attach[illegible] (rippers, buckets, ro[illegible]kers) wit[illegible]t engineering verification • Inadequate systems to ensure [illegible]y authorised and competen[illegible]rators use plant • Poor control of hired-in equipment that does not meet site WHS and maintenance standards	High	[redacted]	Medium
5. Maintenance, Inspection and Defect Management	• Inadequate preventive maintenance on critical plant used on ramps, slopes and stockpiles leading to mechanical failure • Lack of systematic inspection of braking systems, steering, tyres, ROPS/FOPS and safety devices for machinery used on steep ground	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
	• Poor management of defects reported during pre-start checks, resulting in continued use of unsafe plant • No scheduled inspection of earthworks features such as ramps, batters, benches and stockpiles for signs of instability or erosion • Failure to monitor and maintain controls such as bunds, windrows and edge protection along ramps and drop-offs		[redacted]	
6. Competency, Training and Supervision	• Operators and spotters not adequately trained or experienced in bulk earthworks, earthworks on slope, steep site preparation and rock removal • Limited understanding by supervisors of geotechnical risks, stockpile stability and safe ramp gradients • Insufficient induction and task-specific training for manual earthwork, rock removal by hand and h[redacted]of soil windrows • Inadequate supe[redacted]sion of ne[redacted] short-term workers [redacted]g high-[redacted]k tasks near ramps, stockpiles and excavation edges • No ongoing verification [redacted]ning translates into safe practices in the field	High	[redacted]	Medium
7. Traffic, Interaction and Access Management	• Uncontrolled interaction between heavy earthmoving plant and pedestrians during site clearance, grading, levelling and manual earthwork • Poorly designed or undocumented haul routes, ramps and access tracks for plant travelling to and from stockpiles, windrows and work fronts • Inadequate systems to manage reversing, blind spots and crossing	High	[redacted]	Medium

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	points near ramps, steep slopes and stockpiles • Lack of clear rules for exclusion zones around operating plant engaged in bulk earthworks and rock removal • Insufficient controls for public interface where earthworks occur near property boundaries, roads or public access areas		[redacted]	
8. Ground Stability, Stockpile and Slope Management	• Slope failure or collapse during earthworks on slopes, steep site preparation and formation of ramps and batters • Instability or collapse of overburden and soil stockpiles due to over-steepening, uncontrolled undercutting or poor drainage • Unmanaged placement of soil windrows creating hidden drop-offs or rollover hazards for plant • Ground softening and loss of bearing capacity from water ingress, poor drainage or uncontrolled dewatering near earthwork areas • Uncontrolled rock falls during removal of rocks, stockpile management or rock removal from site	[redacted]	[redacted]	Medium
9. Manual Handling and Task Design for Manual Earthwork	• Excessive manual handling of soil, rocks and materials during manual earthwork, site clearance and removal of rocks by hand • Workers required to undertake repetitive shovelling, raking and levelling on uneven or sloping ground without ergonomic controls • Improvised manual handling around windrows, small stockpiles and confined areas near plant paths	Medium	[redacted]	Low

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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
	• Lack of mechanical aids for handling heavy hand tools, formwork, markers, survey equipment and small rocks • Poor work rotation and task variety leading to fatigue and musculoskeletal strain		[redacted]	
10. Environmental and Weather Risk Management	• Adverse weather (rain, high winds, heat, low visibility) affecting stability of slopes, stockpiles and ramps during earthworks • Erosion of batters, windrows and stockpiles leading to undermining, soft ground and uncontrolled movement of material • Dust generation from dry earthworks, grading and stockpile handling affecting visibility and respiratory health • Inadequate integration of environmental controls (sediment basins, silt fencing, drainage lines) with safe earthwork operati • No defined trigge for stopping earthwork operatio during ex weather or when co xceed design parameters	High	[redacted]	Medium
11. Emergency Preparedness and Incident Management	• Lack of clear emergenc se arrangements for plant rollover, ground collapse, engulfment in stockpiles or rock falls • Insufficient access and egress routes for emergency response vehicles to earthwork areas, particularly on steep slopes and remote ramps • Workers and supervisors unsure how to respond to incidents involving trapped or buried persons in stockpiles or collapsed excavations • Poor communication systems and location identification in large or complex	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
	earthwork sites, delaying emergency response • Inadequate post-incident investigation and corrective action processes for earthwork-related events		[redacted]	
12. Documentation, Records and Continuous Improvement	• Critical earthwork information (drawings, geotechnical reports, risk assessments, permits) not readily accessible or kept up to date • Failure to retain records of inspections, maintenance, training and incidents needed to demonstrate compliance with WHS legislation • Inconsistent capture and analysis of near misses and minor incidents involving slopes, ramps and stockpiles • No formal process to review and update earthwork procedures and controls based on lessons learned • Reliance on informal communication rather than documented instructions for changes to earthwork [redacted] or layouts	Medium	[redacted]	Low

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