Soil Preparation, Mulching and Vegetation Processing

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:

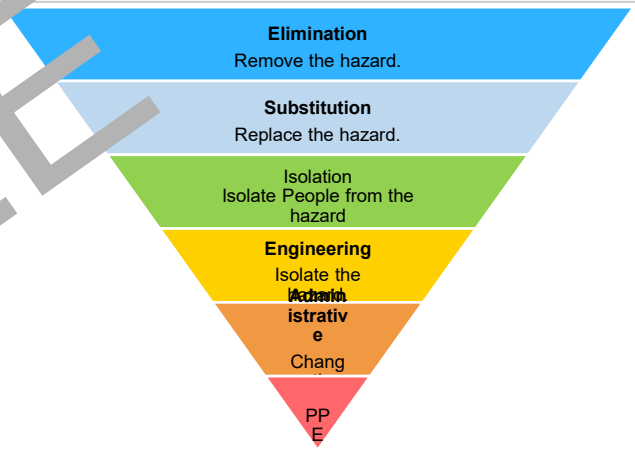
CLIENT OR PRINCIPAL CONTRACTOR DETAILS

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, Roles and Consultation	• Lack of clear WHS responsibilities for soil preparation, mulching and vegetation processing activities • Inadequate consultation with workers, contractors and PCBU representatives about hazardous vegetation management and mulching operations • Failure to integrate WHS Act 2011 due diligence duties into management decision-making for mulching and composting activities • Insufficient WHS objectives, targets and KPIs for high-risk plant (forestry mulcher, rotary hoe, log splitters, wood splitters, rototillers, cultivators) • Poor integration of WHS governance between principal contractor, subcontractors and labour hire providers • No formal process to review and approve WHS documentation for new vegetation processing projects	4A	• Establish and document a WHS governance framework that clearly allocates WHS Act 2011 sections 19, 27 and 28 duties for all soil preparation, mulching and vegetation processing activities • Define and communicate WHS roles, responsibilities and delegations for managers, supervisors, HSRs, contractors and workers involved in operation of forestry mulchers, rotary tillers, log splitters and composting systems • Implement a formal WHS consultation procedure compliant with WHS Act 2011 (Part 5), including regular toolbox talks addressing hazardous vegetation, mulching machine changes and composting risks • Set measurable WHS performance indicators specific to vegetation clearing, mulching large areas, hazardous vegetation management and dust handling (e.g. near-miss reporting, plant incident rates, audit scores) • Require WHS review and sign-off of all new contracts, scopes of work and method proposals involving big forestry mulching, rotary hoe and rototiller usage • Maintain documented WHS Committee or HSR structure that regularly reviews incidents, near misses and risk assessments related to soil preparation, mulching and composting activities • Periodically review governance arrangements following significant incidents, regulatory changes, or introduction of new machinery such as upgraded mulchers or rotary tillers	3H
2. Planning, Project Scoping and Site Assessment	• Inadequate pre-work site assessment for underground and overhead services prior to ripping, rotary hoe use and mulching • Poor identification of hazardous vegetation (toxic plants, thorny species, allergenic or noxious weeds) prior to clearing and mulching vegetation • Failure to assess soil stability, slopes and ground conditions for heavy forestry mulchers and soil processing equipment • Lack of planning for spoil and topsoil stockpile locations leading to collapse, engulfment, erosion or restricted access • Insufficient assessment of proximity to public areas, neighbouring properties, traffic routes and utilities during vegetation clearing • No systematic process to plan for weather impacts (high winds, heavy rain,	4A	• Implement a formal pre-start site assessment procedure covering services location (Dial Before You Dig), ground stability, slopes, access routes and exclusion zones for all soil preparation and mulching operations • Require a documented vegetation and hazard survey for each site, identifying hazardous species, dense scrub, wattle thickets, sharp or toxic plants and combustible vegetation • Develop planning checklists for selection of equipment (big forestry mulcher vs smaller mulcher, rotary hoe, rototillers) based on terrain, soil conditions and available access • Establish criteria and standards for location, height, battering and separation distances of topsoil and mulch stockpiles from edges, drains, overhead powerlines and work areas • Integrate weather and seasonal risk planning into work scheduling, including heat, high fire danger days and heavy rainfall impacts on machinery stability and access tracks • Require documented assessment of fire risk and emergency access for large-scale vegetation processing jobs, including proximity to residences and bushland • Ensure planning documents include interactions with public, traffic management plans and interface controls with neighbouring landholders or other PCBUs	2M

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	heat) on mulching, composting and topsoil handling • Inadequate assessment of bushfire risk during dry conditions with high fuel loads and mulcher operations			
3. Plant and Equipment Selection, Procurement and Design	• Selection of forestry mulchers, mulching machines, log splitters, wood splitters, rotary tillers and cultivators without adequate guarding or safety features • Use of plant that is not fit for purpose for clearing dense vegetation, ripping and boxing wattle scrub or processing large logs • Inadequate consideration of operator protection systems (ROPS/FOPS, cabins, guarding, emergency stops) on large mulchers and tractors • Failure to consider vibration, noise, dust and emissions levels of mulchers, rotary hoes and compost turning equipment • Procurement of imported machines that do not comply with Australian Standards or WHS Regulation requirements • Insufficient design controls for safe loading, transport and unloading of heavy mulching and soil processing plant	4A	• Develop and implement a plant procurement standard requiring all new mulchers, rotary tillers, log splitters, wood splitters and tractors to meet relevant Australian Standards and WHS Regulation Chapter 5 • Specify minimum safety features (e.g. compliant guarding, interlocks, emergency stop devices, lockable isolation, ROPS/FOPS protective cabins, debris deflectors) for all high-risk vegetation processing equipment • Standardise the fleet of mulchers, rotary hoes and cultivators to a limited number of models with proven reliability, safety controls and local service availability • Require engineering risk assessments and design reviews prior to purchase of big forestry mulchers, large compost turners or specialised soil preparation plant • Include noise, vibration, dust control and operator comfort (seating, control layout, visibility) in procurement decision criteria • Ensure all new plant is supplied with manufacturer's instructions, conformity documentation and maintenance schedules, and that these are integrated into the WHS management system • Establish specifications for transport frames, tie-down points and loading systems to safely transport mulchers, log splitters, wood splitters and ancillary equipment	2M
4. Plant Registration, Commissioning and Change Management	• Plant commissioned on site without formal verification of safety features, guarding and emergency stops • Failure to register registrable plant or notify the regulator where required • Uncontrolled modifications to mulchers, log splitters, wood splitters, rotary tillers or soil processing equipment (e.g. guard removal, custom attachments) • No formal process for trialling new composting systems, mulching attachments or cultivation implements	3H	[redacted]	2M

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	• Inadequate documentation and communication when plant specifications or operating parameters are altered • Lack of validation that safety controls operate correctly after major repairs or overhauls		[redacted]	
5. Competency, Training and Verification of Skills	• Operators of big forestry mulchers, rotary hoes, cultivators, log splitters and wood splitters lacking formal competency • Insufficient training on specific hazards of hazardous vegetation management, including sharps, thorns, toxic species and hidden debris • No structured training in safe handling of soil, composts and organic waste, including biological and respiratory hazards • Inadequate supervision and mentoring of new or young workers in vegetation processing tasks • No competency verification for contractors and labour hire workers operating high-risk plant • Lack of refresher training when new equipment, attachments or procedures are introduced	A	[redacted]	2M
6. Safe Operating Procedures, SWMS Integration and Documentation Control	• Absence of documented safe operating procedures for mulchers, rotary hoes, rototillers and compost handling equipment • SWMS focusing only on operational steps without addressing system and management controls for high-risk plant use • Outdated or inconsistent procedures across different sites for vegetation	3H	[redacted]	1L

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	clearing, mulching and compost management • Workers unable to access the latest procedures and SWMS while working remotely or in large cleared areas • Poor integration of plant manufacturer instructions into internal procedures • Failure to review and update documents after incidents, near misses or regulatory changes		[redacted]	
7. Maintenance, Inspection and Pre-Start Systems	• Inadequate preventative maintenance program for mulchers, tractors, log splitters, wood splitters and rotary tillers • Failure of critical safety systems (guards, interlocks, emergency stops, brakes) due to lack of inspection • Unreported or unrectified plant defects identified during operation of mulching and soil preparation equipment • Ad-hoc or reactive maintenance leading to breakdowns [redacted] high-risk operations such as [redacted]ping and boxing wattle scrub • Insufficient control [redacted]-party maintenance providers and quality of repairs • Lack of standardised pr[redacted]hecks for mulchers, rotary hoes, compost turners and soil handling plant	4A	[redacted]	2M
8. Traffic Management, Access and Exclusion Zones	• Vehicle–plant and plant–pedestrian interactions around mulching operations, topsoil stockpiles and compost heaps • Uncontrolled access of public, visitors or other workers into active mulching and rotary tilling zones • Poorly designed access routes for heavy mulching equipment on uneven, sloping or unstable ground	4A	[redacted]	2M

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	• Reversing and blind-spot incidents involving tractors, forestry mulchers and loaders • Inadequate segregation of soil preparation, mulching and other construction activities on the same site • Emergency vehicle access impeded by poorly located stockpiles, windrows and equipment		[redacted]	
9. Environmental, Dust, Noise and Fire Risk Management	• High dust generation from soil preparation, mulching large areas and placing topsoil stockpiles affecting respiratory health and visibility • Excessive noise exposure from big forestry mulchers, log splitters, wood splitters and rotary tillers • Hot surfaces, sparks or contact with rocks causing ignition of dry mulch, vegetation and surrounding bushland • Spontaneous combustion risk in large organic waste and compost heaps due to poor temperature a[redacted] management • Uncontrolled run[redacted] from st[redacted] causing erosion, co[redacted] of waterways and instability of working areas • No systematic monitoring [redacted] environmental conditions that may exacerbate WHS risks (heat, wind, low humidity)	4A	[redacted]	2M
10. Hazardous Vegetation, Soil Contaminants and Biological Risks	• Exposure to hazardous vegetation such as poisonous plants, allergenic species, thorny shrubs and wattle scrub during clearing and mulching • Unidentified contaminants in soil and compost (e.g. asbestos, heavy metals, pesticides, sharps, animal carcasses, clinical waste)	4A	[redacted]	2M

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	• Bioaerosols, moulds, bacteria and fungal spores released during handling of composts, mulch and organic waste • Bites and stings from insects, spiders, snakes or other animals disturbed during vegetation clearing and soil preparation • Lack of procedures for managing suspected contaminated sites or materials • Improper management of odours and leachate from composting activities		[redacted]	
11. Manual Handling, Ergonomics and Work Organisation	• Poorly designed manual handling tasks associated with handling soil, compost bags, mulch bales and smaller vegetation • Repetitive or awkward postures when maintaining organic waste compost heaps or repairing stump grinding damage • Lack of mechanical aids for moving heavy log sections, split wood and topsoil when plant access is limited • Inadequate planning [redacted]	[redacted]H	[redacted]	1L
12. Fatigue, Remote Work and Solo Operations	• Extended shifts and high [redacted] during large mulching or vegetation clearing projects leading to fatigue • Remote or isolated work with mulching machines and rotary tillers where immediate assistance is not available • Long travel times to and from remote vegetation processing sites • Inadequate communication systems for workers operating alone near mulchers, compost heaps or in dense vegetation • Poor planning of breaks, hydration and heat stress management during	3H	[redacted]	2M

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	sustained outdoor soil preparation and mulching work		[redacted]	
13. Contractor and Supplier Management	• Inconsistent WHS standards between principal contractor and mulching, stump grinding, composting or soil preparation subcontractors • Use of contractors with insufficient experience in hazardous vegetation management or operation of high-risk plant • Poor control over delivery and removal of mulch, topsoil and compost materials by third-party transport providers • Lack of clarity around overlapping duties of PCBUs on multi-employer sites • Inadequate review of contractor SWMS, procedures and training reco	4A	[redacted]	2M
14. Emergency Preparedness, First Aid and Incident Management	• Lack of tailored emergency response procedures for plant en[redacted]ent, amputation, crush in[redacted]ies and fire during mulching operatio • Insufficient first a[redacted]s and trained personnel for remote vegetat[redacted]n processing sites • Delayed emergency res[redacted]ue to poor site access or inadequate location information for responders • Inadequate incident reporting and investigation leading to repeat events involving mulchers, log splitters or compost heaps • Absence of drills and simulations for credible worst-case scenarios (e.g. plant rollover, bushfire, serious contamination discovery)	3H	[redacted]	1L
15. Health Monitoring, PPE Programs and Worker Wellbeing	• Chronic exposure to noise, dust, vibration and bioaerosols from soil	3H		2M

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	preparation, mulching and composting tasks • Inconsistent use or incorrect selection of PPE for hazardous vegetation and compost handling activities • Failure to identify early signs of occupational illness related to respiratory, hearing or musculoskeletal disorders • Psychosocial risks including stress from high workloads, remote work and exposure to traumatic incidents • Lack of structured health monitoring for workers in higher-risk roles		[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