

Trencher Tractor Type

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

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. Procurement and Design Selection	<ul style="list-style-type: none"> • Selection of trencher tractors or pedestrian chain trenchers that are not fit for the specific ground conditions, trench depth, or work environment • Failure to specify compliant Roll Over Protective Structures (ROPS), Falling Object Protective Structures (FOPS), guarding and emergency stop features at purchase • Inadequate assessment of noise, vibration, diesel emissions, and dust generation at the time of procurement • Purchasing equipment that does not meet Australian Standards, manufacturer safety specifications, or WHS Act 2011 obligations for plant • Lack of consideration for pedestrian-type trenchers where terrain, gradients, or proximity to traffic make them unsuitable • Inadequate supplier documentation regarding safe use, inspection, and maintenance requirements 	High	<ul style="list-style-type: none"> • Implement a formal plant procurement procedure that requires WHS review and sign-off before purchasing trencher tractors or pedestrian chain trenchers • Specify compliance with relevant Australian Standards and codes of practice (e.g. AS 4024 series for machinery safety, plant provisions of WHS Regulations) and manufacturer safety requirements in purchase contracts • Conduct a documented risk assessment at the pre-purchase stage, including consideration of trench depth, slope type, gradients, underground services, and nearby traffic or public access • Require ROPS, FOPS, compliant guarding on moving parts and chain, lockable controls, emergency stop devices and operator presence controls as mandatory features in procurement specifications • Assess and document noise and vibration data, and emissions information from suppliers to ensure they can be managed with organisational risk criteria • Ensure suppliers provide up-to-date operator manuals, maintenance schedules, training resources, and certification of all required high risk work licensing or competency requirements • Include clauses in supply contracts for pre-delivery inspections, commissioning checks, and demonstration of safety systems before acceptance on site 	Medium
2. Governance, WHS Management and Consultation	<ul style="list-style-type: none"> • Lack of clear organisational accountability for the safe management of trencher tractors and pedestrian chain trenchers • Inadequate consultation with workers, Health and Safety Representatives (HSRs), and contractors about plant risks and control measures • Poor integration of trencher-related risks into the overall WHS management system, policies, and risk registers • Failure to monitor compliance with the WHS Act 2011 and WHS Regulations in relation to plant, high risk construction work, and excavation work • Insufficient mechanisms to review incidents, near misses, or changes in work practices involving trenchers 	High	<ul style="list-style-type: none"> • Define and document roles, responsibilities, and authorities for persons conducting a business or undertaking (PCBUs), officers, supervisors, and operators in relation to trencher safety management • Integrate trencher plant risks into the corporate WHS management system, including policies, risk registers, and safe work procedures for excavation and plant use • Establish formal consultation and communication processes with workers and HSRs when introducing, modifying, or decommissioning trencher equipment and related procedures • Ensure officers exercise due diligence by regularly reviewing trencher risk controls, resourcing, and compliance with WHS Act 2011 and WHS Regulations (including plant and excavation provisions) • Implement a structured process for reporting, investigating, and learning from incidents, near misses, and non-conformances involving trenchers • Schedule regular WHS management reviews that include trencher risk performance indicators, audit findings, and continuous improvement actions 	Medium

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3. Competency, Licensing and Training Systems	<ul style="list-style-type: none"> Operators of trencher tractors or pedestrian trenchers lacking formal competency or verification of competency for the specific machine type Supervisors not understanding their responsibilities to verify operator competence and enforce safe systems of work Insufficient training on site-specific hazards such as underground services, unstable ground, adjacent traffic, or public interface Inadequate induction for maintenance personnel on energy isolation, guarding, and working around rotating chains and moving plant Failure to provide refresher training following incidents, new equipment, or changes to procedures 	High	<ul style="list-style-type: none"> Develop and implement a competency framework for trencher operators, including documented training, assessment, and verification of competency specific to each trencher type (tractor and pedestrian chain trencher) Require that only authorised and deemed-competent personnel are permitted to operate or supervise the use of trenchers, and maintain a current register of authorised operators Include trencher-specific content in site inductions covering hazards, exclusion zones, underground service controls, emergency procedures, and communication protocols Provide structured training for maintenance staff on isolation, lock-out tag-out (LOTO), guarding requirements and safe working distances from moving chains and rotating components Implement a refresher training program with defined triggers such as introduction of new plant, changes to procedures, new attachments, or after relevant incidents and near misses Ensure training materials reference manufacturer instructions, relevant Australian Standards, and organisational procedures, and keep records of all training and competence assessments 	Medium
4. Planning, Site Assessment and Excavation Management	<ul style="list-style-type: none"> Inadequate pre-planning for trenching works leading to unassessed interaction with services, traffic, and other plant Failure to identify high risk excavation work (e.g. trenches deeper than 1.5m, risk of engulfment, working near traffic or mobile plant) Insufficient processes for identifying and protecting underground services (electricity, gas, water, telecommunications) Lack of defined exclusion zones for workers and public around operating trenchers Poor coordination of multiple contractors and PCBUs on shared worksites 	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium
5. Plant Design Integrity, Guarding and Safety Systems	<ul style="list-style-type: none"> Inadequate guarding of rotating chains, augers, sprockets, belts, and drive 	High		Medium

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	<p>shafts creating entanglement or contact risks</p> <ul style="list-style-type: none"> Lack of functional operator presence systems, dead-man controls, or emergency stop systems on both tractor and pedestrian trenchers Defeated, modified, or bypassed safety interlocks and guards Poor design or condition of access steps, platforms, and handrails increasing slip, trip, and fall from height risks on tractor-mounted units Failure of braking systems, steering, or stability controls on slopes or uneven terrain 		[REDACTED]	
6. Maintenance, Inspection and Asset Management	<ul style="list-style-type: none"> Lack of systematic maintenance leading to mechanical failure, loss of control, or chain breakage Unplanned breakdowns occurring during operation due to neglected servicing Inadequate inspection regimes for critical components such as chain sprockets, hydraulics, tyres and ROPS Maintenance work performed without proper isolation, guarding, or tools Incomplete records of repairs, modifications, and inspections making it difficult to verify safety status 	High	[REDACTED]	Low
7. Contractor and Hire Management	<ul style="list-style-type: none"> Contractors or hire companies supplying trencher plant that does not meet organisational or legislative safety requirements 	High	[REDACTED]	Medium

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	<ul style="list-style-type: none"> Insufficient verification that contractor operators are competent and trained on the specific trencher make and model Poor communication of site-specific hazards, procedures, and emergency arrangements to contractors Lack of clarity over responsibilities between PCBUs for inspection, maintenance, and incident reporting on hired or shared plant 		[REDACTED]	
8. Traffic, Pedestrian and Public Interface Management	<ul style="list-style-type: none"> Interaction between trencher tractors and other mobile plant or vehicles leading to collision Pedestrian workers entering hazardous zones around operating trenchers, particularly chains and sprocket discharge areas Public exposure to trenching operations in road reserves, easements or easements Inadequate traffic management and signage around worksites, especially where pedestrian trenchers are used in confined public spaces 	High	[REDACTED]	Medium
9. Environmental, Noise, Dust and Vibration Management	<ul style="list-style-type: none"> Excessive noise from trencher engines and chain cutting causing hearing damage and community disturbance Dust generation affecting operator visibility, respiratory health, and nearby properties or public areas Hand-arm and whole-body vibration exposure from operating trencher 	Medium	[REDACTED]	Low

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	<p>tractors and pedestrian units over extended periods</p> <ul style="list-style-type: none"> • Diesel exhaust emissions affecting operators and nearby workers, particularly in poorly ventilated areas 		[REDACTED]	
10. Emergency Preparedness and Incident Response	<ul style="list-style-type: none"> • Delayed or ineffective response to entanglement, crush, or struck-by incidents involving trenchers • Lack of clear procedures for dealing with underground service strikes (electricity, gas, water, telecommunications) • Inadequate emergency communication methods for remote and dispersed trenching sites • Poor incident record keeping leading to repeat events 	High	[REDACTED]	Medium
11. Documentation, Records and Continuous Improvement	<ul style="list-style-type: none"> • Inadequate documentation of risk assessments, procedures, and training leading to inconsistent practices • Outdated or inaccessible manuals, SWMS, and plant records for trencher equipment • Failure to track implementation of corrective actions from audits or incident investigations 	Medium	[REDACTED]	Low

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	<ul style="list-style-type: none"> Limited review of WHS performance indicators relevant to trencher operations 		<div style="background-color: black; height: 15px; width: 100%;"></div> <div style="background-color: black; height: 15px; width: 100%;"></div> <div style="background-color: black; height: 15px; width: 100%;"></div>	

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.