

**Lead Pipe Removal**

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			<b>Elimination</b> Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	<b>Substitution</b> 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.	<b>Engineering</b> Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	<b>Administrative</b> Change	
								<b>PPE</b>	

  

Risk Rating & Required Action:	
<b>4A</b>	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.
<b>3H</b>	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
<b>2M</b>	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
<b>1L</b>	Proceed, following standard operating procedures. Monitor and keep records.

  

Consequence Scale:			
Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
<b>Catastrophic</b>	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
<b>Major</b>	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
<b>Moderate</b>	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
<b>Minor</b>	First-aid only, no lost time	negligible delay	Isolated non-conformance
<b>Insignificant</b>	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. Governance, Legal Compliance and PCBU Duties	<ul style="list-style-type: none"> <li>Lack of clear allocation of WHS duties between the water utility, principal contractor, subcontractors and property owners, leading to gaps in managing lead exposure risks</li> <li>Failure to identify and comply with relevant WHS legislation, regulations, Codes of Practice and Australian Standards relating to lead, excavation and construction work</li> <li>Inadequate WHS management plan for lead service pipe replacement projects, resulting in inconsistent risk controls across sites</li> <li>Poor consultation with workers and Health and Safety Representatives (HSRs) about lead risks and control measures</li> <li>Insufficient monitoring and review of WHS performance indicators for lead pipe removal programs at management level</li> </ul>	High	<ul style="list-style-type: none"> <li>Establish and document a governance structure for the lead service pipe replacement program that clearly defines PCBU duties, officer due diligence responsibilities and contractor roles in line with the WHS Act 2011 and WHS Regulations</li> <li>Develop a corporate Lead Risk Management Procedure that references relevant legislative requirements, Safe Work Australia Codes of Practice (e.g. Managing Risks of Hazardous Chemicals in the Workplace) and any jurisdictional guidance on lead and water infrastructure</li> <li>Integrate lead pipe removal into the organisation's WHS Management System, including documented risk registers, project WHS plans and contractor WHS requirements that specifically address lead exposure and environmental contamination risks</li> <li>Implement a formal consultation framework with workers and HSRs for all stages of the program, including toolbox talks, WHS committee meetings and issue-resolution procedures focused on lead risk management</li> <li>Require project-specific WHS Management Plans from principal contractors that explicitly cover lead risk assessment, air and surface monitoring strategies, decontamination arrangements and health monitoring requirements</li> <li>Include WHS legal compliance and lead-specific performance indicators (e.g. results of lead monitoring, completion of health monitoring, non-conformances) in regular management review meetings and board WHS reports</li> <li>Ensure officers exercise due diligence by periodically reviewing lead risk controls in the field, commissioning independent audits where appropriate, and ensuring adequate resources for implementation of controls</li> </ul>	Medium
2. Hazard Identification, Risk Assessment and Planning	<ul style="list-style-type: none"> <li>Incomplete identification of locations, lengths and conditions of existing lead service pipes, causing unanticipated exposure scenarios and environmental releases</li> <li>Failure to identify adjacent services, contaminated soil, asbestos-containing materials or confined spaces that interact with the lead removal task</li> <li>Inconsistent or informal risk assessment processes across projects, resulting in variable control standards and undocumented assumptions</li> <li>Inadequate pre-planning for waste handling, transport and disposal of lead-contaminated materials</li> <li>Poor integration of WHS risk assessment with engineering and</li> </ul>	High	<ul style="list-style-type: none"> <li>Implement a formal pre-project survey and mapping program to identify all known and suspected lead service pipes, including review of historical asset data, building plans, sampling results and any prior remediation records</li> <li>Standardise the use of documented WHS risk assessment tools (e.g. corporate risk matrix, Job and Task Risk Analysis templates) that explicitly address lead exposure, dust and fume generation, contaminated soil, access constraints and public interface risks</li> <li>Require design and engineering teams to apply the hierarchy of control at the planning stage (e.g. preference for complete replacement over partial, selection of low-disturbance methods, off-site fabrication to minimise on-site cutting of lead)</li> <li>Embed environmental and waste management planning into the WHS risk assessment process, ensuring that storage, transport and disposal of lead waste comply with both WHS and environmental legislation</li> <li>Introduce a formal pre-start planning meeting process for each work area where project engineers, supervisors and HSRs review the site-specific risk assessment and confirm that lead control measures are feasible and resourced</li> </ul>	Medium

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	<p>construction planning, leading to design choices that increase exposure potential</p>		<ul style="list-style-type: none"> <li>Maintain a centralised risk register for the lead service pipe replacement program to capture systemic hazards, emerging issues and lessons learned, with regular review and sign-off by WHS and engineering management</li> </ul>	
3. Contractor and Supplier Management	<ul style="list-style-type: none"> <li>Engagement of contractors without demonstrated competence in managing lead risks or compliance with WHS Act 2011 obligations</li> <li>Inadequate prequalification processes that fail to assess contractors' systems for hazardous chemicals, health monitoring and decontamination</li> <li>Suppliers providing materials, tools or plant that are unsuitable for lead-related work or lack appropriate safety information</li> <li>Poorly defined WHS performance expectations and reporting requirements for contractors undertaking lead pipe replacement</li> </ul>	High	<ul style="list-style-type: none"> <li>Implement a contractor prequalification system that specifically evaluates experience with lead or other hazardous substances, including evidence of completed similar projects, WHS performance history, and lead management procedures</li> <li>Include clear WHS and lead specific requirements in all tender and contract documents, such as mandatory use of respiratory protection programs, health monitoring, worker health monitoring and decontamination procedures</li> <li>Require contractors to submit and have approved project-specific Lead Management Plans that detail their procedures for exposure control, waste management, emergency response and worker training, prior to commencing work</li> <li>Establish criteria for approval of suppliers of PPE, RPE, tools and equipment to ensure compatibility with lead work (e.g. HEPA-filtered vacuum systems, appropriate respiratory filters, wet-cutting equipment) and require provision of Safety Data Sheets where relevant</li> <li>Build WHS performance clauses into contracts, including requirements for regular reporting of incidents, near misses, monitoring results and non-conformances related to lead, with defined consequences for poor performance</li> <li>Conduct periodic contractor WHS audits and site inspections focusing on implementation of lead-related controls, with findings recorded, actioned and fed back into contractor performance evaluations</li> </ul>	Medium
4. Worker Competency, Information and Training	<ul style="list-style-type: none"> <li>Workers and supervisors lacking specific knowledge about the health effects of lead, exposure pathways and early signs of overexposure</li> <li>Insufficient training in safe systems of work for lead pipe removal, including hygiene, decontamination and PPE use</li> <li>Inadequate supervision of new or short-term workers on lead-related activities</li> <li>Lack of awareness of legal obligations regarding lead, including requirements for health monitoring, record keeping and notification where applicable</li> </ul>	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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5. Plant, Equipment and Engineering Controls	<ul style="list-style-type: none"> <li>• Use of plant and equipment that generates unnecessary lead-containing dust, fumes or contaminated runoff during removal of lead service pipes</li> <li>• Lack of engineering controls such as local exhaust ventilation, wet suppression or HEPA filtration leading to uncontrolled airborne lead levels</li> <li>• Inadequate selection, inspection and maintenance systems for plant used in excavation, cutting, joining and reinstatement activities associated with pipe replacement</li> <li>• Failure to segregate clean and contaminated tools and equipment, increasing the risk of cross-contamination to vehicles, depots and client properties</li> </ul>	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium
6. Exposure Control, PPE and Hygiene Systems	<ul style="list-style-type: none"> <li>• Inadequate systematic controls to prevent inhalation of lead dust by workers, nearby personnel and building occupants during pipe replacement activities</li> <li>• Poorly managed respiratory protection programs, including selection, fit testing, maintenance and storage of RPE</li> <li>• Lack of structured hygiene facilities and protocols, leading to contamination of personal clothing, vehicles, lunchrooms and homes</li> <li>• Inadequate management of exclusion zones, leading to public or non-involved worker exposure to lead dust or debris</li> </ul>	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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7. Health Monitoring, Medical Management and Worker Welfare	<ul style="list-style-type: none"> <li>• Failure to identify when health monitoring for lead is required under WHS Regulations, resulting in undetected elevated blood lead levels in workers</li> <li>• Inadequate systems for arranging, recording and following up medical assessments and test results</li> <li>• Poor communication with workers about the purpose and outcomes of health monitoring, leading to mistrust or non-participation</li> <li>• Lack of processes for redeployment or removal from exposure when workers exceed recommended lead levels or disclose health vulnerabilities</li> </ul>	High	[REDACTED]	Medium
8. Environmental and Waste Management Systems	<ul style="list-style-type: none"> <li>• Uncontrolled disposal of removed lead pipes, offcuts, contaminated soil and debris leading to environmental contamination and regulatory breaches</li> <li>• Inadequate systems to prevent lead-contaminated runoff entering stormwater, waterways or sensitive environments</li> <li>• Poor segregation, labelling and tracking of lead-containing waste through storage, transport and disposal</li> <li>• Lack of coordination between WHS and environmental teams, resulting in conflicting or incomplete control measures</li> </ul>	High	[REDACTED]	Medium
9. Community, Stakeholder and Occupant Management	<ul style="list-style-type: none"> <li>• Insufficient communication with residents, building occupants and businesses about the health risks of lead</li> </ul>	Medium	[REDACTED]	Low

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	<p>service pipes and the replacement process</p> <ul style="list-style-type: none"> <li>• Community anxiety or complaints due to perceived or actual exposure during pipe removal works</li> <li>• Unmanaged access by residents, children or pets to active work areas and stored lead waste</li> <li>• Failure to coordinate with other utilities, local councils or regulators, leading to conflicting works and increased risk of incidents</li> </ul>		[REDACTED]	
10. Emergency Preparedness and Incident Management	<ul style="list-style-type: none"> <li>• Lack of planning for incidents that may increase lead exposure risk, such as major pipe breaks, spills of lead-contaminated slurry, or failure of containment measures</li> <li>• Inadequate procedures for responding to acute health symptoms in workers or members of the public potentially exposed to lead</li> <li>• Poor incident reporting and investigation systems that fail to identify root causes and systemic deficiencies</li> <li>• Absence of clear escalation pathways and communication protocols during emergencies involving both WHS and environmental aspects</li> </ul>	High	[REDACTED]	Medium
11. Monitoring, Audit and Continuous Improvement	<ul style="list-style-type: none"> <li>• Failure to verify that lead exposure controls, health monitoring and waste management systems are functioning as intended over the life of the replacement program</li> <li>• Inconsistent collection and analysis of exposure and incident data, preventing</li> </ul>	Medium	[REDACTED]	Low

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	identification of trends and emerging risks • Lack of formal review mechanisms to update procedures in response to new technology, regulatory changes or lessons learned • Complacency as the program matures, leading to erosion of standards and shortcuts in lead management		[REDACTED] [REDACTED] [REDACTED] [REDACTED]	

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.