Surveying And Marking Locations			
Business Name:		ABN:	
Business Address:			
Contact Person:	Phone:	Email:	

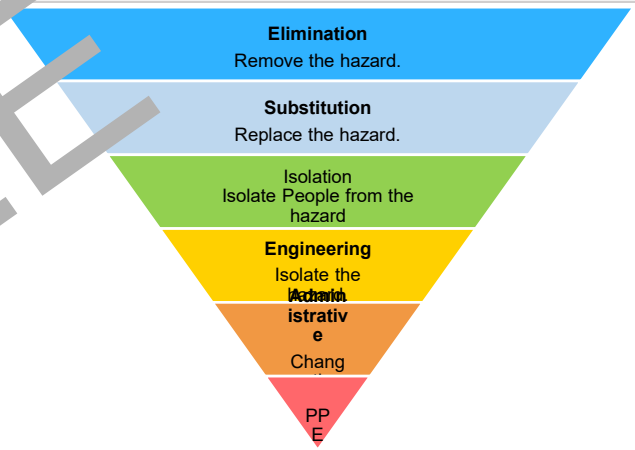
THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT		
Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.		
Full Name:		
Signature:	Title:	Date:

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 clearly defined WHS responsibilities for surveying and marking activities, leading to gaps in supervision and oversight • Inadequate consultation with surveyors and field crews about site-specific WHS risks and controls • Failure to integrate WHS risk management for surveying into overall project governance and design processes • Poor communication pathways between office management, site supervisors and survey teams regarding changes to work locations, traffic conditions or adjacent activities • Insufficient consideration of WHS Act 2011 officer due diligence obligations in relation to surveying near roads, tall structures and public areas	High	• Establish and maintain a WHS governance framework that explicitly includes surveying and marking activities (accurate marking out work, topographical surveys, setting out profiles, placing boundary pegs, etc.) within the organisation's WHS management system • Define and document WHS roles, responsibilities and accountabilities for survey managers, party leaders, project managers, HSEQ staff and officers, ensuring they align with WHS Act 2011 due diligence requirements • Implement formal consultation and participation mechanisms (e.g. WHS committee, toolbox forums, pre-start briefings) that include surveyors and chainpersons when planning land surveying work, boundary marking and worksite layout • Require WHS risk assessments for surveying and marking locations to be completed and reviewed as part of project initiation, design review and construction planning, not just at site establishment stage • Maintain written procedures for escalation of WHS concerns identified during surveying (e.g. unsafe traffic interface with surveying near roads, unsafe access to tall structures, ground instability) including stop-work authority for survey personnel • Ensure regular management review of survey-related incidents, near misses and audit findings, with documented actions to improve systems, procedures and resources • Integrate survey-specific WHS expectations into contractor management frameworks where external surveying firms are engaged, including requirements for their WHS governance, consultation processes and risk management	Medium
2. Competency, Licensing And Training	• Surveyors and assistants lacking formal competency in use of optical levelling instruments, laser levels and metal tapes, leading to unsafe work practices • Insufficient training in WHS legislation, codes of practice and organisational procedures relevant to land surveying, accurate marking out and boundary pegging • Lack of demonstrated competency in working near traffic, near tall structures and in varied terrain (slopes, excavations, uneven ground) • Inadequate training in manual handling and ergonomic practices for carrying equipment, placing boundary pegs, setting out profiles and laying lines and grades • Poor understanding of electrical, underground service and excavation	High	• Develop and implement a formal competency framework for surveyors, survey technicians and assistants that covers technical skills (optical levelling, laser level operation, precise measurements, topographical surveys) and WHS expectations • Require verification of qualifications, registrations or licences (where applicable) for professional surveyors and ensure evidence is recorded and periodically reviewed • Provide structured induction and role-specific training on the safe use, storage and calibration of measuring equipment (laser levels, optical levels, metal tapes, staff, prisms) aligned with manufacturer instructions and Australian standards • Deliver training on traffic awareness and working near roads, including interaction with traffic management plans, spotter roles and safe positioning of survey staff and tripods • Provide training on working around tall structures (e.g. overhead services, towers, multi-storey buildings), including exclusion zones, dropped object risks and emergency egress routes • Implement manual handling and ergonomics training tailored to surveying tasks (carrying tripods and instruments, handling pegs, lifting manhole covers for depth check measurements, extended periods of stationary instrument use) • Introduce competency-based assessments (practical and theoretical) before authorising personnel to operate laser and optical levelling instruments without direct supervision	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
	risks when measuring and marking out sites and worksites • Failure to provide refresher training, resulting in outdated knowledge of safe use of laser levels and optical levelling instruments		• Schedule refresher training at defined intervals and after incidents or introduction of new technology, ensuring currency of knowledge in WHS duties and equipment operation • Maintain training records and competency matrices that clearly identify which staff are authorised for high-risk environments such as roadside surveying, night work or work on large construction sites	
3. Planning, Design And Survey Methodology	• Inadequate pre-planning of surveying locations and sequences, leading to unnecessary exposure to traffic, plant and hazardous terrain • Survey controls and benchmarks placed in unsafe or inaccessible locations (e.g. close to roadways, at edges of excavations, on unstable ground or near tall structures with falling object risk) • Failure to consider WHS requirements in the choice of survey methods, such as preference for remote measurement versus close proximity to hazards • Insufficient assessment of environmental conditions (weather, visibility, heat, bushfire risk, flooding) prior to undertaking topographical surveys and accurate marking out work • Lack of integration between set-out plans and construction staging, resulting in concurrent work conflicts and interface risks • Depth check measurements and boundary marking planned without checking for underground service plans, leading to potential strike risks	High	• Require documented planning for all significant survey campaigns, including a risk-based assessment of survey locations, traffic exposure, expected terrain conditions and interaction with other work groups • Incorporate WHS considerations into survey design, including selection of control point and benchmark locations that minimise exposure to traffic, plant, falls, unstable ground and tall structure interfaces • Develop procedures for selecting survey methodologies that prioritise remote or low-exposure methods (e.g. reflectorless measurements, GNSS, digital data capture) where reasonably practicable instead of placing staff in high-risk positions • Mandate review of underground service information, Dial Before You Dig enquiries and project utility plans prior to planning depth check measurements, placing boundary pegs and setting out profiles • Integrate survey planning into construction methodology and staging plans, including formal coordination with site management to avoid overlap with high-risk construction activities (e.g. lifting, piling, earthworks) • Include triggers in planning processes for additional controls during adverse weather, poor visibility, extreme heat or wet conditions, with authority to postpone non-critical surveying • Ensure that survey plans, set-out sheets and work instructions clearly identify no-go zones, exclusion zones, overhead hazards and traffic interfaces for field crews • Document and communicate clear criteria for when additional resources (spotters, traffic controllers, second surveyor) are required based on complexity, location and risk profile of the survey	Medium
4. Traffic And Public Interface Management	• Surveying near roads without adequate traffic control systems, exposing workers to vehicle strike • Lack of procedures for working on or adjacent to live traffic lanes when measuring and marking out sites, carrying out topographical surveys or placing boundary pegs • Inadequate separation between surveyors and mobile plant (trucks,	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
	graders, excavators) on construction sites • Public access to areas where survey work is being undertaken, leading to collision or trip hazards around tripods, staffs, pegs and profiles • Poor visibility of surveyors working near roads or in low-light conditions • Inconsistent coordination with principal contractor traffic management plans, particularly for short-duration or mobile survey tasks		[redacted]	
5. Equipment Selection, Procurement And Lifecycle Management	• Procurement of survey equipment (laser levels, optical levelling instruments, metal tapes) that is unsuitable or non-compliant with relevant safety standards • Lack of lifecycle management for survey instruments, leading to degraded accuracy and potential for unsafe reliance on incorrect measurements • Use of damaged or modified accessories (tripods, bipods, targets, tapes) without formal inspection and approval processes • Battery failures or power issues with electronic equipment in remote areas, leading to improvised and unsafe work methods • Inadequate consideration of environmental robustness (dust, moisture, vibration) during procurement, leading to unplanned failures in the field	Medium	[redacted]	Low
6. Calibration, Inspection And Maintenance Systems	• Survey measurements and marking out work undertaken with out-of-calibration laser levels or optical levelling instruments, resulting in structural or	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
	excavation errors with safety consequences • Absence of systematic inspection regimes for measuring tapes, staffs and depth measurement tools, leading to undetected wear, stretching or damage • Ad-hoc maintenance of critical equipment without competent technicians or appropriate records • Failure of instruments on site due to neglected maintenance, prompting unsafe workarounds such as eyeballing levels or makeshift measuring methods • Lack of documented traceability for calibration certificates and maintenance history, undermining confidence in depth checks and precise measurements		[redacted]	
7. Procedures For Safe Use Of Survey Instruments	• Inconsistent practices in setting up an using optical levelling instruments and laser levels across diffe ws and projects • Improper use of etal tapes for measuring sites, in din tensioning, using nea ve electrical installations or across vehicle paths • Lack of standardised pr s for depth check measurements and checking as-built levels against design tolerances • Uncontrolled use of laser equipment in environments where beams may pose eye hazards or interfere with other work activities • Inadequate guidance on managing line of sight obstructions when taking precise measurements around tall structures and congested worksites	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
8. Site Access, Terrain And Environmental Management	• Surveyors accessing steep, unstable, vegetated or uneven terrain without adequate planning, increasing risk of slips, trips, falls and rollovers • Exposure to environmental extremes (heat, UV, cold, storms) during extended topographical surveys and boundary marking in open areas • Working near watercourses, culverts or excavations when carrying out depth check measurements or measuring and marking out worksites • Limited emergency access or communication in remote surveying locations • Unmanaged interaction with wildlife, insects and vegetation that may pose health risks or obstruct sight lines	High	[redacted]	Medium
9. Interface With Construction Activities And Other Trades	• Surveyors workin within activ construction zones ring vat lifting, concrete pours or heavy plant movements without coordinated planning • Unclear responsibilities regarding who controls the work area when surveyors are measuring and marking out the worksite amidst multiple contractors • Survey control points and profiles being installed in locations later obstructed or disturbed by construction, leading to rework in less safe conditions • Conflicting priorities between production targets and the time required for safe, accurate marking out and precise measurements • Lack of integration of survey requirements into permits to work (e.g.	High	[redacted]	Medium

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	for confined spaces, excavation or work at height) where survey presence is necessary		[redacted]	
10. Manual Handling, Ergonomics And Fatigue Management	• Repetitive lifting and carrying of survey equipment, pegs and profiles leading to musculoskeletal disorders • Prolonged static postures when operating instruments or taking precise measurements, increasing strain injuries • Pushing survey tasks into long hours, early mornings or late evenings to avoid traffic or accommodate construction schedules, increasing fatigue-related errors and incidents • Inadequate systems for rotating tasks or sharing loads within survey teams • Failure to consider ergonomic design of vehicles, storage and carrying systems for survey instruments	Medium	[redacted]	Low
11. Information Management, Data Quality And Error Control	• Inaccurate or incomplete survey data leading to incorrect marking out of boundaries, lines and gradients with ensuing construction safety risks • Poor version control of survey drawings, models and setting out files causing crews to work from outdated information • Lack of independent checks or verification of critical measurements, benchmarks and depth checks • Inadequate documentation of assumptions, control networks and tolerances used for topographical surveys and set-out work • Data loss or corruption from electronic devices without robust backup processes	High	[redacted]	Medium

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
			[redacted]	
12. Contractor And Third-Party Management	• External surveyors engaged without adequate due diligence on their WHS systems and competency • Inconsistent survey standards, procedures and controls between principal contractor and subcontracted survey firms • Lack of clarity about responsibilities for WHS risk management when multiple organisations perform surveying and marking activities on the same site • Inadequate induction of contracted surveyors into site-specific hazards, traffic arrangements and emergency procedures • Contractual drivers that prioritise spe[redacted] or cost over safe and accurate surveyi[redacted] work	High	[redacted]	Medium
13. Incident Reporting, Investigation And Continuous Improvement	• Under-reporting [redacted] minor incidents involv[redacted] surveyors, such as brushes with traffic, trips in uneven ground or equipment failu[redacted] • Ineffective investigation of survey-related incidents leading to repeated systemic issues • Lack of specific analysis of measurement-related errors that have potential to create significant safety risks downstream in the construction process • Poor feedback loops to update procedures, training and planning based on incident learnings	Medium	[redacted]	Low

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			[redacted]	
14. Emergency Preparedness And Response For Survey Teams	• Surveyors working in isolated or dispersed areas without clear emergency response procedures • Delayed response to injuries, vehicle incidents or medical events occurring during surveying near roads or on remote topographical surveys • Lack of location information and communication protocols for emergency services when surveyors are operating across large or complex sites • Inadequate consideration of rescue and retrieval arrangements for surveyors working near water bodies, steep embankments or tall structures	High	[redacted]	Medium

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