

**Electrical Rough-In, Cabling and Conduit Installation**

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.	Administrative Change	
								PPE	

  

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. WHS Management, Governance and Legal Compliance	<ul style="list-style-type: none"> <li>Failure to implement a WHS management system aligned with WHS Act 2011 and WHS Regulations</li> <li>Inadequate WHS policy and procedures specific to electrical rough-in, cabling and conduit works</li> <li>Lack of defined WHS responsibilities and accountabilities for PCBU, officers, supervisors and workers</li> <li>Poor consultation processes with workers, health and safety representatives and subcontractors</li> <li>Inadequate monitoring, review and auditing of WHS performance and incident trends</li> <li>Failure to maintain and demonstrate due diligence by officers regarding electrical safety risks</li> <li>Inadequate integration of WHS requirements into contracts, scopes of work and design briefs</li> </ul>	4A	<ul style="list-style-type: none"> <li>Develop, implement and maintain a certified WHS management system (e.g. ISO 45001) that explicitly covers electrical rough-in, cable hauling and conduit installation activities</li> <li>Establish a WHS policy endorsed by senior management that commits to compliance with WHS Act 2011, WHS Regulations, Electrical Safety legislation and relevant Australian Standards (e.g. AS/NZS 3000, AS/NZS 3012, AS/NZS 4836)</li> <li>Clearly define and document WHS roles, responsibilities and authorities for officers, project managers, supervisors, leading hands and workers, including for electrical installation works</li> <li>Implement formal consultation mechanisms (toolbox talks, pre-start meetings, WHS committee, HSR engagement) focused on electrical installation and penetration activities</li> <li>Embed WHS requirements for electrical design, installation quality, isolation and testing in contracts, purchase orders and subcontractor agreements</li> <li>Implement an internal WHS audit and inspection program targeting electrical rough-in processes, permit system isolations and documentation standards</li> <li>Require officers and senior managers to complete due diligence training specific to construction and electrical safety obligations</li> <li>Maintain a legal and standards register for electrical and construction safety, and review it at least annually or when regulations/standards change</li> </ul>	2M
2. Design, Planning and Coordination of Electrical Rough-In	<ul style="list-style-type: none"> <li>Incomplete or late electrical designs leading to ad-hoc decisions and unsafe routing of cables and conduits</li> <li>Lack of coordinated services design causing clashes between cable trays, conduits, mechanical services, fire systems and structure</li> <li>Insufficient allowance for cable loads, derating and future capacity on ladder, tray and supports</li> <li>Inadequate planning for cable routes through walls, ceilings and penetrations affecting fire and structural integrity</li> <li>Poor staging of works resulting in trade congestion and unsafe simultaneous operations in ceiling spaces and risers</li> <li>Inadequate planning for hazardous locations, SELV systems, emergency and essential services cabling</li> </ul>	4A	<ul style="list-style-type: none"> <li>Require complete and approved electrical design documentation, including single line diagrams, cable schedules and routing drawings, prior to commencement of rough-in activities</li> <li>Use multidisciplinary design coordination (e.g. BIM or coordinated services drawings) to identify clashes between cable ladder, tray, conduits and other services before installation</li> <li>Apply engineering calculations and manufacturer data to confirm cable ladder, tray and supports are adequately sized and rated for cable mass, grouping and future capacity</li> <li>Develop a documented electrical rough-in plan identifying primary and secondary routes, vertical risers, ceiling space pathways and wall/ceiling penetrations, including segregation from other services</li> <li>Integrate fire engineering requirements into the design of penetrations, fire sealing systems and pathway materials (e.g. metallic pathways, Pyrotex, fire-rated supports)</li> <li>Plan sequencing of works with the principal contractor so that cable hauling, tray installation and conduit works are staged to minimise congestion and work at height conflicts</li> <li>Include hazardous area classifications, SELV, emergency, security, communication and life-safety circuits in the planning process with specific routing and segregation requirements</li> <li>Incorporate manual handling and access requirements (e.g. lifting points for cable drums, space for EWP or scaffold, safe access to ceiling spaces) in the design and construction program</li> </ul>	2M

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	<ul style="list-style-type: none"> <li>Failure to consider manual handling, access and egress requirements at the design and planning stage</li> </ul>			
3. Procurement of Electrical Materials, Equipment and Components	<ul style="list-style-type: none"> <li>Use of non-compliant or counterfeit electrical products (cables, conduits, cable trays, junction boxes, SELV equipment)</li> <li>Procurement of cable ladders, trays, supports or fixings with inadequate load rating or corrosion resistance</li> <li>Incompatible fittings between metallic pathways, supports and building substrates leading to failures</li> <li>Insufficient specification of fire-rated cabling and supports for essential services and Pyrotex installations</li> <li>Purchase of electrical tools and test instruments that are not compliant or not suitable for the task</li> <li>Lack of traceability and certification of critical components (e.g. fire-stopping systems, hazardous area equipment)</li> </ul>	3H	<ul style="list-style-type: none"> <li>Develop and enforce a procurement standard requiring all electrical materials to comply with relevant Australian Standards and to be sourced from approved suppliers</li> <li>Specify product performance requirements (e.g. cable type, temperature rating, fire performance, UV resistance, mechanical protection) in purchase documentation</li> <li>Ensure all cable ladders, tray and support systems are selected based on engineering calculations and manufacturer load tables, including corrosion and environmental considerations</li> <li>Require documented evidence of conformity (CoCs, test reports, RCM/Regulatory compliance marks) for cable ladders, junction boxes, conduits, SELV equipment and metallic pathways</li> <li>Stand on tested and approved fire-stopping systems and ensure only compatible sealants, collars and barriers are provided for penetrations</li> <li>Include equipment for certified and calibrated electrical test instruments, insulated tools and lock-out devices in procurement processes</li> <li>Maintain a product approval register for electrical components, including any restrictions on use (e.g. not ceiling space, not underground, not in corrosive atmospheres)</li> </ul>	1L
4. Contractor, Subcontractor and Supplier Management	<ul style="list-style-type: none"> <li>Engagement of electricians or subcontractors without appropriate licences or competency for installation work</li> <li>Inadequate pre-qualification of cable hauling, conduit installation and fire-stopping subcontractors</li> <li>Poor control of multiple subcontractors working in the same ceiling spaces, risers or confined areas</li> <li>Lack of clarity on interfaces and responsibilities between builder, electrical contractor and specialist installers</li> <li>Insufficient oversight of off-site prefabrication (e.g. lighting looms, pre-wired conduits, junction boxes)</li> </ul>	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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	<ul style="list-style-type: none"> <li>Failure of suppliers to provide safety data, installation instructions or handling information for cables and conduits</li> </ul>		[REDACTED]	
5. Competency, Licensing, Training and Supervision	<ul style="list-style-type: none"> <li>Unlicensed or inadequately supervised workers performing electrical installation work</li> <li>Insufficient training in safe cable hauling, manual handling and ladder/tray installation techniques</li> <li>Lack of knowledge of electrical safety rules, isolation, testing and verification requirements</li> <li>Inadequate supervision of apprentices, new workers and labour hire personnel in ceiling spaces and risers</li> <li>Poor understanding of specific systems such as SELV circuits, Pyrotex, metallic pathways and earthing</li> <li>Failure to provide refresher training and standards, procedures or plant change</li> </ul>	4A	[REDACTED]	2M
6. Electrical Isolation, Testing and Energisation Management	<ul style="list-style-type: none"> <li>Uncontrolled energisation during rough-in and termination work</li> <li>Inadequate lock-out/tag-out procedures for temporary supplies, testing installations and new circuits</li> <li>Failure to test for dead prior to commencing work on electrical circuits or junction boxes</li> <li>Unclear labelling or documentation of circuits leading to inadvertent contact with energised conductors</li> <li>Inadequate testing and verification of new installations before energisation</li> <li>Poor management of temporary power, lighting and SELV systems used during construction</li> </ul>	4A	[REDACTED]	2M

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			[REDACTED]	
7. Work at Height, Ceiling Space and Access Management	<ul style="list-style-type: none"> <li>Falls from ladders, mobile scaffolds or EWPs during installation of cable tray, ladder, conduits and cable supports</li> <li>Falls through fragile ceiling materials or from ceiling spaces when accessing wiring routes</li> <li>Inadequate access platforms or temporary flooring for work above ceilings and in risers</li> <li>Poor control of tools and materials at height leading to dropped objects onto people below</li> <li>Restricted or obstructed access and egress in ceiling spaces, riser shafts and service tunnels</li> </ul>	4A	[REDACTED]	2M
8. Hazardous Environment and Ceiling Space Risk Management	<ul style="list-style-type: none"> <li>Exposure to heat, poor ventilation and potential asphyxiation risks in confined ceiling spaces and risers</li> <li>Contact with existing live wiring, damaged insulation or untested junction boxes in ceiling spaces</li> <li>Presence of vermin, contaminants, asbestos-containing materials or dust during conduit and cabling works</li> <li>Inadequate assessment of explosive or flammable atmospheres when installing conduits and cables in hazardous areas</li> <li>Undetected structural defects or overloaded building elements being used to support pathways or workers</li> </ul>	4A	[REDACTED]	2M

SAMPLE

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9. Manual Handling, Ergonomics and Material Handling Systems	<ul style="list-style-type: none"> <li>• Musculoskeletal injuries from handling cable drums, tray sections, conduits and junction boxes</li> <li>• Strains from pulling heavy cables through conduits, trays and walls without mechanical aids</li> <li>• Poor ergonomic design of workstations for splicing, junction box wiring and loom preparation</li> <li>• Inadequate material delivery, storage and lay-down planning causing double handling and awkward lifts</li> <li>• Use of makeshift lifting methods for cable drums and ladder sections</li> </ul>	3H	[REDACTED]	1L
10. Structural Integrity, Supports, Penetrations and Firestopping Systems	<ul style="list-style-type: none"> <li>• Overloading of building structure due to inadequately designed cable supports, trays and ladders</li> <li>• Improperly installed or unsupported conduits and cable ladders in walls, ceilings and risers</li> <li>• Uncontrolled penetrations through fire-rated elements compromising fire and smoke compartmentation</li> <li>• Use of incorrect or unapproved firestopping products around cable and conduit penetrations</li> <li>• Inadequate support systems for Pyrotech and other essential services cables, leading to failure during fire</li> <li>• Uncoordinated drilling, cutting or coring causing damage to structural members, existing services or reinforcement</li> </ul>	4A	[REDACTED]	2M
11. Underground, In-Slab and In-Wall	<ul style="list-style-type: none"> <li>• Damage to underground services during trenching or conduit installation in ground</li> </ul>	3H	[REDACTED]	1L

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Conduit and Cable Installation Systems	<ul style="list-style-type: none"> <li>• Incorrect depth, marking or protection of in-ground conduits and cables</li> <li>• Improper placement or securing of conduits cast in concrete slabs, leading to damage during pour or later cutting</li> <li>• Lack of service location records for in-slab and in-wall conduits and junction boxes</li> <li>• Water ingress, corrosion or mechanical damage to underground and in-slab conduits over time</li> </ul>		[REDACTED]	
12. Temporary Works, Site Power, Lighting and Interfaces with Existing Installations	<ul style="list-style-type: none"> <li>• Inadequate temporary lighting leading to slips, trips and errors in cabling and terminations</li> <li>• Improper use of temporary power systems, portable outlets and extension leads during rough-in</li> <li>• Cross-connection between temporary and permanent wiring causing confusion and shock risk</li> <li>• Poor management of changeover from temporary to permanent power and lighting installations</li> <li>• Uncontrolled interaction with existing building electrical systems during refurbishment or fit-out</li> </ul>	3H	[REDACTED]	1L
13. Quality Assurance, Inspection, Testing and Documentation Systems	<ul style="list-style-type: none"> <li>• Defective or non-compliant installations not detected before energisation</li> <li>• Inadequate test, inspection and sign-off processes for cabling, conduits, junction boxes and terminations</li> </ul>	3H	[REDACTED]	1L

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	<ul style="list-style-type: none"> <li>• Missing or inaccurate as-built documentation for wiring systems, SELV circuits and pathways</li> <li>• Failure to record and track corrective actions from inspections and audits</li> <li>• Inconsistent labelling and identification of circuits, cables and junction boxes compromising future maintenance safety</li> </ul>		[REDACTED]	
14. Emergency Preparedness, Incident Management and First Aid	<ul style="list-style-type: none"> <li>• Delayed response to electric shock, flash or fire incidents during cabling and conduit works</li> <li>• Workers not knowing emergency procedures for ceiling spaces, risers or underground work</li> <li>• Inadequate first aid response and training for electrical injuries and crush/trauma incidents</li> <li>• Poor reporting and investigation of near misses and incidents involving electrical installations</li> </ul>	3H	[REDACTED]	1L
15. Change Management, Variations and Site Configuration Control	<ul style="list-style-type: none"> <li>• Uncontrolled design or scope changes leading to ad-hoc cable routes and unsupported conduits</li> <li>• Removal or relocation of cable ladders, trays and junction boxes without reassessment of risks</li> </ul>	3H	[REDACTED]	1L

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	<ul style="list-style-type: none"> <li>• Changes to building layout, penetrations or fire strategy not reflected in electrical installation plans</li> <li>• Introduction of new equipment or systems (e.g. additional SELV, ICT, security) without considering capacity and segregation</li> <li>• Confusion over latest revisions of drawings, specifications and installation instructions</li> </ul>		<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	
16. Handover, Commissioning and Post-Construction Safety	<ul style="list-style-type: none"> <li>• Incomplete or inaccurate handover information leading to unsafe maintenance or future modifications</li> <li>• Failure to communicate residual risks associated with hidden conduits, junction boxes and cable routes</li> <li>• Inadequate commissioning tests prior to occupancy or operational use</li> <li>• Poor integration of new electrical installations with existing building management, fire and security systems</li> </ul>	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	1L

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.