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# Site SWMS & Risk Assessments

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<b>QR Code</b>	WWE-432698
<b>Principal Contractor</b>	KGT Group
<b>Date Provided to PC</b>	13/03/2024
<b>Revision Due</b>	13/03/2025
<b>Project</b>	Supply and Connect Electrical Network to Optus Shelter
<b>Construction Site Location / Address</b>	36382 Bruce Hwy Alligator Creek QLD 4816
<b>Person Responsible for implementing SWMS onsite</b>	James Berryman (07) 4775 7479
<b>After Hours Contact</b>	James Berryman 0401 279 997

## Purpose

The purpose of this document is to clearly identify the Hazards and Risks associated in both the high-risk work activities as well as the general construction site tasks. This SWMS must be kept and be available for inspection until the high-risk construction work to which the SWMS relates is completed. If the SWMS is revised, all versions should be kept. If a notifiable incident occurs in relation to the high-risk construction work in this SWMS, the SWMS must be kept for at least 2 years from the date of the notifiable incident.

## Evaluation

Evaluation of process effectiveness is carried out using internal audits and site safety inspections. This document in its entirety is relevant between the stated review dates, unless it has been identified that controls are potentially not effective, changes to the workplace has introduced new task(s), hazard(s)/risk(s) or in the event of a notifiable incident then SWMS will be reviewed and, if necessary, revised. Ultimately everyone is responsible for ensuring their duties are upheld with regards to safety in the workplace.

At the end of the SWMS there is a provision to add to or amend the SWMS, if these are used workers must notify James Berryman as soon as practical to ensure the changes are implemented. Once the SWMS are amended and controls are acceptable for the specified hazards all workers must re-sign onto the SWMS to ensure they are made aware of the changes.

## Doc Control Details

<b>PCBU Name:</b>	<b>Wentworth Electrical Pty Ltd</b>	<b>ABN:</b>	<b>66 897 448 203</b>	
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# Table of Contents

Site SWMS & Risk Assessments .....	1
<b>Doc Control Details .....</b>	<b>2</b>
1 Definitions: .....	4
High Risk Work (As defined by WH&S Qld): .....	4
2 Legislation that relates to this Safe Work Method Statement .....	4
3 PPE Requirements .....	5
4 Qualifications, Training Requirements .....	5
5 Hierarchy of Control Measures.....	5
6 Parties responsible for implementation of Controls .....	6
7 Risk Calculator .....	6
<b>Appendix B - Risk Calculator .....</b>	<b>6</b>
8 Workers Sign on and Consultation of SWMS.....	7
<b>High Risk Work Activity: 11. Electricity.....</b>	<b>8</b>
11C. Electrical - Installation of Wiring and Fittings.....	8
11E. Electrical - Installing Mains Board.....	13
11F. Electrical - Installing Temp Site Power .....	15
11I. Electrical - Working Around Underground Services .....	16
<b>High Risk Work Activity: 15. Mobile Plant .....</b>	<b>18</b>
15BA. Mobile Plant - Driving Work Vehicles Onsite .....	18
15BB. Working Near Onsite Mobile Plant.....	18
Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities .....	20
<b>Ladders – Under 2m .....</b>	<b>20</b>
<b>Manual Handling.....</b>	<b>20</b>
<b>Use of Hand and Power Tools .....</b>	<b>21</b>
<b>Working in Hot/ Humid Environments (Excess 30°or +60% Humidity).....</b>	<b>23</b>
<b>End of Shift .....</b>	<b>24</b>
Site Risk Assessments – Additional Tasks or Activities to be Added .....	25
<b>Additional Tasks to Add to Job.....</b>	<b>25</b>

## 1 Definitions:

### High Risk Work (As defined by WH&S Qld):

Work carried out at a workplace deemed as high risk by WH&S Regulation 2011 (s291):

1. involves a risk of a person falling more than 2m; or
2. is carried out on a telecommunication tower; or
3. involves demolition of an element of a structure that is load bearing or otherwise related to the physical integrity of the structure; or
4. involves, or is likely to involve, the disturbance of asbestos; or
5. involves structural alterations or repairs that require temporary support to prevent collapse; or
6. is carried out in or near a confined space; or
7. is carried out in or nearby—
  - (i) a shaft or trench with an excavated depth greater than 1.5m; or
  - (ii) a tunnel; or
8. involves the use of explosives; or
9. is carried out on or near pressurised gas distribution mains or piping; or
10. is carried out on or near chemical, fuel, or refrigerant lines; or
11. is carried out on or near energised electrical installations or services; or
12. is carried out in an area that may have a contaminated or flammable atmosphere; or
13. involves tilt-up or precast concrete; or
14. is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians; or
15. is carried out in an area at a workplace in which there is any movement of powered mobile plant; or
16. is carried out in an area in which there are artificial extremes of temperature; or
17. is carried out in or near water or other liquid that involves a risk of drowning; or
18. involves diving work.

## 2 Legislation that relates to this Safe Work Method Statement

### Legislation

- Work Health and Safety Act 2011
- Work Health and Safety Regulation 2011
- Electrical safety Act 2002
- Electrical Safety Regulation 2013

### Current Codes of Practice – relevant to the task undertaken

<https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice>

- How to Manage Work Health and Safety Risks Code of Practice 2021
- Hazardous Manual Tasks Code of Practice 2021
- Managing Electrical Risks in the Workplace Code of Practice 2021
- Managing Risks of Plant in the Workplace Code of Practice 2021
- Managing the Risk of Falls at Workplaces Code of Practice 2021
- Work Health and Safety Consultation, Co-operation and Co-ordination Code of Practice 2021
- Working Near Overhead and Underground Electric Lines – Electrical Safety Code of Practice 2020

### 3 PPE Requirements

PPE Requirements will be listed at the beginning of each activity with the recommended requirements using the below Pictograms:



**Safety Glasses** Medium Impact (Clear indoor use and tinted outdoor use.)



**Safety footwear** with a steel cap toe or composite toe.



**Safety Gloves** suitable for the task.



**Ear Protection** either Plugs or Muffs suitable to the task.



**Hard Hat** for all work where there is work overhead.



**Hi Visibility Clothing**, Reflective Tape is only recommended at nighttime.



**Respiratory Protection (RPE)**, specific to the task & as shown on fit test certificate



**Protective Clothing**, long sleeves and long pants



**Clear High impact visor**



**Wide brim hat** or ring worn over Hard Hats.



**Height Safety PPE** specific to the task

### 4 Qualifications, Training Requirements

QBCC Licence – Electrical Contractor

Apprentice Training, if applicable

Industry White Card(s)

Supervision from James Berryman

Spotter for mobile plant, as required. Competently trained for the type of machinery with a full understanding of the tasks being conducted.

### 5 Hierarchy of Control Measures

Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Eliminate the Hazard</li> </ul>	<ul style="list-style-type: none"> <li>Substitute the Hazard</li> <li>Isolate the Hazard</li> <li>Engineer the Hazard out</li> </ul>	<ul style="list-style-type: none"> <li>Administration Controls</li> <li>PPE</li> </ul>

## 6 Parties responsible for implementation of Controls



Supervisor



Worker



Operator



Engineer



Management



Spotter

## 7 Risk Calculator

HOW TO USE THIS RISK TABLE	Appendix B - Risk Calculator					
	RISK RATING CALCULATOR	Likelihood				
<b>Step 1:</b> Identify potential hazards.	<b>Consequence</b> What injury/damage could it cause?	<b>Rare - 3</b> Could only happen once in 25 years	<b>Unlikely - 2</b> Could happen, once in 5 years	<b>Possible - 1</b> Could happen each year	<b>Likely - 0</b> Could Happen more than once a year	<b>Almost Certain - 0</b> Could happen anytime
<b>Step 2:</b> Decide what a possible <b>Consequence</b> could be.	<b>Catastrophic - 0</b> Multiple Fatalities	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>
	<b>Major - 0</b> Death or serious disability	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>Step 3:</b> Decide <b>How Likely?</b> it is to happen	<b>Moderate - 1</b> Long term illness or serious injury	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>
<b>Step 4:</b> Line up your choices in the table to get a number	<b>Minor - 2</b> Medical attention & several days off work	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>2</b>
<b>Step 5:</b> Use the Priority table to the right.	<b>Insignificant - 3</b> First aid needed	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>3</b>

Risk Rating
0, 1 or 2
3
4, 5, 6

Prioritisation
Action to rectify must be done immediately before work may commence
Consider control measure as necessary and implement further controls to reduce risk
Continue to use correct controls selected and maintain communication

## 8 Workers Sign on and Consultation of SWMS

By signing the below I:

- Acknowledge that I have had input into the development of the SWMS or have had opportunity to comment on the content
- Understand and agree to abide by all of the requirements stated within the SWMS
- Have appropriate certification, licences and/or training to competently undertake the task or, where permitted, will be directly supervised by persons with appropriate level of certification, licensing, training and competence
- Understand that where task changes or the controls stated are ineffective, that I will immediately notify my supervisor and cease work till the controls are modified and I re-sign an updated SWMS

First & Last Name:	Signature:	Date:

**High Risk Work Activity: 11. Electricity**

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
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**11C. Electrical - Installation of Wiring and Fittings**

<b>PPE Recommended</b>		<b>Persons responsible for maintaining controls</b>	
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Accessing roof space to undertake works when power is live to the house	Hazard: Electric shock <b>Risk: Electrocution</b>	<b>1</b>	<ul style="list-style-type: none"> <li>For isolation process Refer to 11A Prior to Work – Isolation</li> <li><b>Prior to Accessing the Roof Space:</b> <ul style="list-style-type: none"> <li>Before starting any work, turn off all electricity to the property at the main switchboard (must be undertaken competent &amp; licenced electrician) and take steps to prevent the electricity from being turned back on while work is in progress (tag/lock-out).</li> </ul> </li> <li><b>Accessing Roof Space:</b> <ul style="list-style-type: none"> <li>Be aware that heat and humidity may cause heat stress, so make sure fluid intake is sufficient to ensure you do not become dehydrated. Avoid accessing roof space in hot weather conditions (early morning starts better on high temperature days).</li> <li>Take additional lighting (e.g., torch) with you as the lighting is generally poor in ceiling spaces.</li> <li>Take care accessing and traversing the work area, avoiding tripping over debris, material, and the ceiling trusses.</li> <li>Step carefully on ceiling joists or other beams – not the ceiling material (i.e., Gyprock sheeting). To avoid risk of falling or injury maintain three points of contact (foot on each truss and hand on girder).</li> <li>Be aware of the location of electrical cables, fittings and equipment and avoiding contact with them. Solar hot water piping can be very hot if not covered by the insulation.</li> <li>If the roof space is dusty wear a P2 dust mask.</li> </ul> </li> </ul>	<b>4</b>
Cable and ladder tray installation	Hazard: Exposed nails manual handling <b>Risk: Personal injury</b>	<b>2</b>	<ul style="list-style-type: none"> <li>Check layout and mark out</li> <li>Secure fixings and supports using correct size bolts and fixings</li> <li>Cut ladders or trays to fit using drop saw or 100mm angle grinder with guard attached</li> <li>Secure ladders or trays to support</li> <li>Ensure area walkways are clear</li> <li>Remove sharp edges and protruding fixings.</li> </ul>	<b>5</b>
Installing light fittings	Hazard: Falling objects, manual handling,	<b>1</b>	<ul style="list-style-type: none"> <li>For isolation process Refer to 11A Prior to Work – Isolation</li> <li>Check layout and mark out</li> <li>Receive lights on site and confirm correct numbers and types</li> </ul>	<b>4</b>






High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
	electricity, working at heights <b>Risk:</b> <b>Personal injury</b>		<ul style="list-style-type: none"> <li>• Confirm cabling requirements</li> <li>• Install light fitting base or bracket and terminate cabling or plug into lighting socket</li> <li>• Complete the fitting of any other parts</li> <li>• Confirm fitting is secure and installed to specifications</li> <li>• Test and confirm cables before commencing work. Isolate and fit danger tags as appropriate</li> <li>• Ensure power tools (if applicable) and leads are tagged.</li> </ul>	
Installation of Switch boards	Hazard: Falling objects, manual handling, electric shock, explosion <b>Risk:</b> <b>Personal injury</b>	1	<ul style="list-style-type: none"> <li>• For isolation process Refer to 11A Prior to Work – Isolation</li> <li>• Confirm installation specifications</li> <li>• Prepare installation area and confirm adequate space including door swing for maintenance</li> <li>• Arrange for crane or other mechanical handling equipment if needed</li> <li>• Receive switchboard on site including test certificates</li> <li>• Transfer switchboards to installation location</li> <li>• Mark out location ensuring coordination with other services</li> <li>• Install switchboard to manufactures and client’s specifications</li> <li>• Commission switchboard.</li> </ul>	4
Installation of pyrotenax (mims) cable	Hazard: Exposed nails, working at height, sharp edges <b>Risk:</b> <b>Personal injury</b>	1	<ul style="list-style-type: none"> <li>• Check location to drawing and specification layout and mark out</li> <li>• Confirm cable specification and condition</li> <li>• Confirm cable supports on conduits have been installed to specifications</li> <li>• Install rollers or other protection to client’s specifications</li> <li>• Install cable stands to client’s specifications</li> <li>• Install cable manually with rope or winch as appropriate to client’s specification</li> <li>• Cut any excess cable and seal exposed ends to manufacturer’s recommendations</li> <li>• Locate/dress cable to fix in position to client’s specification.</li> </ul>	4
Installation of lighting looms	Hazard: Falling object, sharp edges, electricity, unstable ladders <b>Risk:</b> <b>Personal injury</b>	1	<ul style="list-style-type: none"> <li>• For isolation process Refer to 11A Prior to Work – Isolation</li> <li>• Check drawings to confirm loom locations and specifications</li> <li>• Receive cable and sockets bases on site and confirm correct types, sizes, and numbers</li> <li>• Construct lighting looms to client’s specifications</li> <li>• Label each loom with distribution board and circuit number</li> <li>• Install looms to client’s specifications</li> <li>• Confirm socket locations and fixings to client’s specification</li> </ul>	4

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			<ul style="list-style-type: none"> <li>Install circuit feeds and switch wires to client's specifications.</li> </ul>	
Installation of cable supports	Hazard: Falling object, sharp edges, electricity, unstable ladders Risk: <b>Personal injury</b>	1	<ul style="list-style-type: none"> <li>For isolation process Refer to 11A Prior to Work – Isolation</li> <li>Check location to drawing and specifications</li> <li>Receive cable supports on site confirming correct type, size, and number.</li> <li>Mark out route of cable supports to specifications confirming clearance of other services</li> <li>Install supports, as necessary, to client's specifications and using correct size bolts</li> <li>Confirm tightness of fixings</li> <li>Install cable supports.</li> </ul>	5
Installation of mains power	Hazard: Electricity, explosion, incorrect isolation Risk: <b>Personal injury</b>	1	<ul style="list-style-type: none"> <li><b>Must be undertaken by a competent &amp; licenced electrician</b></li> <li>Liaise with Supply Authority to coordinate to supply</li> <li>Obtain Supply Authority Certificates and check drawings</li> <li>Coordinate shutdowns with client</li> <li>For isolation process Refer to 11A Prior to Work – Isolation</li> <li>Receive mains on site</li> <li>Shut down and install 'DANGER TAGS'</li> <li>Remove existing mains terminations if applicable</li> <li>Install mains to specifications</li> <li>Terminate new mains to specifications</li> <li>Confirm DEAD and identify cables before commencing work</li> <li>Wear suitable gloves</li> <li>Confirm installation to drawings and specifications and ensure connections are tight</li> <li>Clean area</li> <li>Test installation</li> <li>Liaise with Supply Authority for inspection and test</li> <li>Remove 'DANGER TAGS' / locks (each person removes their danger tag and/or lock)</li> <li>Energise supply</li> <li>Install signs or labels as required.</li> </ul>	4
Installation of switchboard connections	Hazard: Falling objects, manual handling,	1	<ul style="list-style-type: none"> <li><b>Must be undertaken by a competent &amp; licenced electrician</b></li> <li>Confirm switchboard meets Australian Standards and has been installed to specifications</li> <li>Confirm cables to be connected meet specifications and all cables have been installed. Check any specific requirements have been met</li> </ul>	5

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
	electric shock, explosion <b>Risk:</b> <b>Personal injury</b>		<ul style="list-style-type: none"> <li>For isolation process Refer to 11A Prior to Work – Isolation</li> <li>Group cables together as they enter switchboard and fix with cable ties</li> <li>Separate cables into groups of like destination. Seal or plug any unused cable entries</li> <li>Mark each conductor prior to removing any secondary insulation</li> <li>Group conductors of like destinations and fix into a loom system</li> <li>Align and terminate each conductor into its correct location</li> <li>Check and tighten all terminations and connections</li> <li>Confirm installations meet specifications</li> <li>Install labels, signs or markings as required</li> <li>Clean switchboard</li> <li>Confirm all circuits have been completed and DANGER TAG any incomplete circuits</li> <li>Test and commission switchboard using relevant procedures. Confirm phase rotation of all 3-phase equipment</li> <li>Complete records.</li> </ul>	
Installation of new work in existing switchboards	Hazard: Electricity, explosion, incorrect isolation <b>Risk:</b> <b>Personal injury</b>	1	<ul style="list-style-type: none"> <li><b>Must be undertaken by a competent &amp; licenced electrician</b></li> <li>Check drawings and specifications</li> <li>For isolation process Refer to 11A Prior to Work – Isolation</li> <li>Arrange isolation of section of, or complete switchboard with client</li> <li>Isolate section of, or complete switchboard, install insulating barriers</li> <li>Fit 'DANGER TAGS' to isolation devices</li> <li>Test that works area has been safely isolated</li> <li>Complete installations to client's specification</li> <li>Check and tighten all terminations and connections</li> <li>Confirm installation to client's specifications</li> <li>Fit 'DANGER TAGS' to any incomplete work</li> <li>Install labels, signs or markings as required</li> <li>Clean work area</li> <li>Test and commission new installation following relevant procedures. Confirm phase rotation of all 3-phase equipment</li> <li>Complete records.</li> </ul>	4
Installation of sub-mains	Hazard: Electricity explosion	1	<ul style="list-style-type: none"> <li><b>Must be undertaken by a competent &amp; licenced electrician</b></li> <li>For isolation process Refer to 11A Prior to Work – Isolation</li> <li>Check location to drawings and specification layout and mark out</li> </ul>	4

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
	incorrect isolation <b>Risk:</b> <b>Personal injury</b>		<ul style="list-style-type: none"> <li>Plan installation to work towards the main switchboard</li> <li>Confirm cable specifications and condition</li> <li>Install cable to client's specifications</li> <li>Terminate sub mains to specifications</li> <li>Clean area</li> <li>Test installation</li> <li>Remove 'DANGER TAGS'</li> <li>Energise main switchboard</li> <li>Install signs or labels are required.</li> </ul>	
Installation of power and light cabling	Hazard: Falling objects, manual handling electric shock, explosion <b>Risk:</b> <b>Personal injury</b>	1	<ul style="list-style-type: none"> <li><b>Must be undertaken by a competent &amp; licenced electrician</b></li> <li>For isolation process Refer to 11A Prior to Work – Isolation.</li> <li>Check location to drawings and specification layout and mark out.</li> <li>Plan installation to work towards the main switchboard.</li> <li>Confirm cable specifications and condition.</li> <li>Install cable to client's specifications.</li> <li>Terminate submains to specifications.</li> <li>Clean area.</li> <li>Test installation.</li> <li>Remove 'DANGER TAGS' (each person removes their danger tag and/or lock).</li> <li>Energise main switchboard.</li> <li>Install signs or labels are required.</li> </ul>	4
Installation of power points	Hazard: Electric shock, manual handling <b>Risk:</b> <b>Personal injury</b>	2	<ul style="list-style-type: none"> <li><b>Must be undertaken by a competent &amp; licenced electrician</b></li> <li>Check layout to drawings and specifications and confirm with client.</li> <li>Check walls, cavities and ceilings for other services and confirm location of any water pipes, gas lines, power, or telephone cables.</li> <li>Check equipment is tagged.</li> <li>Fit power point mounting brackets as required.</li> <li>Tape or insulate ends of new cable to prevent electrical contact.</li> <li>Run cables.</li> <li>Connect power points.</li> <li>Confirm fittings are secure and installed to specifications.</li> </ul>	4



High Risk Work Activity: 11. Electricity					
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk	
			<ul style="list-style-type: none"> <li>Clear area and remove Isolation or 'DANGER TAGS' (each person removes their danger tag and/or lock).</li> </ul>		
11E. Electrical - Installing Mains Board					
PPE Recommended		 	Persons responsible for maintaining controls		 SUPERVISOR
Work area preparation	Hazard: Set up, untidy work area, non-competent workers Risk: <b>Personal injury</b>	4	<ul style="list-style-type: none"> <li><b>Must be undertaken by a competent &amp; licenced electrician.</b></li> <li>Authority and empowerment to Stop the Job.</li> <li>Follow all site rules and procedures.</li> <li>Ensure correct manual handling techniques are followed.</li> <li>Wear all mandatory PPE and task specific PPE.</li> <li>Communicate task clearly with all work crew members. Ensure a thorough understanding of expectations.</li> <li>If a hazard is identified in the work area – fix it immediately or if unable to do so, isolate the hazard and inform you supervisor.</li> <li>Work on flat surface where practicable</li> <li>Secure all tools and/or equipment by lanyard or store in a toolbox/basket when on the work platform.</li> </ul>	6	
Obtain Supply Authority Certificates and check drawings.	Hazard: Non-competent workers Risk: <b>Damage to work area, electrocution</b>	3	<ul style="list-style-type: none"> <li>Ensure all latest revision plans, diagrams etc. are on site.</li> <li>Ensure plans and diagrams are reviewed by entire work crew prior to work commencing.</li> </ul>	4	
Coordinate shutdown and isolations followed by installation of DANGER Tags	Hazard: Non-competent workers Risk: <b>Damage to work area, electrocution</b>	3	<ul style="list-style-type: none"> <li>Confirm <b>Not Live</b></li> <li>Obtain work approval and confirm any client site/safety instruction.</li> <li>Check scope of works to confirm whether work be re-scheduled so it may be isolated.</li> <li>Confirm with client that works meet the requirements regarding work on energised equipment and apparatus and the risk of harm would be greater if the circuits were de-energised before work commenced.</li> <li>Confirm that person/s carrying out the work are appropriately qualified, competent, confident, and trained for the task.</li> </ul>	4	
Remove existing mains	Hazard:	2	<ul style="list-style-type: none"> <li><b>Must be undertaken by a competent &amp; licenced electrician.</b></li> </ul>	4	

High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
terminations if applicable	Non-competent workers <b>Risk:</b> <b>Damage to work area, electrocution</b>		<ul style="list-style-type: none"> <li>Identify the electrical equipment to be worked on and the appropriate points of supply.</li> <li>Isolate the equipment from sources of supply, if possible.</li> <li>Secure the isolation by such means as lock-out to prevent inadvertent re-energisation and attached a danger tag. For isolation process Refer to 11A Prior to Work - Isolation.</li> <li>Prove that the exposed conductors are de-energised (i.e., 'test for dead').</li> <li>Working persons shall confirm rescue procedures and have attended LVR training.</li> </ul>	
Confirm installation to drawings and specifications and ensure connections are tight	Hazard: Non-competent workers, sharp edges, manual handling <b>Risk:</b> <b>Damage to work area, personal injury</b>	4	<ul style="list-style-type: none"> <li>Confirm <b>Not Live</b>.</li> <li>Ensure appropriate test equipment is being used.</li> <li>Appropriate tools for the job are available.</li> <li>Ensure all appropriate barricading is in place to isolate the area.</li> <li>Working kits are used and maintained, and first check operation of test apparatus.</li> <li>Visual inspection shall include: <ul style="list-style-type: none"> <li>Basic protection (protection against direct contact with live parts).</li> <li>Fault protection (protection against indirect contact with exposed conductive parts).</li> <li>Protection against hazardous parts (guarding/screening).</li> <li>Protection against spread of fire (fire blanket / fire extinguisher).</li> <li>General condition of equipment.</li> </ul> </li> <li>Ensure the busbar has been covered appropriately and that all blanks have been re-inserted.</li> </ul>	5
Liaise with Supply Authority for inspection and test	Hazard: Non-competent workers <b>Risk:</b> <b>Damage to work area, electrocution</b>	2	<ul style="list-style-type: none"> <li>Obtain work approval and confirm any client site/safety instruction.</li> <li>Check scope of works to confirm isolations are in place prior to test commencing.</li> <li>Confirm with client that the work meets the requirements regarding work on energised equipment.</li> <li>Confirm that person/s carrying out the work are appropriately qualified, competent, and trained for the task.</li> </ul>	4
Remove DANGER Tags and Energise supply	Hazard: Non-competent workers <b>Risk:</b> <b>Damage to work area, electrocution</b>	2	<ul style="list-style-type: none"> <li>Obtain work approval and confirm any client site/safety instruction.</li> <li>Confirm with client that works meet the requirements regarding work on energised equipment and</li> <li>Sequence the energising and test &amp; check, by sections (e.g., polarity).</li> <li>Confirm operational and safe prior to handover.</li> <li>Complete Certificate of Electrical Safety and other paperwork. Provide relevant paperwork to client and submit to authorities, as required.</li> </ul>	4

**High Risk Work Activity: 11. Electricity**

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			<ul style="list-style-type: none"> <li>Locks and Danger Tags to be removed by person who placed and signed tag.</li> </ul>	

**11F. Electrical - Installing Temp Site Power**

PPE Recommended		Persons responsible for maintaining controls	
			
Installing Temp Site power to Power Pole or secure stand.	Hazard: Non-competent workers  Risk: <b>Damage to work area, electrocution</b>	<b>1</b>	<ul style="list-style-type: none"> <li><b>Must be undertaken by a competent &amp; licenced electrician.</b></li> <li>Choose a suitable area for Temporary Main Power to be located. (Liaise with Site Authority or Supervisor).</li> <li>Once a suitable location has been selected ensure the area is clean and ready with no housekeeping issues.</li> <li>If the Mains power Board is to be installed onto a stand the structure must be secured so that it cannot be tipped over. Bolted to the ground or to a suitable base (e.g., large timber pallet in good condition).</li> <li>Once the above has been completed then:                             <ul style="list-style-type: none"> <li>Coordinate shutdown and isolations (for isolation process Refer to 11A Prior to Work – Isolation) followed by installation of DANGER Tags.</li> <li>Confirm cables to be connected meet specifications and all cables have been installed.</li> </ul> </li> <li>Cabling:                             <ul style="list-style-type: none"> <li>Group cables together as they enter switchboard and fix with cable ties.</li> <li>Separate cables into groups of like destination. Seal or plug any unused cable entries.</li> </ul> </li> <li>Conductors:                             <ul style="list-style-type: none"> <li>Mark each conductor prior to removing any secondary insulation.</li> <li>Group conductors of like destinations and fix into a loom system.</li> <li>Align and terminate each conductor into its correct location.</li> </ul> </li> <li>Check and tighten all terminations and connections.</li> <li>Confirm installations to manufacturers and client’s specifications.</li> <li>Clean switchboard.</li> <li>Confirm all circuits have been completed and DANGER Tag any incomplete circuits.</li> <li>Test and commission switchboard. Confirm phase rotation of all 3-phase equipment.</li> <li>Install signs or labels as required.</li> <li>Complete appropriate documentation (switchboard schedules, update drawings and workbook).</li> </ul>
		<b>4</b>	

**High Risk Work Activity: 11. Electricity**

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
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**11I. Electrical - Working Around Underground Services**

<b>PPE Recommended</b>		<b>Persons responsible for maintaining controls</b>	
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Establish and complete excavation permit	<p>Hazard: Incorrect information identified Incorrect scope of works</p> <p>Risk: <b>Damage of services</b> <b>Death or serious injury</b></p>	1	<ul style="list-style-type: none"> <li>• Do not dig unless necessary</li> <li>• All reasonable steps will be taken to obtain current underground essential services information about any of the areas requiring excavation before directing or allowing the excavation work to commence</li> <li>• Contact Dial Before You Dig to request information about the infrastructure networks at the planned project site                             <ul style="list-style-type: none"> <li>○ Online via the Dial Before You Dig website <a href="http://www.1100.com.au">www.1100.com.au</a></li> <li>○ Mobile website or iPhone app</li> <li>○ By phone call 1100 (toll free, during business hours)</li> </ul> </li> <li>• Use water pressure excavation over machines or shovels</li> <li>• Never drive star pickets in without knowledge of what is below</li> <li>• Plans to be attached to excavation permit if required</li> <li>• Obtain all relevant services plans by calling Dial before you Dig (1100). Allow 2 working days for plans</li> <li>• Examine Plans and assess all possible impacts on the services assets</li> <li>• Book appointment for certified locator to meet on site</li> <li>• Examples of services to consider:                             <ul style="list-style-type: none"> <li>○ Oil, Gas, Water, Sewage, Electrical, Stormwater, Traffic Signals &amp; Telecommunications</li> <li>○ All existing services to be potholed and marked for future reference</li> <li>○ Ensure all overhead services such as powerlines have been identified</li> </ul> </li> <li>• Select the appropriate machinery to use around services</li> </ul>	4
High voltage underground cables and sub-stations	<p>Hazard: Contact with electrical cable</p> <p>Risk: <b>Electrocution</b> <b>Fire</b></p>	1	<ul style="list-style-type: none"> <li>• Underground High Voltage Cables &amp; Sub-Station:                             <ul style="list-style-type: none"> <li>○ Most 'green field' work sites will not have underground services located on them. However, some sites which are located near electrical sub-stations or 'keys' do have areas which are covered by an exclusion zone which restrict excavation</li> <li>○ On any site where a sub-station or 'kiosk' is located on the block or a neighboring block determine where the power cables from the sub-station are running. This can be achieved by contacting Dial Before You Dig</li> <li>○ If excavation work is to occur within the exclusion zone, then a permit needs to be obtained from the relevant power authority. This permit to work needs to be communicated with the relevant trades and all trades need to review and abide by the permit prior to commencing works. To obtain written Safety Advice where it has been</li> </ul> </li> </ul>	4







High Risk Work Activity: 11. Electricity				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			<p>identified as being required, complete and submit or return by email the applicable Safety Advice Request Form which is accessible via the electricity entity website:  <a href="https://www.ergon.com.au/network/safety/business-safety/the-outdoor-workplace/working-near-powerlines">https://www.ergon.com.au/network/safety/business-safety/the-outdoor-workplace/working-near-powerlines</a></p> <ul style="list-style-type: none"> <li>In some cases, it may be necessary to hand dig to identify the location of the cable and/or the protective covering.</li> </ul>	
Excavations and digging near underground power	<p>Hazard: Contact with electrical cable  <b>Risk: Electrocution</b></p>	1	<ul style="list-style-type: none"> <li>Trades to inspect site plans prior to the commencement of digging</li> <li>Contact dial before you dig prior to undertaking excavation works on the nature strip and common areas of the site. Dial before you dig will only be able to identify power cables of the electrical distributor asset owner and are to be considered as a guide only</li> <li>Plans outlining the location of the underground power lines within residential construction site can be found in the meter box once installed</li> <li>Where underground power lines within a site cannot be identified the services of a cable locator will need to be engaged</li> <li>Prior to the commencement of any digging examine these plans &amp; determine if the intended excavation will impact these underground lines</li> <li>Work can occur near live power lines if the powered mobile plant is 500mm from the underground power lines. Work in closer proximity should be undertaken via hand digging around the power lines if the cabling is live</li> <li>The location of underground power cables also has warning tape installed mid-way between the cable and the surface. If discovered the trade should cease all operations &amp; contact is to be made with the site Supervisor</li> </ul>	4
Installing electrical conduit	<p>Hazard: Contact with electrical cable  <b>Risk: Electrocution</b></p>	1	<ul style="list-style-type: none"> <li>Electrical companies installing electrical conduit must post a plan showing the location of underground cabling in the meter box of the site &amp; identify distances to the underground conduit</li> <li>Electrical companies are required to install warning tape at approximately mid-way between the underground conduit and ground surface</li> <li>It is a requirement that the cable does not pass underneath the proposed location of the concrete slab. If site condition prevents this from occurring, contact must be made with the supervisor</li> </ul>	4

High Risk Work Activity: 15. Mobile Plant				
Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
<b>15BA. Mobile Plant - Driving Work Vehicles Onsite</b>				
<b>PPE Recommended</b>				<b>Persons responsible for maintaining controls</b> 
Driving work vehicles onto site	Hazard: Traffic <b>Risk: Uncontrolled contact between vehicles and people</b>	<b>1</b>	<ul style="list-style-type: none"> <li>• Driver is responsible for conducting prestart vehicle checks</li> <li>• Only licensed drivers are permitted to drive vehicles</li> <li>• Always drive according to road and weather conditions</li> <li>• Driver to be aware of site instructions and any specific hazards/risks that may be relevant</li> <li>• Flashing lights are always used on mobile plant and vehicles</li> <li>• Adherence to site safety plan, exclusion zones, communication, consultation.</li> <li>• Follow the site safety plan relating to traffic control safety</li> <li>• Increase awareness of pedestrians if works are adjacent to the existing footpath</li> <li>• All pedestrians to be diverted around work area</li> </ul>	<b>5</b>
<b>15BB. Working Near Onsite Mobile Plant</b>				
<b>PPE Recommended</b>				<b>Persons responsible for maintaining controls</b> 
Working near onsite mobile plant. (Under or beside)	Hazard: Road traffic <b>Risk: Contact between persons and vehicles</b>	<b>2</b>	<ul style="list-style-type: none"> <li>• When establishing work areas consider mobile plant onsite has right of way</li> <li>• All personnel to have undergone site specific familiarisation</li> <li>• Erect any barriers &amp; signage necessary to keep others safe and aware of the work being undertaken</li> <li>• Designated pedestrian routes to be established where required</li> <li>• Personnel not to enter the swing zone of equipment without positive communications with operator</li> <li>• Restrict access to work area. Ensure:               <ul style="list-style-type: none"> <li>○ Exclusion zones surrounding work area using barricades and signage is in place</li> <li>○ Any other workers within the exclusion zones are wearing PPE as required</li> <li>○ Communicate with onsite mobile plant operators to get an understanding of their tasks and areas they need to access as well as times they operate. Work in with onsite operators and ensure tools, equipment and work doesn't unnecessarily block their work areas or travel paths</li> </ul> </li> </ul>	<b>5</b>



**High Risk Work Activity: 15. Mobile Plant**

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			<ul style="list-style-type: none"> <li>• When new workers come to site ensure they understand the movements of onsite mobile plant as it may not be consistent and start up without notice</li> <li>• Mobile phones or personal entertainment devices (PEDS) are not to be used while working around mobile plant. If necessary to use such a device, move to a safe area.</li> <li>• <b>Never work under a load being lifted by any type of crane.</b></li> </ul>	

## Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
<b>Ladders – Under 2m</b>				
<b>PPE Recommended</b>				<b>Persons responsible for maintaining controls</b> 
Using Ladders	Hazard: Using Ladders Risk: <b>Falling</b>	3	<ul style="list-style-type: none"> <li>Tie offs, base support, gutter anchors, levelers to be considered</li> <li>All ladders used on site will be rated 'Industrial' with 120kg (minimum) load rating</li> <li>Persons using the ladder must have 3 points of contact always (i.e., 2 hands and 1 foot or 2 feet and 1 hand or be holding a stable object e.g., gutter, wall frame)</li> <li>Ladders are to be maintained in a sound working condition and be appropriate for the task to be undertaken</li> <li>Tools requiring two handed operations, or a high degree of leverage force should not be used while on ladders</li> <li>A ladder is not a work platform.</li> </ul>	5
<b>Manual Handling</b>				
<b>PPE Recommended</b>				<b>Persons responsible for maintaining controls</b> 
Manual Handling	Hazard: Locations of the loads and distances to be moved Risk: <b>Musculoskeletal strain, Fatigue</b>	3	<ul style="list-style-type: none"> <li>Use mechanical handling equipment where possible</li> <li>Correct lifting technics learnt in their construction induction will be used whenever a lift is required</li> <li><b>Preparation:</b> The first step in any lifting operation is preparation. Plan how you will carry out the lift and clear away any obstacles. By visualising the lift, you will automatically make your stomach muscles contract. These muscles brace your back and will significantly contribute to injury prevention</li> <li><b>Size up to load:</b> By moving the load sideways and forwards you will be able to ascertain whether it is within your capacity. Always imagine that the object you are about to lift is much heavier than it is</li> <li><b>Proper foot position:</b> As a general rule the front foot should be beside the object. The back foot should be slightly behind and be hip width from the front foot. This achieves a stable base and allows for even distribution of weight</li> <li><b>Proper hold:</b> Ideally with the proper hold the hands should be diagonally opposite for security and comfort. Use the full length of the fingers and where possible the palms to avoid fatigue</li> <li><b>Bend at the knees:</b> Bend your knees to get down to the load and use the legs to lift it. This way thigh and leg muscles are used, and these are the strongest part of your body (your back muscles are only for bracing)</li> <li><b>Straight back:</b> Keep your back as near to straight as possible, raise your head, keeping your chin in. This will keep your spine straight and enable you to see where you are going</li> </ul>	5



## Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk	
<b>Use of Hand and Power Tools</b>					
<b>PPE Recommended</b>					<b>Persons responsible for maintaining controls</b>
					<b>Worker</b>
Prestart check at site	Hazard: Site hazards may impair works <b>Risk:</b> <b>Personal injury</b>	<b>3</b>	<ul style="list-style-type: none"> <li>Undertake pre-site inspection verify conditions on site will enable works to be carried out in accordance with the SWMS.</li> <li>Discuss site specific works with the Site Supervisor reviewing site signage, Safety Management Plan, for site specific hazards</li> <li>Ensure all employees are made aware of any site specific hazards to works and these SWMS</li> <li>Construction Inducted employees are only allowed to undertake construction works</li> <li>Ensure all leads tagging &amp; testing are up to date, if applicable</li> </ul>	<b>5</b>	
Use of drills, saws, planner, sander, hand tools	Hazard: Untrained workers <b>Risk:</b> <b>Personal injury</b>	<b>3</b>	<ul style="list-style-type: none"> <li>Workers are to use the right type and right size of tool for the job</li> <li>Workers to follow the correct procedure for using every tool</li> <li>Worker to check the condition of tool prior to use</li> <li>Always carry pointed tools by your side with the points and heavy ends down</li> <li>Never carry tools in your pockets</li> <li>Keep cutting tools sharp and in good condition</li> <li>Cut away from yourself when using chisels and other edged tools</li> <li>Handle sharp-edged and pointed tools with care</li> <li>Handles must have no sharp edges or areas that dig into the fingers or palm of the hand</li> <li>Do not use tools which are loose or cracked</li> </ul>	<b>5</b>	



## Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
			<ul style="list-style-type: none"> <li>When power tools are used follow the manufacturer’s instructions for the correct PPE to be worn and the safe use instructions</li> <li>Workers to be competent in the use of the PPE and risk assessments must be undertaken prior to using PPE to show that the hierarchy of control was used in determining if to use PPE</li> <li>If an item of plant or equipment creates excessive noise, that is where you need to raise your voice to talk, wear appropriate hearing protection</li> <li>If there is a risk of injury to the head by falling objects then wear hard hats</li> </ul>	
	Hazard: Flying debris Risk: <b>Personal injury</b>	<b>3</b>	<ul style="list-style-type: none"> <li>Guards on tools and equipment will be maintained and working effectively before being used on site</li> <li>Guarding on tools will not be removed to perform any work activity</li> <li>All tools and equipment will be inspected prior to work activity for any faults or defects</li> <li>If a fault or defect is found the item will be removed from services and reported to the supervisor as soon as practicable</li> <li>All persons performing work where there is a risk of a foreign object striking the eye, eye protection must be worn</li> </ul>	<b>5</b>
	Hazard: Poorly maintained electrical tools Risk: <b>Electrocution</b>	<b>3</b>	<ul style="list-style-type: none"> <li>All corded tools will be tested and tagged in accordance with current legislation and conducted every <b>three months</b> on construction sites</li> <li>All corded tools will be connected directly to an RCD switch box which is also inspected and tagged in accordance with current legislation</li> </ul>	<b>5</b>
Powered tools with discs: grinders	Hazard: Incorrect disc or fragmented disc resulting in flying parts striking people Risk: <b>Personal injury</b>	<b>3</b>	<ul style="list-style-type: none"> <li>Grinders will always be inspected before use</li> <li>If a cutting or grinding disk has been left on, carefully inspect disc prior to use</li> <li>If damage to disc is noted, swap out for a new one</li> <li>Never change any type of disk on a grinder without unplugging or removing battery</li> <li>Checking for dead is also essential to prevent accidental operation during disk change</li> <li>Never over tighten disk as this may also damage them</li> <li>Guards are always mandatory on a grinder. If the guard is in the way, the grinder is the wrong tool for the job</li> <li>Do not remove guards for any reason while grinder is in use</li> </ul>	<b>4</b>

## Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
<b>Working in Hot/ Humid Environments (Excess 30°or +60% Humidity)</b>				
<b>PPE Recommended</b>			<b>Persons responsible for maintaining controls</b>	
Working in excessively hot environments or during a heat wave (i.e., working on open fields, concrete structures, etc.	Hazard: Heat and high humidity on the body, Radiant heat, High humidity, Hot objects, or Strenuous physical activity <b>Risk:</b> <b>Heat stress, Dehydration, Headaches, Nausea</b>	2	<ul style="list-style-type: none"> <li>• Extended working hours, excessive heat and more strenuous activities will be carefully monitored</li> <li>• Have in place emergency procedures for heat stress</li> <li>• Supervisors to consider:                             <ul style="list-style-type: none"> <li>○ Length of shifts - depends on physical and mental load of the work</li> <li>○ Previous hours and days worked</li> <li>○ Type of work being performed</li> <li>○ Level of physical and/or mental effort required to complete tasks</li> <li>○ Time of the day when the work is being performed.</li> <li>○ Rotating workers</li> </ul> </li> <li>• Supervisors to implement, as far as is reasonably practicable:                             <ul style="list-style-type: none"> <li>○ Increased supervision/monitoring of workers and regular communication with them</li> <li>○ Work to be carried out under shade/portable shade structure</li> <li>○ Increased work to rest ratio i.e., 1 hour work to 15 minutes, minimum, rest period</li> <li>○ Buddy system where workers keep an eye on each other for signs of heat effects</li> <li>○ Where possible schedule work for early morning, late afternoon or at night</li> <li>○ Utilize 5 min hydration breaks away from sun and work                                     <ul style="list-style-type: none"> <li>▪ Hydration Stop: Is a controlled break facilitated by the supervisor or safety rep to bring the work crew together and re-hydrate, (water, sqwincher or hydrolytes.) will be used. This is not a normal break as the sole purpose of this is to re-hydrate</li> </ul> </li> </ul> </li> <li>• Shaded or cool area(s) for rest breaks with good ventilation - use fans if needed</li> </ul>	4
Hot/ Humid environments - Emergency Response Procedures	Hazard: Unidentified heat stress or exhausted worker <b>Risk:</b> <b>Dehydration, Collapse,</b>	1	<ul style="list-style-type: none"> <li>• Workers will:                             <ul style="list-style-type: none"> <li>○ Look after each other and ensure that there is drinking water, co-workers are taking breaks and not showing signs of heat stress</li> <li>○ Ensure they have plenty of cool water to drink - not icy water</li> <li>○ Use electrolyte icy blocks if not contra indicated</li> <li>○ Take regular rest breaks in shade</li> </ul> </li> <li>• If a worker shows symptoms:                             <ul style="list-style-type: none"> <li>○ Remove the worker from the heat or work area</li> </ul> </li> </ul>	4

## Site Risk Assessments – Listed Alphabetically by Non-High-Risk Activities

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
<b>End of Shift</b>				
<b>PPE Recommended</b>				<b>Persons responsible for maintaining controls</b>  Worker
Clean up and re-packing.	Hazard: Loading vehicle Risk: <b>Muscular strains</b>	3	<ul style="list-style-type: none"> <li>When cleaning up and repacking good manual handling techniques will be used, e.g., such as bending the knees and not the back, team lifts where possible and avoid carrying very heavy items</li> </ul>	5
Leaving Site	Hazard: Environmental Risk: <b>Environmental damage</b>	4	<ul style="list-style-type: none"> <li>When leaving site, make sure to take away any of the left-over materials</li> <li>When cleaning ensure that all environmentally sensitive products are disposed of correctly</li> <li>Any leftover hazardous substances will be taken off site and disposed at the correct facility</li> </ul>	5



## Site Risk Assessments – Additional Tasks or Activities to be Added

Activity	Hazards & Risks	PRE-Risk	Work Method Used	POST Risk
<b>Additional Tasks to Add to Job</b>				
Task 1:	Hazard:  Risk:	0-6	What did you do to make it safe?	4-6
Task 2:	Hazard:  Risk:	0-6	What did you do to make it safe?	4-6
Task 3:	Hazard:  Risk:	0-6	What did you do to make it safe?	4-6