













Object Electrical ABN 40 622 995 779 Suite 41 / 124 - 130 Auburn Street, Wollongong, NSW, 2500		Revision #1	Job Date: 20th July 2022
		Created: 20th July 2022	Last Update: 20th July 2022
Authorised Representative:	Glen Fitzgerald - Ph:0420995605	This SWMS has been developed by: Glen Fitzgerald With consultation from onsite personnel and the responsible person for SWMS implementation, monitoring and review: Glen Fitzgerald	
WHS Representative:	Glen Fitzgerald - Ph:0420995605		
Work Activity / Task: Solar System Installation			
Location: 124-130 Auburn St, Coniston NSW 2500, Australia			
Description: Installation of Grid-Connect Residential Solar System			
Review of Control Measures	The control measures for high risk work will be implemented by the workers undertaking the work who have had the opportunity to have input into the control measures and have been trained in the SWMS. The supervisor of the workers will periodically check that the control measures are being followed and determine if a review of the controls is required. A review may also be initiated at the request of an elected Health and Safety Representative. The implementation of the control measures may also be monitored by the completion of the Site Safety Checklist. Any non compliance at this stage will also initiate a review of the controls.		
Relevant WHS Act:		Work Health and Safety Act 2011	
Relevant WHS Regulations:		Work Health and Safety Regulation 2017	

Task / Job Requirements:

PPE Requirements											
											
Permit To Work Requirements											
This job does not require any permits be obtained before commencing work.											
Equipment Requirements											
Equipment used on this Job / Task has been verified to be in good working order and is authorised for use on the job site at 8 Banks Dr, Shell Cove NSW 2529, Australia . Compliance documentation and pre start checks can be obtained through the responsible person Ben Falconer .											
Training Requirements											
Personnel Responsibilities	All workers must read and adhere to all safety procedures and Codes of Conduct in place for this site. All staff are to be pro-active regarding safety and report any near misses or safety risks to a Object Electrical Supervisor. In addition workers must read and understand the site safety rules as well as the requirements and processes outlined in this Safe Work Method Statement.										

High Risk Works Check List:

Risk of a person falling more than 2 metres	Yes	No
Likely to involve disturbing asbestos	Yes	No
Working on or near shaft or trench deeper than 1.5m or a tunnel	Yes	No
Work on or near chemical, fuel or refrigerant lines	Yes	No
Tilt-up or precast concrete elements	Yes	No
Work in areas with artificial extremes of temperature	Yes	No
Work on telecommunications tower	Yes	No
Temporary load bearing support for structural alteration or repairs	Yes	No
Use of explosives	Yes	No
Work on or near energised electrical installations or services	Yes	No
Work on/in/adjacent to roadway, railway, shipping line or other traffic corridor in use by traffic other than pedestrians	Yes	No
Work in or near water or other liquid that involves a risk of drowning	Yes	No
Demolition of load bearing structure	Yes	No
Work on or near a confined space	Yes	No
Work on or near pressurised gas mains or piping	Yes	No
Work in an area that may have contaminated or flammable atmosphere	Yes	No
Diving Work	Yes	No
Work in an area with movement of powered mobile plant	Yes	No

Job Breakdown:

HIERARCHY OF CONTROLS					
Most Effective					Least Effective
Item	Step Description	Potential Hazards	Risk Class	Controls	Residual Risk
1	Pre job Safety Check	<ul style="list-style-type: none"> - Slips, Trips and Falls - Structural Integrity - Electrical Hazards 	14	<p>(Quick Safety Tip: Cover the skylight)</p> <ul style="list-style-type: none"> - Prior to the commencement of any works, an assessment of any hazards not contained in the SWMS is to be undertaken. Items to be taken into consideration are to include, but not be limited to the following, electrical hazards, debris, general site conditions and any other site specific details that may be deemed hazardous. Any situations that are deemed to be hazardous are to be detailed in the area provided with this form and are to be addressed prior to the commencement of works. - An assessment as to the integrity of the structure is to be undertaken by the installer, to ensure against collapse. If any defects are found, they are to be brought to the attention of the site supervisor and installation is not to commence until defects have been rectified. - Ensure the site is free from any electrical hazards by undertaking a visual inspection of the installation area. Ensure that the relevant Exclusion Zones for your area are adhered to. i.e. Victoria - Where work is to be undertaken between 3 and 6.4 metres from the electrical line and a safety concern is evident, the electrical or tram company should be contacted for assistance. 	1

2	Installation of Safety Rail	<ul style="list-style-type: none"> - Manual Handling - Falling Objects - Ladders - Equipment Failure due to incorrect installation 	18	<ul style="list-style-type: none"> - Ensure materials are handled correctly and that all care is taken to prevent injury. Safety gear, such as gloves, may need to be worn where conditions deem necessary. E.g. sharp edges, extreme temperatures - Ensure any other workers on the site have been informed of your presence and that care will need to be exercised to minimise the risk of injury inflicted via falling objects. If it is deemed necessary, hard hats are to be worn when equipment is being passed up or down above shoulder height, or when working below others. Ensure all tools are kept safe and are not placed near edges or ladder access points. - Ladders will be pre-inspected prior to the commencement of each installation, to ensure that they meet the following standards:- <ul style="list-style-type: none"> Is rated for industrial use and is in good condition. Is placed on stable and flat ground and is braced if deemed necessary. Extends a minimum of 3 rungs above the area being accessed. 4:1 ratio from structure is adhered to. Ladder bracket or gutter guard to be used when possibility of slippage is present. - Pre-inspect all equipment prior to installation. Ensure correct installation procedures are adhered to. (Refer separate Installation Instruction sheet) Ensure all screws, nuts and bolts are tightened. Ensure all clamps are tightened. Ensure the posts are spaced at a maximum of 2.77 metres apart. Ensure all rails are installed correctly. 	3
3	Removal of Safety Rail	<ul style="list-style-type: none"> - Manual Handling - Falling Objects - Ladders - Equipment Failure due to incorrect installation 	18	<ul style="list-style-type: none"> - Ensure the procedures as set out in the above Installation Of Safety Rail are adhered to. - Ensure the correct removal procedures are adhered to. (Refer separate Installation Instruction sheet) 	4

4	Use of ladders	<ul style="list-style-type: none"> - Strong wind gust causing fall from ladder - Falling from ladder - Falling objects –being struck/crushed - Trip, slip, fall due to lose grip 	18	<p>(Quick Safety Tip: Ladder must be made of Fiber Glass and correctly secured at the top and bottom)</p> <ul style="list-style-type: none"> - Carry ladder horizontally, not vertically and Be careful when going up or down stairs - Ensure ladders are not protruding into roads, footpaths, driveways etc. - Be aware of people working around and pedestrians <ul style="list-style-type: none"> - Damaged ladders are removed from service. - Use fiber glass ladder while working with electricity - Face ladder when ascending/descending or working from it <ul style="list-style-type: none"> - Ladder is secured top and bottom - Do not stand higher than the second tread below the top plate of any stepladder - Ensure 3 points of contact remain on ladder at all times, (one hand and two feet) - Hoist tools up in a tool belt when person reaches work position <ul style="list-style-type: none"> - Ensure only 1 person working from each ladder. - Ladder extends 1m past roof edge 	3
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SAFETY

5	Working at height	<ul style="list-style-type: none"> - Adverse weather -hot, cold, windy, wet - Heat exhaustion, sunstroke, dehydration, Sunburn - Wind gusts causing equipment failure or sudden movement - Being struck by-lightning causing burns, electrocution - Falls from a height - Work at height above 2 meters' - Equipment failure - Scaffold/trestle / ladder /EWP / harnesses etc. - Overhead power lines - Slips, trips & falls – fractures, sprains, strains 	18	<p>(Quick Safety Tip: All workers, who are working more than 2 meters high, must have Working at Height certificate.)</p> <ul style="list-style-type: none"> - Use an edge protection system on the working faces and applicable adjoining edges-edge protection system to comply with AS/NZS 4994- preference to be installed from ground <ul style="list-style-type: none"> - Edge protection barriers, access gates must be strong enough to withstand the pressure of a person falling against it - Use all height-access equipment as per manufacturer's instructions and for its designed purpose - Make sure that any holes, other openings or fragile material like skylights are properly secured and covered to avoid stepping on it and falling through <ul style="list-style-type: none"> - In rare circumstances, if an edge protection cannot be installed then a risk assessment must demonstrate the reasons why - Use of proper fall restraint system. Such as full body harness, with certified and load rated roof anchors in multiple locations to provide safe access and prevent worker falling - Each anchor point should be so that the lanyard length is short enough to prevent the worker falling (fall restraint- NOT fall arrest) <ul style="list-style-type: none"> - Set and maintain the lanyard length to prevent the person from reaching the edge <ul style="list-style-type: none"> - Do not use rails or battens to tie the rope / lanyard - Use correct Manual Handling techniques while placing panels - Weather forecast is checked to ensure wet and windy conditions - Work is not conducted in wet or slippery conditions i.e. condensation, frost, moss, rain, mould etc. <ul style="list-style-type: none"> - Heat stress of workers monitored to prevent heat exhaustion. - Set up exclusion zone below work area using cones/tape/barriers 	4
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6	Solar Panel Installation - Grid Connected	<ul style="list-style-type: none"> - Plant – operating - Working near / with Electricity - Exposure to Hazardous, e.g. Asbestos - Exposure to asbestos causing serious illness - Electric shock - Electrocution 	18	<p>(Quick Safety Tip: Only walk on safe areas)</p> <ul style="list-style-type: none"> - Follow LOTO procedures before works are conducted - Allow sufficient time for residual/stored energy to dissipate from the assembly. <ul style="list-style-type: none"> - Follow Panels and Inverter's manufacturer instructions - Always refer and follow designer's instruction - Only walk on safe areas - Check for electrical lines or other obstructions when handling panels. <ul style="list-style-type: none"> - Only undertake work allowed under specific license. - Ensure works comply with electrical safety guidelines and legislation in your State/territory and AS/NZS 3000 <ul style="list-style-type: none"> - Switchboard in clearly and permanently marked with warning labels - (dual energy), location of isolation switches to solar panels, inverter unit, mains etc. <ul style="list-style-type: none"> - All cables are secured and protected under Panels - Provide user instructions to recipient of panels including a shut-down procedure - If it is mandatory, make sure Licensed Electrical Inspector to inspect completed install <ul style="list-style-type: none"> - Issue Certification of Electrical Safety upon completion. - When conducting maintenance on panels that have been connected to the grid/power: <ul style="list-style-type: none"> - Electrician to test system components and 	4
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SAMPLE


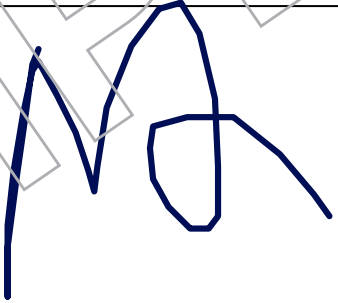
7	Electrical wiring Low voltage	<ul style="list-style-type: none"> - Asbestos - exposure - Electricity - Energized electrical equipment / installation - Inhalation of dust or fibers - asbestos etc. - Electrocution / Electric shock causing serious injury or death. - Explosion / Fire / smoke 	18	<p>(Quick Safety Tip: No live work is permitted)</p> <ul style="list-style-type: none"> - LOTO (Lock out/tag out) procedures must be established. <ul style="list-style-type: none"> Include: <ul style="list-style-type: none"> - Shut down - Identify all energy sources - Identify all isolation points - Isolate all energy sources - De-energize all stored energies - Lock out all isolation points - Complete and attach Danger Tag and lock(s) at each isolation point <p>Test by “trying” to re-activate (without exposing the tester or others to risk).</p> <p>While following LOTO procedures. Ensure:</p> <ul style="list-style-type: none"> - Circuit breakers, switches and combined fuse switch units are locked out - Use locks or suitable temporary securing devices (that cannot be disrupted) - Where isolation is done remotely, ensure all relevant conductors are bonded together and to general mass of earth at site. <p>On Completion:</p> <ul style="list-style-type: none"> - Test and commission the electrical installation as required - Notify supervisor / property owner of restoration of electrical service 	4
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8	Disturbance of asbestos containing material (ACM)	<ul style="list-style-type: none"> - Asbestos Exposure - Unnecessary Fibre Release - Improper containment of works - Improper handling ACM's 	21	<p>(Quick Safety Tip: Power tools not to be used on ACM)</p> <ul style="list-style-type: none"> - If ACM is suspected, STOP work. Make area safe and inform home owner. <ul style="list-style-type: none"> - Advice Sunboost installation team - Advice homeowner to arrange for specialist asbestos removal contractor - Make sure that roof cavity is well lit - Carefully check presence of any venomous creature while working in roof cavity NOTE – If work is likely to involve the disturbance of ACM, a separate SWMS shall be established. - ACM is removed by a competent person and replaced with non- asbestos containing material - Power tools are not used on ACM 	1
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SAMPLE

SWMS Acknowledgement:

This SWMS has been developed through consultation with our workers and has been read and signed by all workers involved with this activity

Name	Role	Signature	Date
Ben Falconer	Supervisor		19th August 2022
Bradley Good	Worker		19th August 2022

Appendices: Risk Matrix

	Minor	Serious	Severe	Major	Catastrophic
Almost Certain	Class: 10 Moderate	Class: 16 High	Class: 20 Extreme	Class: 23 Extreme	Class: 25 Extreme
Likely	Class: 7 Moderate	Class: 12 Serious	Class: 17 High	Class: 21 Extreme	Class: 24 Extreme
Possible	Class: 5 Moderate	Class: 6 Moderate	Class: 13 Serious	Class: 18 High	Class: 22 Extreme
Unlikely	Class: 2 Low	Class: 4 Low	Class: 9 Moderate	Class: 14 Serious	Class: 19 High
Rare	Class: 1 Low	Class: 3 Low	Class: 8 Moderate	Class: 11 Moderate	Class: 15 Serious

Likelihood			Consequence		
Value	Classification	Description	Value	Classification	Description
1	Rare	Unlikely to occur (less than 5% chance)	1	Minor	First Aid Injury (FAI). Minimal impact on health & safety which can be resolved by daily procedures & pre-start.
2	Unlikely	Could occur (5-25% chance)	2	Serious	Medical Treated Injury (MTI). Treatment required by physician or medical personnel (not a First-aider).
3	Possible	May occur at some time (25-50% chance)	3	Severe	Lost Time Injury (LTI). Injury sustained to employee who is unable to work following day or perform usual duties.
4	Likely	Will probably occur (50-75% chance)	4	Major	Single fatality or hospitalisation. Permanent disability or long term illness/injury.
5	Almost Certain	Very likely to happen (over 75% chance)	5	Catastrophic	Multiple fatalities or permanent debilitating injuries