

Prairie Solar Farm

Planning Application

Appendix 5 – Project
Environmental Management
Framework

June 2018

Project Environmental Management Framework

Prairie Solar Farm

June 2018

Project Environmental Management Framework

1.	Project Environmental Management Framework.....	3
1.1	Background	3
1.2	Operation of this document.....	3
1.3	Environmental Management and Monitoring Plans.....	3
1.4	Complaints Procedure	5
1.5	Training and Induction	5
1.6	Auditing	5
1.7	Guidelines	6
1.8	Construction	7
1.9	Operation and Maintenance.....	18
1.10	Decommissioning Stage	19

Version	Date	Amended by	Amendments	Approved by
V0	26-6-18	Matt Stafford	Final draft document	Kim Derriman

1. Project Environmental Management Framework

1.1 Background

This Project Environmental Management Framework (EMF) summarises the various mitigation measures that will be implemented during the construction, operational, and de-commissioning stages of the Prairie Solar Farm project. It does not discuss further the mitigation measures which have been adopted within the design and planning of the project, as these are comprehensively covered within the *Prairie Solar Farm Planning Application – Assessment Report* (the planning application report).

1.2 Operation of this document

This Project EMF acknowledges that throughout the life of a major project (around 25 years or more) it is likely that improved knowledge of environmental risks and associated mitigation and monitoring measure will become available to implement for the Prairie Solar Farm project. Reflecting this, the Project EMF is intended to be a ‘living’ document that is updated periodically as new information becomes available. The document therefore remains in draft form, with the ability to be updated in response to the conditions of relevant approvals and to reflect contemporary / best practice in environmental management as this practice evolves over time.

1.3 Environmental Management and Monitoring Plans

Many of the mitigation measures identified within the planning application report will be implemented through a series of environmental management plans. Where appropriate, monitoring programs may also be required to record and report on the effectiveness of the mitigation and management measures. A series of Environmental Management and Monitoring Plans (EMMPs) will therefore be implemented at each stage of the project’s life cycle. The EMMPs will ensure compliance with all legislative and planning requirements as well as Pacific Hydro’s Health and Safety and Sustainability policies.

The aims and commitments of each of the EMMPs are provided in Tables 1 (Construction phase), 2 (Operation phase), and 3 (Decommissioning phase) below.

The planning application report and this Project EMF in particular, outline the general approach and intent of the various EMMPs which the project, if approved, will be constructed, operated and ultimately decommissioned in accordance with. General management measures and mitigations have been outlined, however it is acknowledged that more detailed EMMPs will be required prior to the relevant phase commencing, to ensure best-practice measures available at the time are implemented. The EMMPs will be developed at detailed design stage and in conjunction with the relevant contractors and statutory authorities. It is expected that if the project is approved, the conditions of approval will re-iterate the requirement for EMMPs as set out in this Project EMF.

1.3.1 Construction phase

The following specific plans will be included within the Construction Environmental Management and Monitoring Plan (CEMMP) that will be prepared and implemented for the project:

- Water Quality Management Plan (including stormwater management, sedimentation and erosion prevention, hazardous chemicals)
- Noise Management Plan
- Traffic Management Plan / Detailed Traffic Impact Assessment Report
- Fire and Emergency Management Plan

- Native Vegetation Management Plan
- Pest Management Plan
- Heritage Management Plan (if required)
- Site Rehabilitation Plan

1.3.2 Operation phase

During operations, the focus of EMMPs tends to shift towards on-going monitoring to ensure that the measures and mitigations established during construction are continuing to be effective. The Operations EMMPs generally draw on the measures and mitigations established in the corresponding Construction EMMPs, but also establish protocols for regular monitoring, maintenance and to ensure proactive on-going management of the site.

Pacific Hydro has a certified ISO14001:2004 Environmental Management System (EMS) which overarches the management of all operating sites. To retain this certification, Pacific Hydro is required to show a process of review and continual improvement. This requirement is externally audited annually.

With relation to site specific environmental obligations, Pacific Hydro integrates the EMMPs approved as part of the planning process, within its overarching EMS through the environmental; aspect register.

The Operations Environmental Management and Monitoring Plan (OEMMP) will contain the following plans:

- Water Quality Management Plan (including stormwater management, sedimentation and erosion prevention, hazardous chemicals)
- Noise Management Plan
- Traffic Management Plan / Detailed Traffic Impact Assessment Report
- Fire and Emergency Management Plan
- Native Vegetation Management Plan
- Heritage Management Plan (if required)
- Site Rehabilitation Plan

1.3.3 Decommissioning phase

The Decommissioning EMMPs (DEMMP) will focus on site rehabilitation and traffic management. Given that best practice methodologies associated with decommissioning cannot be reasonably foreseen in advance of project construction, it is proposed that the DEMMP will only be prepared towards the end of the solar farm's operational life.

1.4 Complaints Procedure

Pacific Hydro's existing complaints procedure will be implemented across all stages of the Project. The purpose of this procedure is to ensure that all complaints from the community and external parties are correctly recorded, investigated and mitigated as required and ensures that Pacific Hydro:

- Promptly acknowledges complaints from members of the public and keeps the complainant informed of any progress, findings and outcomes
- Deals with any complaints constructively and in a co-operative manner
- Keeps accurate records of the investigation process and communications with both the person making the complaint and any regulatory body that may require notification
- Maintains positive relationships and encourages constructive, two way communication with the community and external parties

1.5 Training and Induction

All personnel including workers, contractors and visitors will undertake appropriate training prior to, and during all phases of the project to ensure they are aware of their on-site responsibilities in respect to environmental issues. This will be achieved through the implementation of on-site induction and specific training programs designed to ensure that all on-site personnel are competent and aware of any environmental management procedures relevant to their activities.

All staff and contractors working on site will be inducted into an environmental management program as a condition of site entry. The induction process will cover all details of the CEMMP, OEMMP or DEMMP as relevant to the attendees' role and activities on the site.

1.6 Auditing

Internal audits shall be undertaken during the life of the project. Audits will involve reviewing all environmental documents, records and monitoring results to ensure compliance with the requirements of legislation, licences, permits, approvals and of the EMMPs. If any non-conformance is detected, the appropriate corrective action will be taken to rectify the situation.

External audits will also be undertaken, in particular those conducted to maintain ISO14001 certification, on particular works and at periods determined by an environmental risk assessment.

1.7 Guidelines

The range of EMMPs set out below shall be prepared in accordance with the planning approval(s) for the project, and be informed by the background reports that have been prepared for the project and relevant standards and guidelines. The guidelines relevant to the project include, but are not limited to, the following:

Category	Relevant guidance document
Environmental management	<ul style="list-style-type: none"> • ISO14001 – Environmental management systems • EPA Publication 480 - <i>Best Practice Environmental Management: Environmental Guidelines for Major Construction Sites</i> (EPA, 1996).
Air quality (dust suppression)	<ul style="list-style-type: none"> • <i>State Environment Protection Policy (Air Quality Management)</i> • <i>State Environment Protection Policy (Ambient Air Quality)</i>
Noise	<ul style="list-style-type: none"> • EPA publication 1411 <i>Noise from Industry in Regional Victoria (NIRV)</i>
Water quality (inc. erosion and sediment control)	<ul style="list-style-type: none"> • <i>Erosion and sediment control - Construction Techniques for Sediment Pollution Control</i> (Environmental Protection Authority, 1991). • <i>State Environment Protection Policy (Water of Victoria)</i> • <i>State Environment Protection Policy (Groundwaters of Victoria)</i> • Watertech report <i>Surface Water Assessment: Prairie Solar Farm</i> • Cumbre Consultants report <i>Agricultural Land Quality and Productivity Assessment:</i>
Native vegetation and wildlife	<ul style="list-style-type: none"> • GHD report <i>Flora and Fauna Assessment: Prairie Solar Farm</i>
Traffic	<ul style="list-style-type: none"> • Jacobs report <i>Traffic Impact Assessment: Prairie Solar Farm</i>

1.8 Construction

Table 1.1: Environmental management aims and objectives during the construction stage of the solar farm

Issue	Mitigation Commitments	Monitoring Requirements	Timing
Construction Environmental Management and Monitoring Plan (CEMMP)			
Water Quality Management Plan (WQMP)			
WQMP	The WQMP will <ul style="list-style-type: none"> • Outline procedures to: <ul style="list-style-type: none"> – Prevent spills. – Manage the use of fuels and chemicals on site. – Prevent and manage sedimentation, runoff and erosion. • Be prepared in accordance with the mitigation measures set out in the Watertech report <i>Surface Water Assessment: Prairie Solar Farm</i> and the Cumbre Consultants report <i>Agricultural Land Quality and Productivity Assessment</i>. 	<ul style="list-style-type: none"> • Monitoring to form part of plan. • Maintain monitoring records. 	<ul style="list-style-type: none"> • Construction.
Sediment and Erosion Control	This component of the plan will outline detailed procedures to manage the drainage of stormwater on the site and reduce the risk of solar farm activities giving rise to (or exacerbating existing) soil erosion by effectively controlling run-off with appropriate erosion and sediment control measures.	<ul style="list-style-type: none"> • Monitoring provisions to form part of the plan e.g. regular checking of watercourses and post rainfall event inspections. • Maintain monitoring records. 	<ul style="list-style-type: none"> • Construction.
Sediment and Erosion Control	The following methods are typical of those adopted during construction to prevent and manage soil erosion and run off which will in turn protect water quality within the catchment: <ul style="list-style-type: none"> • Minimise the removal of vegetation. • Wherever possible avoid clearing areas of highly erodible soils and steep slopes prone to water and wind erosion. • Divert surface water run-off from exposed soil. • Stage work to reduce the amount of exposed soil. 	<ul style="list-style-type: none"> • Carry out routine inspections to ensure runoff is not occurring. • Routinely inspect sediment controls and / or pollutant traps to ensure they are operating correctly. • After rain events check sediment controls for effectiveness and watercourses on site for discolouration. 	<ul style="list-style-type: none"> • Construction.

Issue	Mitigation Commitments	Monitoring Requirements	Timing
	<ul style="list-style-type: none"> • Stabilise earthworks as early as possible (e.g. – revegetate areas of exposed soil as soon as possible after disturbance). • Use of appropriate erosion controls such as straw bales and/or silt fencing. • Appropriate use of sediment traps from materials such as gravel filled bags, cement stabilised sandbags, stones held under geotextiles, straw bales and/or crushed rock. • Provision of settlement pits/ponds and sediment traps. • Ensure vehicles keep to well-defined access tracks. • Minimise dust blown from access tracks or stockpiles by regular spraying of water. • Locate all stockpiles of excavated material, cement or any other fine loose material away from drainage lines unless adequately protected by diversion drains, bunds or other similar works. • Any concrete batching to be conducted at appropriate distance from waterways (subject to separate approval process). • Take all practicable measures to avoid mixing subsoils and avoid placing subsoils on the soil surface where ever possible. 	<ul style="list-style-type: none"> • Maintain monitoring records. 	
Pollution Prevention	<p>Arrangements for management of all machinery and vehicles on site, including refuelling and storage to minimise potential for hydrocarbon and other leaks spills, to be documented in WQMP. Ensure refuelling and chemical / hydrocarbon storage occurs with a sufficient buffer from any defined waterway or wetland.</p>	<ul style="list-style-type: none"> • Periodic checks carried out. 	<ul style="list-style-type: none"> • Construction and Operations.
Hazardous Goods and Chemical	<ul style="list-style-type: none"> • All hydrocarbons and hazardous substances will be transported, stored, handled and disposed of in accordance with AS 1940-2004. • The management of chemicals stored on-site, used as cleaning and maintenance solvents for the panel areas must be stored and treated on-site to prevent contamination of groundwater and 	<ul style="list-style-type: none"> • Audit of chemicals on site. 	<ul style="list-style-type: none"> • Construction and Operations.

Issue	Mitigation Commitments	Monitoring Requirements	Timing
	nearby waterways.		
Spill Response Plan	Preparation of Spill Response Plan as a component of the WQMP.	<ul style="list-style-type: none"> • Periodical review of plan. 	<ul style="list-style-type: none"> • Construction and Operations.
Training and Induction	Induct and train all employees / contractors working on site the Spill Response Plan.	<ul style="list-style-type: none"> • N/A. 	<ul style="list-style-type: none"> • Construction and Operations.
Noise Management Plan (NMP)			
NMP	<ul style="list-style-type: none"> • A NMP will be prepared to address and manage construction noise, and methods to manage impacts. The NMP would be prepared in consultation with construction contractors, and aim to ensure work practices are conducted to minimise potential noise impacts. • Ensure all construction equipment used is in good condition, is well maintained and up to date service records are available for inspection. 	<ul style="list-style-type: none"> • A monitoring program to ensure that construction noise emissions are controlled and that the best possible practices are implemented. 	<ul style="list-style-type: none"> • Construction.
Informing local residents about activities.	The NMP will include a community engagement program to inform residents and the community of the progress of activities and potential noise impacts of each phase of the project.	<ul style="list-style-type: none"> • N/A. 	<ul style="list-style-type: none"> • Prior to commencement of construction.
Noise complaints.	Subject to Pacific Hydro's complaints handling process.	<ul style="list-style-type: none"> • Complaints Handling Procedure includes requirement to monitor complaints received and dealt with. 	<ul style="list-style-type: none"> • Construction.
Protection of noise amenity for residential properties – construction stages.	<ul style="list-style-type: none"> • Hours of work will normally be 7:00am to 6:00pm on weekdays and Saturday unless special circumstances arise. • Work outside of the proposed hours would only occur when: <ul style="list-style-type: none"> – delivery of materials which are required outside of normal hours for safety reasons as required by the relevant authorities. – emergency work to avoid loss of lives and/or property. – on rare occasions where specific works cannot be interrupted and may continue into the night period (e.g. during a significant 	<ul style="list-style-type: none"> • Period checks carried out. 	<ul style="list-style-type: none"> • Construction.

Issue	Mitigation Commitments	Monitoring Requirements	Timing
	<p>concrete pour).</p> <ul style="list-style-type: none"> – Special circumstances include the possibility of weather conditions necessitating the timing of works (e.g. – crane lifts) when weather abates. In some cases this may be after normal hours and at night • Where construction activities are expected to extend beyond normal working hours nearby residents shall be provided adequate advance notice, and Pacific Hydro’s complaints handling process will be implemented to address any complaints that may be received. 		
Traffic Management Plan (TMMP)			
<p>TMP</p>	<ul style="list-style-type: none"> • A TMP will be developed for the management of traffic to and from the site and where required an onsite Vehicle Management Plan will also be developed. • Local council(s) and VicRoads will be consulted during the development and implementation of the TMP. • Where appropriate, the TMP will detail the risk management measures used to ensure public safety on roads used for construction traffic. • As required, the TMP will also detail how measures will be implemented to control general traffic such as additional speed limits, signage, traffic control, public notifications etc. as well as measures specified in permits issued by VicRoads or local council(s). • The condition of public roads to be used for the delivery of materials should be documented prior to commencement of works and then regularly monitored during the period of the works. The road and intersection conditions should be documented by field surveys and joint site inspections by an independent civil engineer, council and VicRoads with agreed intervention levels documented prior to commencement. Some road upgrades may 	<ul style="list-style-type: none"> • During the Construction phase the TMP will be monitored, reviewed and amended in consultation with relevant stakeholders as required. • Audits of the TMP will be carried out by management representatives to ensure onsite compliance with its requirements. 	<ul style="list-style-type: none"> • Construction and operations.

Issue	Mitigation Commitments	Monitoring Requirements	Timing
	<p>be warranted prior to construction.</p> <ul style="list-style-type: none"> Control measures to provide for public safety on roads which may be used for construction traffic will be put in place. A range of traffic management measures will be implemented as required (further to those nominated by the planning approval) such as additional speed limits, signage, traffic control at intersections, public notifications etc. 		
<p>TMP – Local community</p>	<p>Contact details for the Construction Representative will be provided to residences along the local road network proposed to be used for access and adjacent to the site in order that any issues arising can be addressed as soon as possible.</p>	<ul style="list-style-type: none"> Adherence to plan and controls will be monitored for compliance. 	<ul style="list-style-type: none"> Construction
<p>TMP - obligations</p>	<p>As a minimum, Pacific Hydro will ensure the Contractor fulfils the following obligations:</p> <ul style="list-style-type: none"> The existing public access roads used during the period of the construction will be maintained to the appropriate standard during this period. Maintenance will include filling of potholes, grading corrugations and dust suppression as required. All construction vehicles will be required to give way to farm animals and wildlife on the site and the surrounding roads. Unless otherwise detailed in the TMP, all normal road rules apply and construction vehicles will give way when exiting site onto public roads. All road signage must be obeyed on and off the site. As per the TMP, adequate signage will be provided on public roads, to warn other road users of any construction activities or transportation activities that may impact on road users. Over-mass and/or over-size vehicles may require additional authorisations and these permits will be issued by the relevant road authority and any extra control measures detailed in the 	<ul style="list-style-type: none"> Regular monitoring and maintenance of local roads used during construction. 	<ul style="list-style-type: none"> Construction.

Issue	Mitigation Commitments	Monitoring Requirements	Timing
	<p>TMP. These measures may include the use of escort or pilot vehicles, further speed restrictions, extra signage, restrictions on time of travel, etc.</p>		
O&M TMP	<ul style="list-style-type: none"> • During operation, traffic will be managed according to existing operational and HSEQ procedures. • If a significant increase in traffic during the operational phase is expected (e.g. due to major maintenance works or asset failure) a specific TMP will be developed for the traffic required. • The O&M TMP will be developed in consultation with relevant stakeholders and will include any required permits. 	<ul style="list-style-type: none"> • Audits will be carried out by management representatives to ensure onsite compliance with the requirements of procedures. 	<ul style="list-style-type: none"> • Operation
Fire and Emergency Management Plan (FEMP)			
FEMP	<ul style="list-style-type: none"> • A Fire and Emergency Management Plan (FEMP) will be developed in consultation with emergency services and will detail or reference procedures or plans for: <ol style="list-style-type: none"> 1. Emergency Preparedness 2. Emergency Response • The FEMP will remain in place for the life of the project. • As applicable Emergency Services, such as the CFA, will be consulted in the development and in any subsequent review of the FEMP. This will include the provision of site familiarisation sessions and/or joint emergency exercises as detailed by the FEMP or relevant procedure. 	<ul style="list-style-type: none"> • Risk based approach to periodic review subsequent to the findings of audits, investigations (internal and external), lessons learnt and advice input from Emergency Services. Invitation to Emergency Services to participate in review and exercises. 	<ul style="list-style-type: none"> • All phases.
FEMP - Preparedness	<p>The FEMP, where relevant, will detail or reference specific emergency preparedness measures to be implemented at the Solar Farm. This may include, but is not limited to:</p> <ul style="list-style-type: none"> • Emergency management documentation such as plans and maps • Information regarding the roles and responsibilities of personnel for implementing preparedness measures. 	<ul style="list-style-type: none"> • Risk based approach to periodic review subsequent to the findings of audits, investigations (internal and external), lessons learnt and advice input from Emergency Services. 	<ul style="list-style-type: none"> • All phases.

Issue	Mitigation Commitments	Monitoring Requirements	Timing
	<ul style="list-style-type: none"> • The training and competency required by site personnel and in particular initial responders, such as wardens, first aiders, etc. and emergency management team. • The frequency and type of inspections of emergency preparedness measures e.g. lighting, signage, alarms, etc. • The type and location of emergency equipment and their intervals of inspection and/or maintenance e.g. extinguishers, first aid kits, AEDs, Spill Kits, LV Rescue Kits, etc. • The type, frequency and planning of simulated emergency exercises such as evacuation drills or rescue simulations. 		
FEMP - Response	<p>The FEMP, where relevant, will detail or reference specific emergency response measures to be implemented in the event of an emergency at the Solar Farm. This may include, but is not limited to:</p> <ul style="list-style-type: none"> • Emergency Response Plan(s) for major emergencies including fire, flood, etc. • Maps detailing the location of critical emergency locations and/or equipment e.g. assembly areas, etc. • Contact information for site personnel and in particular initial responders, such as wardens, first aiders, etc. and emergency management team. • Contact information for Emergency Services and other critical stakeholders. • Specific information related to shut down or isolation procedures. 	<ul style="list-style-type: none"> • Risk based approach to periodic review subsequent to the findings of audits, investigations (internal and external), lessons learnt and advice input from Emergency Services. 	<ul style="list-style-type: none"> • All phases.
FEMP - Risk Management	<ul style="list-style-type: none"> • A risk register will be maintained which will summarise the mitigation and/or control measures implemented to reduce the likelihood of an emergency occurring. • This register will detail the procedures, plans, rules (conditions of entry to site) and other processes which are undertaken to reduce 	<ul style="list-style-type: none"> • Risk based approach to periodic review subsequent to the findings of audits, investigations (internal and external), lessons learnt and advice input from Emergency Services. 	<ul style="list-style-type: none"> • All Phases

Issue	Mitigation Commitments	Monitoring Requirements	Timing
	<p>the risk, as far as reasonably practicable, of an emergency event occurring.</p> <ul style="list-style-type: none"> • For example, the following rules generally apply to all sites and aim to reduce the likelihood of a fire; <ul style="list-style-type: none"> – No smoking on days of total fire ban. – Smoking on the site is only permitted on formed surfaces and in designated smoking areas (e.g. – within construction compounds). All butts are to be fully extinguished and removed from site. – Burning of waste materials on site will be forbidden. – All hot work is conducted in strict accordance with hot work procedures and permits to work. – Fire extinguishers are located throughout the site including in all vehicles and plant. • Prior to the construction of access tracks, only diesel vehicles will be permitted on site. Post construction, access to site by petrol vehicles is limited and only allowed on formed roads and hard stand areas. 		

Issue	Mitigation Commitments	Monitoring Requirements	Timing
Emergency Response.	<ul style="list-style-type: none"> • In the event of a fire on site, an Emergency Response Plan will be enforced. This plan covers any incident on site which may threaten life or limb. It covers, amongst other things, fire, explosion, severe weather and earthquake response actions. • If a fire originates on site, personnel at the scene will call 000 for unit dispatch immediately. All vehicles will have radio and phone contact with the site office. Appropriate channels / frequencies for communications will be established within the FEMP prior to the commencement of construction. As all vehicles carry fire extinguishers, site personnel will attempt to extinguish the fire after calling 000. The Site Manager will also be informed and, if required, all personnel will be mustered at a safe (yet to be nominated) evacuation point in accordance with the Emergency Response Plan. • If a fire originates off site, but threatens the site, the Emergency Response Plan will be enacted. 	N/A.	<ul style="list-style-type: none"> • All phases.
Emergency Response	<p>During construction and operations, the local emergency services will be provided with up to date:</p> <ul style="list-style-type: none"> • Security gate numbers and key sets. • Solar farm all-hours emergency contact telephone number. • Requirements on solar farm staff and contractors. 	<ul style="list-style-type: none"> • Periodic monitoring and review of plan in conjunction with CFA. 	<ul style="list-style-type: none"> • All phases.
Emergency Response.	<ul style="list-style-type: none"> • All site staff likely to respond into the project area will be provided with the following: <ul style="list-style-type: none"> – Reliable radio or telephone (mobile) communications to enable contact from site to emergency services. – Crews receive bushfire and other emergency reporting training, and have available at all times a contact and procedures manual. • A working knowledge of and be compliant with relevant legislation 	<ul style="list-style-type: none"> • Periodic monitoring and review of plan in conjunction with CFA. 	<ul style="list-style-type: none"> • All phases.

Issue	Mitigation Commitments	Monitoring Requirements	Timing
	and guidelines (use of tools during the Fire Danger Season) and contacts for fire ban advice (CFA and local government).		
Training and Induction.	All onsite staff and contractors will be made aware of the Fire and Emergency Management Plan and the procedures that should be followed in the event of an emergency.	<ul style="list-style-type: none"> • Keep records of training and register of attendees. 	<ul style="list-style-type: none"> • All phases.
Native Vegetation Management Plan (NVMP)			
Management of NV during Construction.	<p>A NVMP will be prepared to protect native vegetation identified for retention, any proposed revegetation, and associated native fauna. Typical measures to be included in the NVMP include:</p> <ul style="list-style-type: none"> • During construction, areas of native vegetation within 100m of any working area will be demarcated as 'vegetation protection zones'. Vegetation protection zones will be appropriately signed and all personnel, machinery and earthworks excluded from these areas. • Stockpiling of soil will occur outside areas of native vegetation, preferably on areas of cultivated land or introduced pasture. • Maintain appropriate levels of water and nutrients to all revegetation (including any vegetation screening that may be required) undertaken at the site to encourage its long term health and longevity. 	<ul style="list-style-type: none"> • All environmental controls will be checked for compliance on a regular basis. 	<ul style="list-style-type: none"> • Construction.
Management of fauna during Construction.	Ensure a permit under the <i>Wildlife Act 1975</i> has been obtained for the handling and removal of fauna from the vegetation to be removed (particularly hollow bearing trees to be removed or to be rescued from open trenches during construction).	<ul style="list-style-type: none"> • Audits will be carried out by management representatives to ensure onsite compliance with the requirements of procedures. 	<ul style="list-style-type: none"> • Construction.
NVMP – Losses.	Following the completion of detailed design, the level of native vegetation clearance associated with the Project will be confirmed to ensure it is consistent with the requirements of the planning permit to remove native vegetation.	<ul style="list-style-type: none"> • Losses predicted at final design stage • Following construction on-ground assessment of actual losses carried out. 	<ul style="list-style-type: none"> • Prior to commencement of construction / construction.
Pest Management Plan (PMP)			

Issue	Mitigation Commitments	Monitoring Requirements	Timing
PMP.	Procedures will be outlined to minimise the spread of weeds and pathogens from earth moving equipment and associated machinery, including tip trucks and low loaders, and the use of road-making material of clean fill that is free of weeds.	<ul style="list-style-type: none"> Monitoring of weeds to be carried out on a regular basis and monitoring program to form part of the management plan. 	<ul style="list-style-type: none"> All phases.
Weed Control.	<ul style="list-style-type: none"> Appropriate weed control will be carried out in disturbed areas during and after construction to control any weed outbreaks and prevent invasion of adjacent bushland. All machinery employed in earthworks will be cleaned before being brought onto site to ensure it is weed and pathogen free. Construction contractors will be inducted into an environmental management program for construction works. 	<ul style="list-style-type: none"> All environmental controls will be checked for compliance on a regular basis 	<ul style="list-style-type: none"> Construction.
Heritage Management Plan (HMP)			
Protection European cultural heritage.	In the event any places at the site become protected under the <i>Heritage Act 2017</i> a Heritage Management Plan will be prepared: The HMP will include measures to ensure construction and operational activities do not result in harm to the heritage place.	<ul style="list-style-type: none"> Monitor works/major activities during construction and operations 	<ul style="list-style-type: none"> Construction and post construction.
Site Rehabilitation Plan			
Site rehabilitation.	<ul style="list-style-type: none"> Site restoration works will be undertaken incrementally during construction and at the completion of the construction period. Site rehabilitation will include revegetation of disturbed ground, weed management and control of any erosion and sedimentation with an emphasis on rehabilitation as soon as possible when disturbance has ceased in a particular area. Site rehabilitation will be included in the overall site EMMP in order to appropriately integrate requirements of bushfire protection, weed management, potential for pest harbourage, soil and erosion control. 	<ul style="list-style-type: none"> Ongoing management and maintenance 	<ul style="list-style-type: none"> Construction, post construction and operation.

1.9 Operation and Maintenance

Table 1.2 Environmental management procedures and monitoring requirements during the operational and maintenance stage of the solar farm

Issue	Mitigation Commitments	Monitoring Requirements	Timing
Operational Environmental Management and Monitoring Plans			
Water Quality	<ul style="list-style-type: none"> • WQMP - measures outlined in Table 1.1 above. 	<ul style="list-style-type: none"> • Monitoring as per WQMP requirements. 	<ul style="list-style-type: none"> • Operations.
Traffic.	<ul style="list-style-type: none"> • TMP - measures outlined in Table 1.1 above. 	<ul style="list-style-type: none"> • Monitoring as per TMP requirements. 	<ul style="list-style-type: none"> • Operations.
Fire & Emergency.	<ul style="list-style-type: none"> • FEMP - measures outlined in Table 1.1 above. 	<ul style="list-style-type: none"> • Monitoring as per FEMP requirements. 	<ul style="list-style-type: none"> • Operations.
Native Vegetation.	<ul style="list-style-type: none"> • NVMP - measures outlined in Table 1.1 above. • Post construction offset implementation and monitoring required during operations. 	<ul style="list-style-type: none"> • Monitoring as per NVMP requirements. 	<ul style="list-style-type: none"> • Operations.
Pests (including weeds)	<ul style="list-style-type: none"> • PMP - measures outlined in Table 1.1 above. 	<ul style="list-style-type: none"> • Monitoring as per PMP. 	<ul style="list-style-type: none"> • Operations.
Heritage	<ul style="list-style-type: none"> • HMP - measures outlined in Table 1.1 above. 	<ul style="list-style-type: none"> • Monitoring as per HMP. 	<ul style="list-style-type: none"> • Operations.
Site restoration.	<ul style="list-style-type: none"> • Restoration and rehabilitation requirements ongoing from construction. 	<ul style="list-style-type: none"> • Monitoring effectiveness of restoration measures. 	<ul style="list-style-type: none"> • Operations.
Noise Management Plan			
Noise complaints.	<ul style="list-style-type: none"> • Subject to Pacific Hydro's existing Complaints Procedure. 	<ul style="list-style-type: none"> • Complaints handling procedure includes requirement to monitor complaints received and dealt with. 	<ul style="list-style-type: none"> • Operations.

1.10 Decommissioning Stage

Table 1.3: Environmental management aims and objectives during the decommissioning stage of the solar farm

Issue	Mitigation Commitments	Monitoring Requirements	Timing
Decommissioning Environmental Management and Monitoring Plans			
Decommissioning and Reinstatement Plan			
Decommissioning & Reinstatement Plan (DRP).	Within 18 months of cessation of the operation of the project, the site shall be decommissioned and returned, as far as practical and in accordance with a Decommissioning Environmental Management Plan, to its condition prior to the commencement of construction.	<ul style="list-style-type: none"> Monitoring to evaluate the success of site restoration works will form part of the plan. 	<ul style="list-style-type: none"> Decommissioning.
Decommissioning & Reinstatement Plan.	<ul style="list-style-type: none"> The DRP will set out site decommissioning and rehabilitation aims and targets. It is expected at this stage that the portions of the site used for the solar farm would be re-instated for agricultural use. Sub-surface concrete foundations would be left in-situ, exposed concrete plinths would be removed to a depth of approximately 1 meter and the entire foundation graded over with soil and either replanted or the vegetation allowed to regenerate naturally. The access tracks may be left on site subject to the requirements of the landowners. All materials removed from the site will be either recycled (e.g. steel) or disposed of in accordance with statutory requirements and best practice current at the time of decommissioning. That a site rehabilitation or decommissioning plan should contain measures to ensure the land maintains the optimum potential for productive agricultural use. 	<ul style="list-style-type: none"> As above. 	<ul style="list-style-type: none"> Decommissioning.
Traffic Management.	<ul style="list-style-type: none"> A TMP will be prepared to cover the decommissioning phase of the project. 	<ul style="list-style-type: none"> Adherence to plan and controls will be checked for compliance on a regular basis. 	<ul style="list-style-type: none"> Decommissioning.

