

Nova Energy Limited - Twizel Solar Project

Attachment 3.17 – Schedules of Management Plan Conditions and Adaptive Management Conditions

The purpose of this document is to assist the Panel in understanding the proposed conditions related to management plans and adaptive management.

Table 1 identifies key features of all conditions which provide for the preparation of a management plan, including the process for preparing, certifying and amending the management plan, and monitoring compliance.

Table 2 identifies the key features of proposed adaptive management regimes that are provided for in management plan conditions 32-46.

Table 1: Management Plan Condition Schedule¹

Management Plan	Relevant conditions	Who management plan is to be prepared by	Timeframe for submitting management plan	Certification requirements	Objectives and purpose of management plan	Details of what plan must include	Process for amendments	Confirmation that the activity must comply with the management plan	Monitoring requirements
Construction Environmental Management Plan (CEMP):	Conditions 8, 18 and 23-26.	Conditions 18 and 24: The Consent Holder is required to prepare the CEMP in accordance with Conditions 18 and 24.	Condition 24: The Consent Holder must submit the CEMP at least 30 working days prior to commencement of construction works.	Condition 24: The CEMP is certified by the Planning Manager, Mackenzie District Council for endorsement acting in a technical certification capacity to certify that the CEMP meets its stated purpose. Condition 25: Where relevant, the CEMP must be provided to Transpower for review at least 20 working days prior to submission.	Condition 24: The purpose of the CEMP is to provide the overarching framework to ensure that the construction of the Twizel Solar Plant remains within the limits and standards required by the conditions and that works appropriately avoid, remedy, or mitigate adverse effects on the environment.	Condition 26: The CEMP must include a range of information identified in the condition relevant to the construction of the programme and to inform contractors of the requirements of the conditions of consent.	Condition 23: The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District Council for certification following a specified process.	Condition 8: The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie District Council, including the CEMP.	General Council compliance monitoring and consent review powers under the RMA.
Construction Traffic Management Plan (CTMP):	Conditions 8, 18, 23 and 27 – 31.	Conditions 18 and 27: The Consent Holder is required to prepare the CTMP in accordance with Conditions 18 and 27. Condition 29: The CTMP must be prepared by a suitably experienced and qualified traffic engineer in accordance with Mackenzie District Council's requirements for CTMPs and the New Zealand Transport Agency's Code of Practice for Temporary Traffic Management, and in consultation with the New Zealand	Condition 27: The Consent Holder must submit the CTMP at least 30 working days prior to commencement of construction works.	Condition 27: The CTMP must be certified by the Planning Manager, Mackenzie District Council for endorsement acting in a technical certification capacity to certify that the CTMP meets its stated purpose.	Condition 27: The purpose of the CTMP is to meet a range of objectives specified in the condition including that all specific legislative requirements and consent conditions in relation to construction traffic are adhered to and to minimise disruption to and manage the condition of State Highway 8.	Condition 28: The CTMP must include a range of information required by the condition relating to the construction programme, associated traffic volumes and practices to ensure safe management of traffic.	Condition 23: The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District Council for certification following the process outlined in conditions 19 – 22.	Condition 8: The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie District Council, including the CTMP.	Condition 28 includes requirements that the CTMP must include provision for monitoring of construction traffic, any spillage onto roads, and the implementation and effectiveness of the CTMP.

¹ All conditions referenced in Table 1 are in respect of Draft Consent Conditions – Twizel Solar Project Mackenzie District Council Land Use Consent.

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		Transport Agency and the Planning Manager, Mackenzie District Council.							
Biosecurity and Vegetation Management Plan (BVMP):	Conditions 8, 23 and 32 – 34.	<p>Conditions 8 and 32: The Consent Holder is required to prepare the BVMP in accordance with Conditions 8 and 32.</p> <p>Condition 33: The BVMP must be prepared by a suitably qualified and experienced person.</p>	<p>Condition 32: The Consent Holder must submit the BVMP at least 30 working days prior to commencement of construction works.</p>	<p>Condition 32: The BVMP must be provided to the Planning Manager, Mackenzie District Council for endorsement acting in a technical certification capacity against the stated objective.</p>	<p>Condition 32: The purpose of the BVMP is to minimise the risk of introducing pest plants and associated threats to biodiversity values present at the site.</p>	<p>Condition 34: The BVMP must include a range of information specified in the condition relating to:</p> <ul style="list-style-type: none"> a) Identification of pest plants and biosecurity threats. b) Specific biosecurity measures to be undertaken. c) Monitoring and surveillance measures. d) Actions to be taken if pest species increase or Threatened or At Risk species decline. 	<p>Condition 23: The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District Council for certification following the process outlined in conditions 19 – 22.</p>	<p>Condition 8: The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie District Council, including the BVMP.</p>	<p>Condition 34: The BVMP must include various monitoring measures, including:</p> <ul style="list-style-type: none"> • Measures for the monitoring and surveillance of pest plants throughout the life of the project. • Adaptive management responses. • Provision for the results of monitoring to inform future monitoring and amendment of the BVMP.
Pest Mammal Management Plan (PMMP):	Conditions 8, 18, 23 and 35 – 37.	<p>Conditions 18 and 35: The Consent Holder is required to prepare the PMMP in accordance with Conditions 18 and 35.</p> <p>Condition 36: The PMMP must be prepared by a suitably qualified and experienced person.</p>	<p>Condition 35: The Consent Holder must submit the PMMP at least 30 working days prior to commencement of construction works.</p>	<p>Condition 35: The PMMP must be provided to the Planning Manager, Mackenzie District Council for endorsement acting in a technical certification capacity against the stated objective.</p>	<p>Condition 35: The purpose of the PMMP is to reduce the abundance of pest mammals present on site and thereby limit their impact on indigenous plants and fauna.</p>	<p>Condition 37: The PMMP must include a range of information specified in the condition relating to:</p> <ul style="list-style-type: none"> a) Identification of existing ecological values and pest species at the site. b) Baseline survey and monitoring measures. c) Process for liaising with neighbouring landowners with the objective of 	<p>Condition 23: The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District Council for certification following the process outlined in conditions 19 – 22.</p>	<p>Condition 8: The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie District Council, including the PMMP.</p>	<p>Condition 37: The PMMP includes various monitoring requirements including:</p> <ul style="list-style-type: none"> • Measures for baseline surveying of pest mammals on site. • Provision for monitoring and surveillance of pest mammals throughout the life of the project.

Management Plan	Relevant conditions	Who management plan is to be prepared by	Timeframe for submitting management plan	Certification requirements	Objectives and purpose of management plan	Details of what plan must include	Process for amendments	Confirmation that the activity must comply with the management plan	Monitoring requirements
						<ul style="list-style-type: none"> integrating pest management. d) A pest control plan. e) Adaptive management measures. 			
Terrestrial Invertebrate Management Plan (TIMP):	Conditions 8, 18, 23 and 38 – 40.	<p>Conditions 18 and 38: The Consent Holder is required to prepare the TIMP in accordance with Conditions 18 and 38.</p> <p>Condition 39: The TIMP must be prepared by a suitably qualified and experienced person.</p>	Condition 38: The Consent Holder must submit the TIMP at least 30 working days prior to commencement of construction works.	Condition 38: The TIMP must be provided to the Planning Manager, Mackenzie District Council for endorsement acting in a technical certification capacity against the stated objective.	Condition 38: The purpose of the TIMP is to increase invertebrate values (including grasshopper abundance) in enhanced areas around the perimeter of the site and reduce the impacts of potential population declines within the panel area.	Condition 40: The TIMP must include a range of information specified in the condition relating to: <ul style="list-style-type: none"> a. Measures to be undertaken to avoid and minimise effects on invertebrates. b. Habitat restoration measures. c. Provision for monitoring of invertebrates present at the site. d. A salvage and translocation protocol for specified species. e. An incidental discovery protocol. f. A timetable for the implementation of the recommended effects management approach. g. Provision for adaptive management. 	Condition 23: The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District Council for certification following the process outlined in conditions 19 – 22.	Condition 8: The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie District Council, including the TIMP.	Condition 40: The Consent Holder must provide for annual monitoring of invertebrates present at the site and once every three years thereafter, for 12 years.
Lizard Management Plan (LMP):	Conditions 8, 18, 23 and 41 – 43.	<p>Conditions 18 and 41: The Consent Holder is required to prepare the LMP in accordance with Conditions 18 and 41.</p> <p>Condition 42: The LMP must be prepared by a suitably</p>	Condition 41: The Consent Holder must submit the LMP at least 30 working days prior to commencement of construction works.	Condition 41: The LMP must be provided to the Planning Manager, Mackenzie District Council for endorsement acting in a technical certification capacity against the stated objective.	Condition 41: The purpose of the LMP is to ensure that the construction and operation of the Twizel Solar Plant does not result in the disturbance, injury, or mortality of indigenous avifauna, including Threatened and At Risk	Condition 40: The LMP must include a range of information specified in the condition relating to: <ul style="list-style-type: none"> a. Measures to be undertaken to avoid, minimise and remedy 	Condition 23: The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-	Condition 8: The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie	Condition 43: The Consent Holder must provide for monitoring of lizard habitat enhancement areas at Years 1, 3 and 5 following creation of the enhancement areas and provision for monitoring results to be provided to the

Management Plan	Relevant conditions	Who management plan is to be prepared by	Timeframe for submitting management plan	Certification requirements	Objectives and purpose of management plan	Details of what plan must include	Process for amendments	Confirmation that the activity must comply with the management plan	Monitoring requirements
		qualified and experienced person.			species, through habitat avoidance, seasonal and spatial controls, collision-risk mitigation, and adaptive management informed by ongoing monitoring.	<ul style="list-style-type: none"> b. A protocol for incidental discoveries of indigenous lizards. c. Measures for the monitoring of lizard habitat enhancement areas. d. Provision for reporting of monitoring results to be provided to the Department of Conservation, Mackenzie District Council and Mana Whenua at the end of each monitoring period. e. Provision for adaptive management. 	administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District Council for certification following the process outlined in conditions 19 – 22.	District Council, including the LMP.	Department of Conservation, Mackenzie District Council and Mana Whenua at the end of each monitoring period.
Avifauna Management Plan (AMP):	Conditions 8, 18, 23 and 44 – 46.	<p>Conditions 18 and 44: The Consent Holder is required to prepare the AMP in accordance with Conditions 18 and 44.</p> <p>Condition 45: The AMP must be prepared by a suitably qualified ecologist or ornithologist, in consultation with DOC.</p>	Condition 44: The Consent Holder must submit the AMP at least 30 working days prior to commencement of construction works.	Condition 44: The AMP must be provided to the Planning Manager, Mackenzie District Council for endorsement acting in a technical certification capacity to certify that the plan meets the objective.	Condition 44: The purpose of the AMP is to ensure that the construction and operation of the Twizel Solar Plant does not result in the disturbance, injury, or mortality of indigenous avifauna, including Threatened and At Risk species, through habitat avoidance, seasonal and spatial controls, collision-risk mitigation, and adaptive management informed by ongoing monitoring.	Condition 46: The AMP must include a range of information specified in the condition relating to: <ul style="list-style-type: none"> a. Measures to be undertaken to avoid, minimise, and remedy effects on avifauna. b. Protocols for managing and responding to Threatened and At Risk indigenous birds being found on the site. c. Details of monitoring requirements. d. Adaptive management measures. 	Condition 23: The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District Council for certification following the process outlined in conditions 19 – 22.	Condition 8: The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie District Council, including the AMP.	<p>Condition 46 includes requirements for:</p> <p>Baseline monitoring of birds at the site for 6 months prior to construction.</p> <p>Weekly monitoring of birds for the first year of construction and a minimum of fortnightly for the remainder of the construction period.</p> <p>Fortnightly monitoring of birds for a minimum of three years following completion of construction.</p> <p>Provision for preparation and implementation of a bird carcass monitoring plan.</p> <p>In addition, Condition 51 requires an avifauna survey to be undertaken prior to commencement or</p>

Management Plan	Relevant conditions	Who management plan is to be prepared by	Timeframe for submitting management plan	Certification requirements	Objectives and purpose of management plan	Details of what plan must include	Process for amendments	Confirmation that the activity must comply with the management plan	Monitoring requirements
									recommencement of construction works.
Bird Collision Management Plan (BCMP):** <i>** a BCMP will only be required the event that thresholds set out in Table 2 Condition 46 are exceeded.</i>	Conditions 8, 18, 23 and 71 – 78.	Condition 18: The Consent Holder must prepare the BCMP in accordance with Condition 18. Condition 71: The BCMP must be prepared by an independent suitably qualified and experienced ecologist/ornithologist within 5 working days of a mortality exceedance as shown in Table 2 in Condition 46. Condition 74: The BCMP must be provided to DOC and mana whenua whenua rūnaka for comment no less than 20 working days prior to submitting the BCMP to Mackenzie District Council.	Condition 72: The Consent Holder must submit the BCMP following exceedance of a threshold.	Condition 72: The BCMP must be provided to the Planning Manager, Mackenzie District Council for certification.	Condition 72: The purpose of the BCMP is to ensure avifauna does not continue to exceed thresholds in Table 2 in Condition 46.	Condition 73: The BCMP must include a range of information specified in the condition relating to: <ol style="list-style-type: none"> Details of ongoing monitoring to be undertaken. Details of collision prevention/deterrment measures. Further monitoring measures. Compensation 	Condition 23: The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District Council for certification following the process outlined in conditions 19 – 22.	Condition 8: The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie District Council, including the BCMP.	Condition 74: A key task of the BCMP is to provide for ongoing monitoring.
Archaeological Management Plan (ArchMP):	Conditions 8, 18, 23 and 47 – 50.	Conditions 18 and 47: The Consent Holder is required to prepare the ArchMP in accordance with Conditions 18 and 47. Condition 48: The ArchMP must be prepared by a suitably qualified archaeologist.	Condition 47: The Consent Holder must submit the ArchMP at least 30 working days prior to commencement of construction works.	Condition 47: The ArchMP must be provided to the Planning Manager, Mackenzie District Council for endorsement acting in a technical certification capacity to certify that the plan meets the objective.	Condition 47: The purpose of the ArchMP is to ensure all potential archaeological sites within the project area are identified and appropriately managed in accordance with the Heritage New Zealand Pouhere Taonga Act 2014.	Condition 49: The ArchMP must include a range of information specified in the condition relating to: <ol style="list-style-type: none"> Identification of areas requiring archaeological monitoring. A requirement that an archaeologist present an induction to contractors. A requirement for an archaeologist or a cultural monitor to be on site to monitor representative areas of specified earthworks. Archaeological Discovery 	Condition 23: The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District Council for certification following the process outlined in conditions 19 – 22.	Condition 8: The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie District Council, including the ArchMP.	Condition 49: An archaeologist or a cultural monitor is required to be on site to monitor representative areas of specified earthworks.

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						<ul style="list-style-type: none"> e. Roles and Responsibilities. 			
Natural Hazard/Stormwater Mitigation Works Plan (Stormwater MWP):	Conditions 8, 23, 58 and 59.	Condition 18 requires that the Stormwater MWP must be prepared by the Consent Holder.	<p>Condition 57:</p> <p>The Consent Holder must submit the Stormwater MWP at least 30 working days prior to the commencement of construction works.</p>	<p>Condition 57:</p> <p>The Stormwater MWP must be provided to the Planning Manager, Mackenzie District Council for endorsement acting in a technical certification capacity to certify that the plan meets the objective.</p>	<p>Condition 58:</p> <p>The objective of the Stormwater MWP is to:</p> <ul style="list-style-type: none"> a. Avoid, remedy, or mitigate adverse effects on downstream land, waterbodies, wetlands, and infrastructure. b. Appropriately manage flood risk and surface water hazards to protect people, property and the environment. 	<p>Condition 59:</p> <p>The Stormwater MWP must include a range of matters specified in the condition relating to:</p> <ul style="list-style-type: none"> a. Final detailed design for stormwater infrastructure and natural hazard mitigation works. b. Confirmation of relevant engineering consideration. c. Details of measures to manage stormwater quantity and quality. d. Details of works proposed near to mapped flood hazard areas. e. Staging and sequencing of works. f. Inspection, monitoring, and maintenance requirements. 	<p>Condition 23:</p> <p>The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District Council for certification following the process outlined in conditions 19 – 22.</p>	<p>Condition 8:</p> <p>The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie District Council, including the Stormwater MWP.</p>	<p>Condition 59:</p> <p>The Stormwater MWP is required to specify inspection and monitoring requirements.</p>
Emergency Hydro Inundation Response and Evacuation Plan (Emergency Evacuation Plan):	Conditions 8, 23 and 61.	Conditions 8 and 61: The Consent Holder must prepare the Emergency Evacuation Plan in accordance with Conditions 8 and 61 (in consultation with Meridian Energy Limited).	<p>Condition 61:</p> <p>The Consent Holder must submit the Emergency Evacuation Plan prior to construction beginning on the site.</p>	<p>Condition 61:</p> <p>The Emergency Evacuation Plan must be submitted to Mackenzie District Council.</p>	<p>Condition 61:</p> <p>The purpose of the Emergency Evacuation Plan is to minimise the risk to life and property (including assets) that may arise from the uncontrolled release of water from the Waitaki Power Scheme.</p>	The content of the Emergency Evacuation Plan will be agreed with Meridian Energy Limited.	<p>Condition 23:</p> <p>The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District</p>	<p>Condition 8:</p> <p>The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie District Council, including the Emergency Evacuation Plan.</p>	<p>General Council compliance monitoring and consent review powers under the RMA.</p>

Management Plan	Relevant conditions	Who management plan is to be prepared by	Timeframe for submitting management plan	Certification requirements	Objectives and purpose of management plan	Details of what plan must include	Process for amendments	Confirmation that the activity must comply with the management plan	Monitoring requirements
							Council for certification following the process outlined in conditions 19 – 22. Condition 61: Any updates to the plan must be provided within 3 months of an update being finalised.		
Decommissioning Plan:	Conditions 8, 23 and 85 – 90.	Conditions 8 and 85: The Consent Holder must prepare the Decommissioning Plan in accordance with Conditions 8 and 85. Condition 85: The Decommissioning Plan must be prepared by a suitably qualified and experienced person.	Condition 85: The Decommissioning Plan must be submitted at least 80 working days prior to commencement of the decommissioning of the solar farm.	Condition 85: The Decommissioning Plan must be submitted to the Planning Manager, Mackenzie District Council for endorsement acting in a technical certification capacity.	Condition 85: The Decommissioning Plan must provide for the following objectives: a. Decommissioning of the solar panels and all associated infrastructure in a manner that complies with all legislative requirements. b. Leaving the land in a condition that is safe and suitable for the subsequent land use. c. Ensuring that the components and infrastructure are repurposed or disposed of in a way that maximises re-use and recycling.	Condition 86: The Decommissioning Plan must include the following: a. Details on all infrastructure to be decommissioned. b. Details of specific infrastructure to remain on-site post-closure and reasons why it will remain on site. c. Scheduling and timing for decommissioning. d. Details for finished ground cover at completion of decommissioning and future intended land use.	Condition 23: The Consent Holder may make amendments to the plan(s) at any time, provided that non-administrative changes must be submitted to Mackenzie District Council for review and certification. Any non-administrative amendment to the plans must be submitted to the Planning Manager, Mackenzie District Council for certification following the process outlined in conditions 19 – 22.	Condition 8: The Consent Holder must at all times construct, operate and maintain the Twizel Solar Farm in accordance with all management plans submitted to and certified by Mackenzie District Council, including the Decommissioning Plan.	Condition 89: The Consent Holder must notify Mackenzie District Council and Environment Canterbury at least ten (10) working days prior to completion of the decommissioning to allow Council staff to carry out site inspections to determine compliance with the certified Decommissioning Plan.
Environment Canterbury Regional Council - Discharge of Operational Stormwater to Land									
Stormwater Management Plan (SWMP):	Conditions 14 – 17.	Condition 15: The SWMP is to be prepared by a suitably qualified and experienced practitioner.	Condition 14: The SWMP must be submitted no less than 20 working days prior to commissioning of the Solar Plant.	Condition 14: The SWMP must be submitted to the Canterbury Regional Council, Regional Leader - Monitoring and Compliance for certification.	Condition 15: The purpose of the SWMP is to demonstrate how stormwater from the operating solar plant will be managed and discharged to land only (via soakage) to avoid, remedy or mitigate adverse effects on the environment.	Condition 14: The SWMP must include the following information: a. Confirmation of the availability of stormwater soakage to alleviate any possible ponding under the solar panel arrays. b. The design of the proposed stormwater soakage pits.	Condition 16: The SWMP may be amended at any time. Any amendments must comply with the limitations in Condition 16.	Condition 16: The certified SWMP (and any subsequent amendments) must be implemented and adhered to throughout the operation of the Solar Plant.	General Council compliance monitoring and consent review powers under the RMA.
Soil Monitoring Plan (SMP):	Conditions 18 – 21.	Condition 18: The SMP must be prepared by a suitably	Condition 18: The SMP must be submitted at least three	Condition 18: The SMP must be provided to the	Condition 18: The purpose of the SMP is to monitor the	Condition 17: The SMP must include various matters	No provision for amendments is specified.	Condition 19: The soil sampling regime must be	Conditions 19 – 21: The soil samples must be obtained and

Management Plan	Relevant conditions	Who management plan is to be prepared by	Timeframe for submitting management plan	Certification requirements	Objectives and purpose of management plan	Details of what plan must include	Process for amendments	Confirmation that the activity must comply with the management plan	Monitoring requirements
		qualified and experienced practitioner with experience in soil contamination and in consultation with mana whenua rūnaka.	months prior to the commencement of any physical works for the initial construction of the Solar Plant.	Compliance Manager at Canterbury Regional Council for certification.	potential for soil contamination across the site.	specified in the condition relating to a proposed soil sampling regime.		implemented at the stages detailed in the SMP.	analysed by an accredited laboratory, and results reported to Canterbury Regional Council.
Environment Canterbury Regional Council - Discharge of Construction Phase Stormwater to Land									
Erosion Sediment and Control Plan (ESCP):	Conditions 9 – 13.	Condition 9: The ESCP must be prepared by suitably qualified person with experience in erosion and sediment control.	Condition 11: The ESCP must be submitted after the commencement of the resource consent and at least 10 working days prior to works commencing.	Condition 11: The ESCP must be provided to the Compliance Manager at Canterbury Regional Council for certification.	Condition 9: The purpose of the ESCP is to ensure that earthworks are managed to avoid discharge of sediment-laden stormwater to surface waterbodies, whether directly or indirectly, and to ensure that all stormwater is retained, treated, and discharged to land within the site boundaries via infiltration so as to protect the receiving environment.	Condition 10: The ESCP must include a range of matters specified in the condition relating details of the earthworks programme, sediment control methods, dust control methods and inspections and maintenance.	Condition 12: The ESCP may be amended at any time. Any amendments must comply with the limitations in Condition 12.	Not expressly stated in Canterbury Regional Council standard consent conditions, but implicit in Conditions 9 – 13.	Condition 13: Erosion and sediment control measures must be inspected at least once per week, and as soon as practicable following any rainfall event that results in more than five millimetres of rainfall within any 24-hour period at the site. Any accumulated sediment must be removed, and repairs made, as necessary, to ensure effective functioning of measures and devices.

Table 2: Adaptive Management Condition Schedule

Management Plan	Relevant conditions	Baseline assessment for receiving environment	Conditions provide for effective monitoring of adverse effects	Purpose of adaptive management	Trigger for implementation of adaptive management	Proposed management actions
Biosecurity and Vegetation Management Plan (BVMP):	Conditions 32 – 34.	<p>The Assessment of Ecological Effects and additional surveys undertaken by Wildlands identified the distribution and location of Threatened and At-Risk vegetation, invertebrates, lizards and avifauna at the site. Areas of ecologically significant vegetation and habitats were also identified.²</p> <p>Seven plant species classified as At-Risk or Threatened are present at the site.³</p> <p>Six plant species recorded on the site are listed as either 'pest' or 'Organisms of Interest' in Environment Canterbury's Regional Pest Management Plan.⁴</p> <p>An additional six plants have been identified as environmental (ecological) weeds.⁵</p>	<p>Condition 34(c) requires that the BVMP includes:</p> <p>Measures for the monitoring and surveillance of pest plants throughout the life of the project including:</p> <ol style="list-style-type: none"> i. Establishment of a minimum of 30 monitoring plots across the site prior to works commencing at the site. ii. Provision for vascular plant monitoring surveys to be undertaken one year after works begin at the site and every three years subsequently. 	<p>An adaptive management approach will be undertaken to respond to residual uncertainty regarding how plant communities will respond to land use changes and potential reductions in browse pressure from pest species and to enable targeted responses to any potential decline in Threatened or At Risk plant species at the site.⁶</p>	<p>An adaptive management response will be required if either:⁷</p> <ul style="list-style-type: none"> • monitoring identifies that there is a detectable increase in pest plants and ecological weeds or a new weed or pest plant occurs at the site; or • a decline in Threatened or At Risk plants is detected at the site from data gathered from the permanent vegetation monitoring plots and/or a decline is observed by the ecologist during qualitative surveys. 	<p>Condition 34(d) – (g) sets out the steps that must be followed in the event that an adaptive management response is required:</p> <ul style="list-style-type: none"> • If a detectable increase in pest plants and ecological weeds or a new weed or pest plant occurs at the site, the following steps must be undertaken: <ul style="list-style-type: none"> ○ Implementation of additional control effort. ○ Ensuring contractors are aware of the issue and will undertake vehicle checks to control the spread of the plant. • If a decline in Threatened or At Risk plants is detected at the site from data gathered from the permanent vegetation monitoring plots and/or a decline is observed by the ecologist during qualitative surveys the following must be undertaken: <ul style="list-style-type: none"> ○ Additional days must be spent monitoring the pest plants, depending on the nature of the decline. The length of the additional monitoring period must be determined by the ecologist and must be informed by the nature and extent of the decline. ○ If the cause of decline is obvious, for example pressure from pest plants, then additional control will be undertaken as soon as reasonably practicable, and before the decline becomes worse. ○ If the cause is not obvious, further investigation determined by a SQEP will be undertaken. ○ The results of further investigations must inform management measures to address the decline, if it is determined to be caused either directly or indirectly by the project. These may include the following: <ol style="list-style-type: none"> i) Additional pest plant management. ii) Additional pest animal management. iii) Changes to the animal grazing regime on the site. • Additional monitoring must be undertaken to assess the success of the measures to address the decline. Monitoring methodology and timeframes will depend on the effect and management and will be determined on a case-by-case basis. If there is no evidence that management has been effective, additional management will be undertaken and if necessary, the cause will be further investigated.
Pest Mammal Management Plan (PMMP):	Condition 35 – 37.	<p>During floral and fauna surveys completed by Wildlands, rabbit and hare sign was noted. Other pest mammal sign was not seen, but feral cats, ferrets, stoats, least weasels,</p>	<p>Condition 37 specifies that the PMMP must include:</p> <ul style="list-style-type: none"> • Provision for monitoring and surveillance of pest mammals throughout the life of the project including: 	<p>An adaptive management approach will be adopted to ensure that pest mammal management is guided by monitoring results and adjusted if necessary.⁹</p>	<p>Condition 37(h) specifies that adaptive management must be implemented if monitoring results show that the relevant performance standards are not met over two of the same</p>	<p>Condition 37(h) identifies potential adaptive management responses, which may include:</p> <ul style="list-style-type: none"> • Reducing the distance between pest control devices. • Checking pest control devices more frequently. • Adding more pest control devices.

² BVMP, section 2.3.

³ Ibid.

⁴ BVMP, section 3.1.

⁵ Ibid.

⁶ BVMP, section 7.1.

⁷ Ibid.

⁹ PMMP, section 12.0.

Management Plan	Relevant conditions	Baseline assessment for receiving environment	Conditions provide for effective monitoring of adverse effects	Purpose of adaptive management	Trigger for implementation of adaptive management	Proposed management actions
		<p>rodents, hedgehogs, and bushtail possums are likely to be present.⁸</p> <p>Condition 37 specifies that the PMMP must include:</p> <ul style="list-style-type: none"> Identification of existing ecological values at the site, the pest mammals present or likely to be present and the threats they pose to ecology. Measures for baseline surveying of pest mammals on site. The baseline survey must be undertaken over a 12-month period during the year before construction commences. 	<ul style="list-style-type: none"> Annual monitoring for the first five years of the project and every four years thereafter. Review of the monitoring programme once every five years. 		<p>season (e.g. over two summers).</p> <p>Performance standards set out in Condition 37(f) comprise:</p> <ul style="list-style-type: none"> Biodiversity performance standards: <ul style="list-style-type: none"> Negligible or no signs of pest mammal predation on lizards, adult birds, chicks or bird eggs; and negligible or no possum feeding sign on plants and little to no rabbit or hare feeding sign. Pest mammal performance standards, which must require: <ul style="list-style-type: none"> General declines in pest mammal activity and abundance across the site, comparing between the same seasons across different years. 	<ul style="list-style-type: none"> Use of pindone poisoning. Fencing. Changes in baiting methods (in the event of bait aversion).
Terrestrial Invertebrate Management Plan (TIMP):	Conditions 38 – 40.	<p>An initial desktop assessment was completed as part of the AEE for the site and a walkthrough survey with a sweep net.</p> <p>Surveys confirmed New Zealand blue butterfly, and Minute Grasshopper (MG) to be on site. Two other notable grasshopper and one notable wētā species were also considered possibly present on site. These findings triggered further detailed surveying for grasshoppers and wētā.</p> <p>Further surveys detected Otago-short-horned grasshopper (OSG) and Tekapo ground wētā (TGW) on the site.</p>	<p>Condition 40 specifies provision for monitoring of invertebrates present at the site, including:</p> <ul style="list-style-type: none"> Annual monitoring for the first three years following the commencement of construction and once every three years thereafter, for 12 years. Provision for monitoring to use the existing transects and monitoring methods utilised in the initial surveys (Wildlands 2024a and 2024b). Additional transects for MG and OSG and tracking tunnels for TGW to be established in enhancement areas. 	<p>An adaptive management approach will be adopted to monitor the effects of the enhancement of the site margins to ensure that adequate biodiversity gains are achieved in these areas.¹⁰</p>	<p>Condition 40(h) provides that adaptive management must be implemented if, after two monitoring periods:</p> <ul style="list-style-type: none"> The number of OSG and/or MG has not increased within the enhancement areas; or the number of TGW has declined within the panel area and within the enhancement areas, adaptive management must be implemented. 	<p>Condition 40(h) identifies potential adaptive management responses which may include the following:</p> <ul style="list-style-type: none"> Rodent management measures. Assessment of enhancement plantings, and creation of additional patches of stony ground in areas that appear to be suboptimal habitat. Additional weed management in accordance with the BVMP required by Condition 32. <p>The condition also specifies that if after four monitoring periods, monitoring indicates no increase in OSG and MG populations or declines in TGW populations in the panel area and enhancement areas:</p> <ul style="list-style-type: none"> Monitoring results should be compared with any available monitoring results for offsite invertebrate populations, to identify whether declines are due to external phenomena. Further management measures may be implemented, which may include: <ul style="list-style-type: none"> Hedgehog control. Possum control. Other management measures agreed in consultation with the Department of Conservation. If after six monitoring periods, monitoring indicates declines in OSG, MG and TGW populations, the Consent Holder must pay compensation in accordance with section 5.3.4 of the Draft TIMP.
Lizard Management Plan (LMP):	Conditions 41 – 43.	<p>A desktop assessment was completed as part of the AEE for the site and two lizard field surveys undertaken by Wildlands</p>	<p>Condition 43 specifies provision for monitoring of lizards at the site, including:</p>	<p>The purpose of long-term monitoring (and it follows, adaptive management) is to ensure:</p>	<p>Condition 40(f) provides that:</p> <ul style="list-style-type: none"> If lizard capture rates increase by less than 10 per cent following the end 	<p>Condition 40(f) and (g) specify potential adaptive management responses that may include the following:</p> <ul style="list-style-type: none"> A second round of monitoring in the same year. Increased pest mammal control measures.

⁸ PMMP.

¹⁰ TIMP, section 5.3.3.

Management Plan	Relevant conditions	Baseline assessment for receiving environment	Conditions provide for effective monitoring of adverse effects	Purpose of adaptive management	Trigger for implementation of adaptive management	Proposed management actions
		<p>Herpetologists to determine the lizard habitats and lizard species present on the site.</p> <p>Six lizard species have been found in the wider vicinity of the site, including four skink species and two gecko species. Following multiple surveys, three lizard species have been confirmed to be present on the site.</p> <p>The habitats identified in the AEE meet the ecological significance criteria for rarity/distinctiveness and ecological context in the Canterbury Regional Policy Statement due to the confirmed presence of southern grass skink and Southern Alps gecko.</p>	<ul style="list-style-type: none"> Measures for the monitoring of lizard habitat enhancement areas which must include: <ul style="list-style-type: none"> Monitoring of lizard population abundance within enhancement areas, lizard habitat corridors and biodiversity nodes at Years 1, 3 and 5 following creation of the enhancement areas. Monitoring plant survival, via establishment of photopoints at locations within enhancement areas, lizard habitat corridors and nodes. Photographs must be taken at these locations at Years 1, 3 and 5 following creation of the enhancement areas. Pest plant monitoring in accordance with the BVMP required by Condition 32. Pest mammal monitoring in accordance with the PMMP required by Condition 35. Provision for reporting of monitoring results to be provided to the Department of Conservation, Mackenzie District Council and mana whenua rūnaka at the end of each monitoring period. 	<ul style="list-style-type: none"> A 90 per cent survival rate of planting in lizard habitat areas. A 10 per cent increase in lizard population abundance in lizard habitat areas.¹¹ 	<p>of monitoring at Year 5, monitoring must continue for a further two additional monitoring periods, at Years 7 and 9.</p> <ul style="list-style-type: none"> If lizard capture rates decline between any two monitoring rounds, management measures must be implemented. 	<ul style="list-style-type: none"> Increased pest plant control measures. Additional habitat enhancement within enhancement areas, lizard habitat corridors and nodes. <p>The LMP also provides for compensation to be payable by the Consent Holder in the event that further monitoring indicates that management measures are unsuccessful in accordance with section 9.6 of the Draft AMP.</p>
Avifauna Management Plan (AMP):	Conditions 44 – 46.	<p>An initial desktop survey was conducted to identify records of all birds within five kilometres of the site between January 2021 and May 2025. A site visit was undertaken on 14 December and 15 December 2022.</p> <p>Sixty bird species and two hybrid taxa were detected during the desktop study and site visit. This included 44 indigenous species (nine Threatened, 10 At Risk, one Non-resident Native Migrant, and 24 Not Threatened) and 18 exotic species.</p> <p>In addition, Condition 46(c)(i) requires monitoring of birds present on the site monthly for six months prior to construction commencing in order to obtain further baseline data.</p>	<p>Condition 46 (c)(i) specifies provision for monitoring of avifauna at the site, including:</p> <ul style="list-style-type: none"> Monitoring of birds present at the site weekly for the first year of construction and a minimum of fortnightly for the remainder of the construction period, and fortnightly for a minimum of three years following completion of construction. An avifauna carcass monitoring programme which shall be implemented for a minimum of 36 months from commencement of installation of solar panels and ancillary infrastructure at the site. Requirements for recording and reporting any incidental carcass discoveries. 	<p>The purpose of adaptive management is to enable management measures to be adapted to respond to any bird fatalities identified as a result of carcass monitoring.¹²</p>	<p>Condition 46, Table 2 specifies the thresholds for indigenous bird mortality that trigger an adaptive management response, including:</p> <ul style="list-style-type: none"> The injury or mortality of one Nationally Critical or Nationally Endangered species. The injury or mortality of two Nationally Vulnerable or Nationally Increasing birds within one survey, or of three within a 12-month period. The injury or mortality of three At Risk birds within one survey, or of five within a 12-month period. The injury or mortality of five Not Threatened indigenous birds within a survey, or of 15 within a 12-month period. 	<p>Condition 70 requires submission of a report to Mackenzie District Council and DOC at years 1 – 3 of the avifauna carcass monitoring programme, setting out the results of that programme.</p> <p>Condition 71 requires that within 5 working days of exceeding a threshold in Table 2, a Bird Collision Management Plan must be prepared. This must specify adaptive management responses which will be implemented, which may include:</p> <ul style="list-style-type: none"> Bird-sensitive anti-reflective coatings and/or applications to the panels. Use of deterrent devices or visual warning devices/markings (flags, streamers, or visually distinctive markings on panels) to deter attempted landing on panels. Bird balls or other flight diverters on transmission lines. Limitations on angle or orientation of solar panels over defined spatial, temporal scales, or environmental conditions if collisions were able to be attributed to certain spatial temporal or environmental patterns. Further monitoring, at an appropriate time scale, to test the effectiveness of proposed mitigation responses. <p>Condition 73 also provides for compensation to be payable by the Consent Holder in accordance with sections 6.14.5 and 6.14.6 of the Draft AMP.</p>

¹¹ LMP, section 9.2.

¹² AMP, section 6.14.

