



Hillston Sun Farm
ENVIRONMENTAL
MANAGEMENT REPORT

Date: 07/12/2022

Environmental Management Report
Project: Hillston Sun Farm

Prepared By:	Tim Fitzpatrick/Juan Jose Perez
Position:	Site Manager
Description:	Environmental Management Report
Code:	HIL-GRS-OM-ENV-RPT-0001 EMS – Environmental Report



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1.0 INTRODUCTION

1.1 Overview

Amp Energy has assigned to GRS the design, engineering, procurement, fabrication, construction, installation, commissioning, testing, delivery and rectification of all defects, to the completion of the Hillston Sun Farm and associated works.

Amp Energy has assigned to GRS the operations and maintenance of the Hillston Sun Farm until expiry of the Defects Liability Period of the EPC Contractor.

An element of this work is the satisfaction of the project's Environmental Management Strategy (EMS) dated 31 August 2018.

Amp Energy has provided to GRS the Environmental Management Strategy in order to ensure compliance with the Development consent (SSD 7955) under section 89 E of the NSW *Environmental Planning and Assessment Act 1979*.

The EMS sets out monitoring and reporting requirements in the areas of biodiversity and landscaping during the operations period and these topics are dealt with in this report, which covers from May 2022 to October 2022.

2.0 BIODIVERSITY

2.1 Overview

Biodiversity monitoring and inspection requirements of the project are set out in Table 4.1 of the EMS, and these requirements are responded to below.

2.2 Operations requirement 1 – Inspections to detect weed germination and signs of soil pathogen infection.

Inspections have been carried out by site staff that has the skillset and formalized training unit AHCPMG301- Control weeds which enables staff to identify weeds and create a control plan. Quarterly inspections have been undertaken to detect noxious weeds. Additionally, monthly inspections have been undertaken to monitor such weeds. During such inspections, the following non compliance have been identified:

- Weeds have been identified along the whole site. The weeds identified are:
 - Flax leaf fleabane (*Erigeron bonariensis*)
 - Hedge mustard (*Sisymbrium officinale*)
 - Marshmallow (*Malva Parviflora*)
 - Caltrop/Bindii (*Tribulus terrestris*)
 - African Boxthorn(*Lycium ferocissimum*)
 - Patterson Curse (*Echium plantagineum*)

Corrective actions are detailed in section 4.1. Weed Spraying during maintenance period.

2.3 Operations requirement 2 – On going inspections to detect presence of federal pests.

Inspections have been carried out quarterly over the entire site. No federal pest have been identified during the mentioned period (May 2022 to October 2022).

Evidences of the above are included as Appendix I and III.

3.0 LANDSCAPING

3.1 Overview

Landscaping activities for the project are limited to two locations; specifically landscaping screening at the south eastern fence line, to the south of the “Remnant vegetation and overland flow path to be avoided” and adjacent to Kidman Way, as shown on Figure 1.1 of the EMS, and landscaping screening to be provided with reference to sensitive receiver R17 as identified on Figure 1.1 of the EMS.

3.2 Landscaping screening at the south eastern fence line area

This requirement has been the subject of change due to the changed nature of the photovoltaic plant in the intervening period following the issuing of the Development Consent and commencement of construction. Specifically, the need for screening of glint and glare, from the solar farm to motorists on Kidman Way, has been obviated by the removal of photovoltaic plant from the area of the site to the south of the remnant vegetation footprint. This has been made possible by improvement in cell technology and the corresponding increase in electrical output per unit area of PV modules.

Landscaping in this area is not proceeding for the reasons set out above, with evidence of this change provided in Appendix VII – Amp Energy – GRS email thread regarding south eastern landscaping. Monitoring requirements are therefore not triggered for this landscaping area.

No further action was required

3.3 Landscaping screening for sensitive receiver R17

Landscaping area is finalized and no further actions are required by GRS.

No further action was required

4.0 OTHER ACTIVITIES

4.1 Weed Spraying during maintenance period

Weed spraying has been undertaken onsite, to minimize weed growth and prevent seed set for future years. The use of selective herbicides means problematic weeds can be targeted and enable certain grasses and plant types to grow for other benefits. Weed spraying is inspected within 10-14 days to evaluate effectiveness and if further activities are required to remove weeds

4.2 Pest animal control during maintenance period

No large animal has been identified within the site, informal inspections are undertaken quite regularly with a formal quarterly inspection in place. An inspection found a population of bees; however after 2-3 days the bees had moved on.

4.3 Monitoring of fences during maintenance period

Fences are inspected monthly, these inspections report on steel structure, quality, material build up (weeds, debris etc.) holes or gaps in fence, gates operation and any other problems.

4.4 Planted vegetation/grass trimming during maintenance period

During the environmental inspections, high grass has been detected and raised as a non compliance.

The corrective actions performed during the period are:

- Slashing and mowing of areas where high grass have been detected. A combination of flail type and zero turn rotary type machines have been used to perform this activity. A contractor has attended the site multiple times to cut and mulch the vegetation between the tracker rows to prevent module shading and to keep vegetation at a manageable level for bushfire mitigation.

Evidence of the above are included as Appendix II and III.

APPENDIX I



Picture 1. Flax leaf fleabane (*Erigeron bonariensis*).



Picture 2. Hedge mustard (*Sisymbrium officinale*).



Picture 3. Bees found during pest inspection.

APPENDIX II



Picture 4. Weed spraying.



Picture 5. Site slashing.



Picture 6. Site slashing.



Picture 7. Weed control/Slashing.



Picture 8. Slashing.



**HILLSTON SUN FARM –
AUSTRALIA**
Environmental Management Report

Environmental Management
Report HSF 07/12/2022
Revision: 02
Date: 07/12/2022

APPENDIX III

GRS ENVIRONMENTAL MONTHLY INSPECTION

Worksite Name: ^{Hillston} ~~Winton~~ Solar Farm

Date Completed: Week Ended: 1/2/2012

Person Completing: Tim Fitzpatrick

***C – Compliant NI – Needs Improvement NC – Not Compliant N/A – Not Applicable

KEY ITEMS		C	NI	NC	N/A
Edge Protection					
1.1	Are physical barriers installed and secure for any exposed edges?	/			
1.2	Where an exclusion zone is established is it 2 metres back from the live edge?	/			
1.3	Where edge protection is impractical is a system in place for the use of harnesses and attachment points and are these certified by a competent person?	/			
Amenities					
2.1	Are amenities always clean, sealed and vermin proof with adequate appliances?	/			
2.2	Are there suitable toilets and crib areas on site for all workers?	/			
2.3	Are toilets located separately from the crib room, working, cleaned regularly and easily accessible?	/			
2.4	Is drinking water provided and accessible?	/			
2.5	Are first aid facilities available, stocked, accessible and with adequate signage and trained person (s) on site?	/			
Emergency Response					
3.1	Are there emergency evacuation diagrams on all gates and noticeboards?	/			
3.2	Are emergency contacts on display?	/			
3.3	Are fire extinguishers located at all exits with signs erected and tagged 6 monthly?	/			
Traffic Management					
4.1	Does the project have one or more approved Traffic Management Plan/s (TMP) on display?			/	
4.2	If there are devices to be temporarily installed as per Site TMP is there a suitably licenced traffic controller on site?				/
4.3	Is all site signage set out in accordance with the Site TMP?				/
4.4	Are weekly pre-starts /weekly vehicle log checklists completed?	/			
4.5	Site access roads and/or roadways free from mud and litter	/			
4.6	Vehicle Movements only on access areas and access tracks	/			
4.7	Vehicle speeds are within specified area limits	/			
4.8	Space between arrays kept clear for weed control and vegetation maintenance	/			

KEY ITEMS		C	NI	NC	N/A
GENERAL SAFETY					
S1	Falls managed, exclusion signs & zones in place.	/			
S4	Excavations – Collapse controlled, barricades in place, safe access, stockpiles away from trenches				/
S5	Cranes & lifting - Safe lifting practices near workers, warnings processes or exclusion zones in place, tag lines				/



ENVIRONMENTAL MONTHLY INSPECTION

KEY ITEMS		C	NI	NC	N/A
S7	Concrete pumps / trucks set up – Set up in agreed area clear of trenches and clear of obstructions, exclusion zones in place				/
	Dangerous Goods				/
S9	High risk work activities – All workers completing high risk work have completed GRS Work Permit for activity and suitable controls are in place.	/			/
S10	Fuels and Chemicals, Dangerous goods stored, handled as per standards (bundling, signage, spill kits, labelling, PPE, containers and SDS's)	/			
	ENVIRONMENTAL				
	Noise & Vibration				
E1	High risk work activities – All workers completing high risk work have completed GRS Work Permit for activity and suitable controls are in place.				/
	Dust Generation				
E2	Dust - Monitor dust emissions visually and apply measures /controls dust suppression	/			
	Flora and Fauna				
E3	Weed and Seed Inspection – Weeds and Seed Inspections are maintained on a basis on re-introducing plant to site, in prevention of spreading weeds on site.	/	/		
E4	Flora and Fauna – no impact on vegetation beyond designated work areas	/		/	
E5	Site free from weed infestations and control activities recorded			/	
E6	Check to see if any maintenance required (fencing, vegetation rehabilitation areas, erosion control)	/			
E7	Grass height complies with CFA Guidelines for Renewable Energy Installations 2019 Clause 4.2.1 & 6.3.1			/	
	Soil and Water				
E7	Water ways free of pollution and works >40m from a watercourse				/
E8	Sediment control - none leaving site - Sediment fences erected & maintained, no soil on roads,	/			
E9	Soil & Water – all temporary and permanent drains effective (not eroding or discharging to stable areas)				/
E10	Temporary diversion drains and sediment controls established prior to heavy rain (if required)				/
E11	All Bunded areas empty of water -Remove ponded water from area				/
	Waste				
E13	Site is clear of debris, waste eg no litter distributed on or offsite	/			
E14	Concrete washout areas- maintained and not overfilled				/
E15	Waste disposal area demarcated, waste segregated, bins securely covered, waste disposal regularly, no visible stock piling.	/			
E16	Smoking only in designated places, no cigarette butts on ground	/			

GRS ENVIRONMENTAL MONTHLY INSPECTION

Worksite Name: Hillston Solar Farm

Date Completed: Week Ended: 4/8/2022

Person Completing: Tim Fitzpatrick

***C – Compliant NI – Needs Improvement NC – Not Compliant N/A – Not Applicable

KEY ITEMS		C	NI	NC	N/A
Edge Protection					
1.1	Are physical barriers installed and secure for any exposed edges?				✓
1.2	Where an exclusion zone is established is it 2 metres back from the live edge?				✓
1.3	Where edge protection is impractical is a system in place for the use of harnesses and attachment points and are these certified by a competent person?				✓
Amenities					
2.1	Are amenities always clean, sealed and vermin proof with adequate appliances?	✓			
2.2	Are there suitable toilets and crib areas on site for all workers?	✓			
2.3	Are toilets located separately from the crib room, working, cleaned regularly and easily accessible?	✓			
2.4	Is drinking water provided and accessible?	✓			
2.5	Are first aid facilities available, stocked, accessible and with adequate signage and trained person (s) on site?	✓			
Emergency Response					
3.1	Are there emergency evacuation diagrams on all gates and noticeboards?	✓			
3.2	Are emergency contacts on display?	✓			
3.3	Are fire extinguishers located at all exits with signs erected and tagged 6 monthly?	✓			
Traffic Management					
4.1	Does the project have one or more approved Traffic Management Plan/s (TMP) on display?	✓			
4.2	If there are devices to be temporarily installed as per Site TMP is there a suitably licenced traffic controller on site?				✓
4.3	Is all site signage set out in accordance with the Site TMP?	✓			
4.4	Are weekly pre-starts /weekly vehicle log checklists completed?	✓			
4.5	Site access roads and/or roadways free from mud and litter	✓			
4.6	Vehicle Movements only on access areas and access tracks	✓			
4.7	Vehicle speeds are within specified area limits	✓			
4.8	Space between arrays kept clear for weed control and vegetation maintenance	✓			

KEY ITEMS		C	NI	NC	N/A
GENERAL SAFETY					
S1	Falls managed, exclusion signs & zones in place.	✓			
S4	Excavations – Collapse controlled, barricades in place, safe access, stockpiles away from trenches				✓
S5	Cranes & lifting - Safe lifting practices near workers, warnings processes or exclusion zones in place, tag lines				✓



ENVIRONMENTAL MONTHLY INSPECTION

KEY ITEMS		C	NI	NC	N/A
S7	Concrete pumps / trucks set up – Set up in agreed area clear of trenches and clear of obstructions, exclusion zones in place				✓
	Dangerous Goods				
S9	High risk work activities – All workers completing high risk work have completed GRS Work Permit for activity and suitable controls are in place.				✓
S10	Fuels and Chemicals, Dangerous goods stored, handled as per standards (bundling, signage, spill kits, labelling, PPE, containers and SDS's)	✓			
	ENVIRONMENTAL				
	Noise & Vibration				
E1	High risk work activities – All workers completing high risk work have completed GRS Work Permit for activity and suitable controls are in place.				✓
	Dust Generation				
E2	Dust - Monitor dust emissions visually and apply measures /controls dust suppression	✓			
	Flora and Fauna				
E3	Weed and Seed Inspection – Weeds and Seed Inspections are maintained on a basis on re-introducing plant to site, in prevention of spreading weeds on site.	✓			
E4	Flora and Fauna – no impact on vegetation beyond designated work areas	✓			
E5	Site free from weed infestations and control activities recorded	✓			
E6	Check to see if any maintenance required (fencing, vegetation rehabilitation areas, erosion control)	✓			
E7	Grass height complies with CFA Guidelines for Renewable Energy Installations 2019 Clause 4.2.1 & 6.3.1				✓
	Soil and Water				
E7	Water ways free of pollution and works >40m from a watercourse	✓			
E8	Sediment control - none leaving site - Sediment fences erected & maintained, no soil on roads,	✓			
E9	Soil & Water – all temporary and permanent drains effective (not eroding or discharging to stable areas)	✓			
E10	Temporary diversion drains and sediment controls established prior to heavy rain (if required)				✓
E11	All Bunded areas empty of water -Remove ponded water from area	✓			
	Waste				
E13	Site is clear of debris, waste eg no litter distributed on or offsite	✓			
E14	Concrete washout areas- maintained and not overfilled				✓
E15	Waste disposal area demarcated, waste segregated, bins securely covered, waste disposal regularly, no visible stock piling.	✓			
E16	Smoking only in designated places, no cigarette butts on ground	✓			



VEGETATION AND PEST CONTROL – HIL – Monthly Maintenance

Technician	Date	Start Time	Finish Time
Tim Fitzpatrick	10/07/2022	11:30	1:00

Nº	DESCRIPTION			COMMENTS
		OK	Not OK	
1	VEGETATION			
1.1a	State of growth of vegetation: Access points (inverters, access gates, switch room, switchboxes, D-Box, M-Box, T-Box, Gateway, Weather station, buildings access.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.1b	State of growth vegetation: between trackers (affecting operation or production), fence line, roads.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.2	Damage to Tracker from vegetation, vegetation management action or pests	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.3	Cleared vegetation or build-up of cut grass and weeds present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2	PESTS			
2.1a	Presence of pests affecting access points: wasps, bees, termites, rabbits, snakes, rats or mice.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	found bees to have made hives. on module wasps
2.1b	Presence of pests on trackers and/or fence lines roads etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

1.3 Vegetation & pest control

4 Oct 2022

Complete

Score	85.71%	Flagged items	0	Actions	0
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Operator and date

100%

Conducted on

04.10.2022 09:35 AEST

Prepared by

Ross

1.3 Vegetation

75%

1.3.1.1a Access points clear of vegetation (inverters, access gates, switch room, switch boxes, d-boxes, boxes, gateways, weather stations, building access)

Pass

1.3.1.1b Vegetation is controlled between trackers (vegetation should not be affecting production or operation), fence lines and roads

Pass

1.3.1.2 Trackers are free from damage caused by vegetation, vegetation management practices or pests

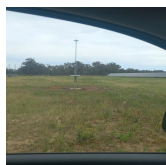


Photo 1



Photo 2



Photo 3

1.3.1.3 Ground is clear from a build up of cut grass or weeds

Pass

1.3.2 Pests

100%

1.3.2.1 Access points are free from pests including wasps, bees, termites, rabbits, snakes, rats or mice

Pass

1.3.2.1 Fence lines/roads as well as trackers so no presence of pests

Pass

Completion date and time

04.10.2022 09:45 AEST

Appendix



Photo 1



Photo 2



Photo 3