

SPECIFICATION

PV FIELD VEGETATION MANAGEMENT

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	Prepared	Revised	Approved
Name:			
Date:			
Signed:			

Record of Changes		
Rev.	Date	Description
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1 Purpose

The purpose of this document is to outline general specifications for the management of the vegetation in the Photovoltaic (PV) Field at the XXXX PV Solar site near XXXX, XX with the intent to secure a multi-year contract for vegetation management services.

The goal is to maintain the vegetation in such a way that the vegetation does not:

- Shade the PV modules at full tilt, which would reduce production
- Encroach on rotating equipment and inhibit function
- Allow nuisance or noxious weeds to propagate
- Impact worker safety by covering trip or fall hazards, promoting the population of poisonous snakes, varmints, or disease carrying pests.

Other goals are to:

- Present a clean and orderly site
- Reduce costs as much as possible
- Minimize the carbon footprint associated with the vegetation control
- Increase soil organic matter over the life of the project
- Promote sustainability

2 Scope

This document applies to the XXXX, LLC

Address

The site is comprised of approx. XXXX acres.

- a. Note if there are subdivisions of the site where fences or trackers limit movement.

3 General Purchasing Requirements

- 3.1 The preferred method of vegetation management, where feasible, is through agricultural means, such as sheep grazing, which minimizes the carbon impact and revitalizes the soil

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organic matter.

3.2 Supplier is responsible for maintaining the site vegetation to standards established in this specification.

4 Minimum Specifications Requirements - Supplier will identify any requirements that cannot be met

4.1 Safety

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- 4.1.1 Supplier employees shall follow all Acciona site safety rules while on site.
- 4.1.2 Supplier employees or sub-contractors must be able to understand, speak, and read English in order to be aware of emergency procedures and hazardous conditions.
- 4.1.3 Supplier will be responsible for supplying their employees with all required training, personal protective equipment, and other safety related equipment associated with vegetation management, extreme heat, and work outdoors.
- 4.1.4 The minimum PPE required for site access is:
 - ANSI 289.1 rated hard hat
 - ANSI Z87.1+ or CSA rated safety glasses
 - Steel or composite toe boots CSA or ASTM rated at 1/75 C/75 EH
 - CSA or ANSI Class 2 reflective outerwear is required for outdoor work
 - Glove s, when required and appropriate for the task
 - Hearing protection, when required
 - In addition to these minimum requirements, Supplier will provide any required PPE spe cifically designed and intended for any vegetation management activities.
- 4.1.5 Training
 - Supplier will be responsible for supplying all federal, state, and local required safety training pertaining to vegetation management and extreme weather conditions.
 - All Supplier employees will be required to attend site orientation & safety and security training upon their first visit to the site. An Owner's representative will provide the training and is anticipated to take approx. one hour.

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4.2 Security

- 4.2.1 Supplier shall have twenty-four (24) hour access to sheep during the Agreement Term. Supplier must follow site access rules and notification requirements for entering\exiting the site.
- 4.2.2 Supplier and their employees shall keep Site access details confidential. Supplier will immediately inform Owner of any employees that quit or are terminated.
- 4.2.3 Supplier will be required to perform criminal background checks for all employees requiring access to site. Under no circumstances will any employees with prior felony convictions be allowed on site.
- 4.2.4 All site gates will remain closed and locked unless in the act of transitting through for site access.
- 4.2.5 Supplier, and it's employees will immediately inform the Acciona Lead Technician of any defect or tampering with the security fences or gates. They will also immediately the Acciona Lead Technician of any other signs of trespass, vandalism, or theft.

4.3 Chemical use

- 4.3.1 The use of chemicals will be minimized to the extent possible.
- 4.3.2 Use of any new chemical on site must be pre-approved by the Acciona Energy Environmental Manager.
- 4.3.3 An SOS must be submitted to the Owner prior to use of any approved chemical on site.
- 4.3.4 Herbicide use will be limited to "spot spraying" to remove noxious weeds. Herbicide(s) will be selected to minimise the impact on non-targeted species. If growth is more wide spread than "spot spraying" can manage, Supplier will meet with the Lead Technician to discuss the weed control plan.

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4.4 Predator Control

- 4.4.1 Owner is responsible for maintaining all fences and gates in good, as-built condition.
- 4.4.2 Owner is responsible for repairs or remediation to any ground underneath the fences where predators may access the PV field.
- 4.4.3 Hunting on the property will not be allowed. The approved methods of predator or nuisance animal control will be through trapping or deterrence measures.

4.5 5 Soil & vegetation testing

- 4.5.1 Supplier is responsible for performing any soil toxicity or vegetation testing required to determine suitability for sheep grazing. Owner will support the testing effort by granting access to test locations.

4.6 Insurance

- 4.6.1 Supplier will be required to provide liability insurance in the event of any PV field or infrastructure damage caused by vegetation management activities. The required minimum liability insurance is one million dollars (\$1,000,000) .
- 4.6.2 Supplier will be responsible for any PV field equipment damage as a result of vegetation management practices.

5 Vegetation Management**5.1 Mowing & trimming**

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- 5.1.1 Care must be given to mechanical mowing in the PV field. Debris launched by a rotary mower or trimmer can cause significant injury or damage. Equipment must be maintained in good working condition, with all equipment guards or debris chains installed .
- 5.1.2 Supplier will cut the vegetation down to a 4-5 inches or a height best suited for the species of planted.
- 5.1.3 There may be areas on the site that are planted to promote pollinator species (ex. Butterflies or bees). These areas will not be cut unless directed by the Lead Technician.
- 5.1.4 Supplier must train their employees on the potential for harmful or aggressive pests (bees, wasps, ants, etc.) and provide them with the appropriate PPE or pest control methods.
- 5.1.5 Supplier will report any areas of erosion or wash out to the Lead Technician .
- 5.1.6 Supplier must report all accidents or injuries immediately.
- 5.1.7 Supplier must report any oil spills or leaks from equipment immediately.
- 5.1.8 PV field equipment, while robust, can be damaged by vehicle impacts. Supplier must report any damage to the PV field equipment or fencing immediately.
- 5.2 Vegetation Management Planning
 - 5.2.1 With the utilization of a tracking system, it is estimated that 30% of the panel area will be entirely shaded year around. It is estimated that the remaining 70% of the panel area will be partially shaded, dependant upon time of year, time of day, and tracker position.
 - 5.2.2 Site and Supplier personnel will be trained in monitoring for noxious or invasive weeds. Weed monitoring will take place as the site personnel access the different sections of the

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PV field . Weed control will take place as required. Supplier personnel will perform spot spraying of noxious and invasive weeds.

- 5.2.3 Imported materials, such as soil, sand, straw, geotextiles, or gravel, will be sourced from sites that do not show signs of noxious weeds and are confirmed to be "weed free" from Supplier.
- 5.2.4 The maximum allowable height of any vegetation in the PV field, surrounding the PV modules shall be 12-18 inches, depending upon the height of the lower edge of the PV module at full tilt.
- 5.2.5 The maximum allowable height of any vegetation adjacent to the access roads, power blocks, MET stations, and fences is 8 inches.
- 5.2.6 Depending on growth rates and precipitation, Supplier and Lead Technician will collaborate regularly on areas of needed vegetation management. Supplier will provide a plan of work, identifying areas of active grazing, next grazing areas, plans for mowing or t rimming, areas for chemical application, any needs or concerns. The Lead Technician will review planned PV field work to ensure that there is no interference with planned vegetation management work.
- 5.3 Sheep Grazing
 - 5.3.1 As previously stated, agriculturally based vegetation management using rotational sheep grazing is preferred .
 - 5.3.2 Supplier shall be responsible for all transportation of sheep to and from the Site.
 - 5.3.3 For all planned work, Owner shall provide Supplier with twenty-four (24) hour notice of need for repairs or of need to access panels within a sheep grazing area so that Supplier may assist with managing sheep during such repairs or access.
 - 5.3.4 For all unplanned or call out work , Site Technicians will follow all Supplier guidance for accessing active sheep grazing areas. Owner will notify Supplier on any occurrences the next working day.
 - 5.3.5 The Owner is providing access to the available forage in the PV field and pasture security in the form of 6' chain link fencing and locked gates.
 - 5.3.6 Owner shall permit Supplier to install temporary interior fencing on Site that is reasonably necessary to ensure orderly management and security of sheep. Owner shall permit Supplier use of available electrical power supplies. Supplier shall not be responsible for any costs incurred from use of such interior electrical supplies at the Site. In the event of no

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adequate electrical power supplies, Supplier will utilize their own temporary power source, such as PV panel and battery set up.

- 5.3.7 Supplier may post signage on perimeter fence gates, to alert visitors that sheep are present on the Site, to direct visitors to close the gates at all times, and to instruct visitors not to feed the sheep at any time.
- 5.3.8 Neither party, nor their subcontractors, shall use herbicides, pesticides, or fungicides on the Site without prior written consent of the other Party.
- 5.3.9 The use of sheep herding or guardian dogs on the property is acceptable as long as they pose no threat to the site work force. All vaccinations must be kept up to date and records available upon request.
- 5.3.10 During construction, the Owner may plant forage crops based upon recommendations from local agricultural extensions or experts. Owner and Supplier will discuss any future re seeding efforts, determining the best course of action for the business.
- 5.3.11 Supplier will care for their livestock using generally approved sheep management practices in order to maintain a healthy, viable flock. Supplier shall be responsible for the health and wellbeing of sheep, including keeping adequate water and mineral supply during the Agreement Term. Supplier shall be permitted to station watering cubes and other portable watering and dispensing equipment at the Site during the Agreement Term. Supplier shall maintain adequate medical records and herd information and shall provide the Owner with such records upon request.
- 5.3.12 Sheep shall be stocked at a density as determined by Supplier to satisfy the agreed-upon vegetation maintenance standard. Supplier may add or remove sheep from the flock as the land, weather, management, and other conditions may require, to the extent that the sheep flock remains capable of maintaining the vegetation in accordance with this Agreement.
- 5.3.13 Owner shall provide prompt verbal notice to Supplier if they become aware that any of the sheep are apparently suffering from illness or accident, followed by a written notice. In the

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event that any of the sheep urgently need care, and Supplier is not immediately available, the Owner may call in a licensed veterinarian at Supplier's expense.

- 5.3.14 Supplier may perform forage sampling at the Site in order to determine the appropriate density of sheep.
- 5.3.15 Supplier will supply the sheep, labor, veterinarian services (as needed), portable electric fencing, watering containers, supplements, and transport to & from the site.
- 5.3.16 Owner will work with Supplier to secure a source of clean water, if needed, and with the understanding that it may be centralized, not reaching all areas of the site.
- 5.3.17 Owner will work with Supplier to secure an area for sheep access into the PV fields, allowing for operation of a truck with livestock trailer with an adequate turning radius, and allowing for movement of sheep from trailer into the PV field and vice versa.
- 5.3.18 If grazing feeder lambs, Supplier will also provide any necessary feed supplements.
- 5.3.19 It is expected that the sheep would graze throughout the growing season, at a minimum, but possibly for the entire year depending upon the location, vegetation growth, and flock management.
- 5.3.20 Where grazing cannot sufficiently maintain vegetation height at desired levels, supplemental mechanical mowing may be required. Supplier will be responsible for determining what methods to apply and where to best use them.
- 5.3.21 In addition to limiting vegetation height, Supplier will rotate grazing areas to prevent over grazing and subsequent permanent damage to the forage vegetation.
- 5.3.22 In the event of damage to PV field equipment directly caused by sheep, the Owner and Supplier will work together to analyze the root cause, remediate the damage, and modify practices or equipment to prevent future occurrences.
- 5.3.23 Supplier will be responsible to remove and dispose of any unhealthy sheep or sheep carcasses from site as soon as possible.
- 5.3.24 No abuse of sheep on site will be tolerated. Supplier is responsible for actively managing the sheep.
- 5.3.25 Supplier will not allow the slaughter of sheep on site.
- 5.3.26 The site vegetation health and grazing operation will require ongoing review and adjustment due to changing conditions.

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6 Contract Cost Estimation

- 6.1 Supplier will provide a detailed business plan & cost estimate associated with either or both vegetation management scenarios:
1. Mechanical mowing only to meet specification requirements
 2. Sheep grazing with supplemental mechanical mowing to meet specification requirements
- 6.2 Supplier will provide the costs for mechanical mowing as follows:
1. Mowing cost per acre (all-inclusive - labor, fuel, maintenance, etc.)
 2. Mowing time in acres per hour
 3. Estimated trimming time (all-inclusive - labor, fuel, maintenance, etc.)
 4. Estimated trimming cost per hour
 5. Estimated number of mowing per growing season
 6. Estimated cost for spot spraying and preferred chemical
 7. Estimated total cost per growing season
- 6.3 If grazing sheep, Supplier will provide itemized costs for the grazing operation, discounting Owner supplied forage, pasture land, water supply, and security fencing value.

7 Detailed Site Layout Drawing

8 Detailed Drawing of PV Field Structures

9 Project Timeline

The site is estimated to start operations in XXXX 202X. The vegetation management contract will be awarded by XXXX X, 202X.