

LIGHTING MANAGEMENT PLAN FOR INTERNATIONAL DARK SKY

Big River Farm, LLC

APN# 108-023-008

Humboldt County App #: 11892

State Temp License #: TML18-0013674

1. Purpose and Philosophy

This Lighting Management Plan (LMP) is intended to be used by Big River Farm, LLC as a guide in the selection, placement, installation and operation of all Mixed Light Cultivation area. Its function is to regulate the use of Artificial Light At Night (ALAN) at Big River Farm, LLC in a way that prioritizes the safety of staff while minimizing the impact of such light on protected wildlife. Therefore, all instances of the use of ALAN at Big River Farm, LLC will adhere to the principle that any artificial light will be deployed only: (1) when it is strictly needed; (2) where it is needed; (3) in the appropriate amount for a specific task; and (4) with the appropriate spectrum and in accordance with Humboldt County Medical Marijuana Land Use Ordinance (CMMLUO) Section 55.4.1 (V) et. seq. Performance Standard for Mixed Light Cultivation and Processing Operations and the State of California Department Medicinal And Adult-Use Cannabis Regulation and Safety Act (MAUCRSA) and the California Department of Food Administration (CDFA) Regulation Code Article 4. Section 8304 Cultivation Site Requirements. General Environmental Protection Measures (c) & (g).

2. Applicability

Big River Farm, LLC represents that this Lighting Management Plan (LMP) meets or exceeds all applicable agency and/or departmental policies regarding outdoor lighting and conforms to all local, regional, and national laws. Humboldt County Medical Marijuana Land Use Ordinance (CMMLUO) Section 55.4.1 (V) et. seq. Performance Standard for Mixed Light Cultivation and Processing Operations and the State of California Department Medicinal And Adult-Use Cannabis Regulation and Safety Act (MAUCRSA) and the California Department of Food Administration (CDFA) Regulation Code Article 4. Section 8304 Cultivation Site Requirements. General Environmental Protection Measures (c) & (g).

Those cultivators using artificial lighting for mixed-light cultivation shall shield greenhouses so that little to no light escapes. Light shall not escape at a level that is visible from neighboring properties between sunset and sunrise.

The light source should comply with the International Dark Sky Association standards for Lighting Zone 0 and Lighting Zone 1, and be designed to regulate light spillage onto neighboring properties resulting from backlight, uplight, or glare (BUG). Should the Humboldt County Planning Division receive complaints that the lighting is out of alignment or not complying with these standards, within ten (10) working days of

receiving written notification that a complaint has been filed, the applicant shall submit written verification that the lights' shielding and alignment has been repaired, inspected and corrected as necessary.

All outdoor lighting used for security purposes shall be shielded and downward facing

Mixed-Light license types of all tiers and sizes shall ensure that lights used for cultivation are shielded from sunset to sunrise to avoid nighttime glare.

5. Shielding

Big River Farm, LLC currently has manual Blackout curtains that shield the night and early morning sky from light pollution. Black out curtains are pulled before dusk prior to any artificial light use in Greenhouse structures. Further, to the greatest possible extent, Big River Farm, LLC will endeavor to limit the inadvertent or incidental emission of light from Greenhouse Structures to the outdoors through the use of automated deprivation curtains, indoor lighting timers/switches, and other appropriate measures.

In all applications, outdoor lighting deployed throughout the developed area at Big River Farm, LLC will use the most energy efficient lamp technology that minimizes the emission of short-wavelength light into the nighttime environment. This will including outdoor lighting on all structures, including but not limited to House, Processing facility, Sheds, etc.

8. Application

Artificial lighting will only be used when needed and limited to times of the year when the natural light cycle will not be significant for vegetative plant growth.

9. Curfew

Big River Farm, LLC will follow the Dusk to Dawn International Dark Sky Standard. All Greenhouse curtains will be pulled and secured prior to any artificial light use. When possible lighting at Big River Farm, LLC will be extinguished between the hours of 10pm and one hour before sunrise except in cases where staff safety is at risk.

10. Adaptive Controls

To the greatest practical extent possible, all lighting at Big River Farm, LLC will make appropriate use of adaptive controls to limit the duration, intensity, and/or extent of outdoor lighting. Big River Farm, LLC is proposing to install automated black out curtains and automated lighting timer to reduce the human error factor. Staff will be required to do mandatory inspections of all Greenhouse Structures to reduce mechanical error. All staff will be required as a part of the employment training program regarding the International Dark Sky

Standards and this Lighting Management Plan will be added to the Operation Plan and Employee Handbook.

References:

- a) Humboldt County Medical Marijuana Land Use Ordinance (CMMLUO) Section 55.4.1 (V) et. seq. Performance Standard for Mixed Light Cultivation and Processing Operations
 - i. <https://humboldtgov.org/2124/Medical-Marijuana-Land-Use-Ordinance>
- b) State of California Department Medicinal And Adult-Use Cannabis Regulation and Safety Act (MAUCRSA) and the California Department of Food Administration (CDFA) Regulation Code Article 4. Section 8304 Cultivation Site Requirements. General Environmental Protection Measures (c) & (g).
 - i. https://static.cdfa.ca.gov/MCCP/document/CDFA%20Final%20Regulation%20Text_01162019_Clean.pdf
- c) California Cannabis Laws and Regulations 2019 Edition- ©2019 Omar Figueroa, ALL rights reserved ISBN 978-0-9984215-3-7
 - i. A Review of the Potential Impacts of Cannabis Cultivation on Fish and Wildlife Resources California Department of Fish and Wildlife Habitat Conservation Planning Branch *July 2018*
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=160552&inline>
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