Drought Management Plan
Prepared for:
Cresta Properties LLC
6245 Gold Dust Drive
Kelseyville, CA 95451
APN 007-013-22, 007-013-23

In accordance with Ordinance NO. 3106, adopted on July 27th, 2021 this Drought Management Plan for the proposed Cresta Properties LLC operation has been developed to conserve water resources due to emergency drought conditions. This plan has been developed in conjunction with the Cresta Properties LLC Water Use Plan and Water Availability Analysis as well as the Big Valley Grounddwater Sustainability Plan.

This Drought Management Plan identifies methods and practices to reduce water use, protocols to monitor the use of the well as well as supplemental mitigation measures in the event of on-going drought conditions.

Water Conservation Measures

The project will implement several best management practices to ensure conservation of water:

1. Drip irrigation systems with emitters applying water directly to plant roots will ensure water is applied directly to plants and not to fallow/unplanted areas.
2. Use of straw mulch applied over the cultivation area will reduce evaporative losses.
3. This project will occur in enclosed greenhouses with odor mitigation systems. The greenhouse covers will trap moisture and humidity greatly reducing both evaporative losses as well as transpiration losses.
4. The light deprivation techniques used by the operation allow the operator to transition plants to a flowering state with a much reduced plant size compared to full sun outdoor cultivation. The smaller size of the plants greatly reduces the transpiration losses as the flowering canopy will have significantly reduced leaf surface area compared to outdoor cultivation.
5. Soil will be amended with compost and bio-char. These organic amendments increase water retention capacity of the soil.
6. The proposed project is displacing approximately 8.2 acres of existing vineyard for a flowering canopy of 51,500 square feet and accessory nursery canopy of 20,500 square feet (
7. The applicant proposes to gutter the proposed barn structures to allow the roofs to act as rain catchment surfaces. This would be tied into the irrigation tanks. This will allow rainfall to reduce well diversion during the wet season.

Water Resources and Monitoring

The water source is a permitted well (WE1775) on APN 07-013-22 at Lat 38.963964, Long -122.844347. This well was historically developed to support agricultural activity such as the existing vineyard on the parcel and also serves as a domestic water source. The well had demonstrated both high yield as well as a rapid recovery time (see Water Availability Analysis and Pete's Tractor and Pump Well Pump Test. The well is located in the Big Valley ground water management area. The Big Valley Groundwater Sustainability Plan published in January of 2022 has identified a reduction of irrigated farm land in the Big Valley Basin of 10,164 acres in 1995 to 8,222 acres in 2018. Furthermore, the study also identified a trend away from high water usage crops (3,647 acres of pears in 1995 down to 1,303 acres of pears in 2018) with a shift towards vineyards which have a reduced water usage due to more efficient drip irrigation systems. As such, the groundwater basin has sufficient capacity to serve the project based on historical baseline conditions.

A monitoring system will be installed on the well to document both water diversion from the well and water

levels within the well. Water meters will measure the total water applied to plants.

If the monitoring system identifies on-going reduction in water levels within the well, additional measures below can be taken

Supplemental Measures
If on-going monitoring of the well identifies a trend of reduced water levels, additional measures will be taken to further off-set well water usage and increase groundwater re-charge.

The existing residences on the site can be guttered and tied into the irrigation system to further off-set well usage during the wet season.

Additional portions of vineyard will be removed and converted to pasture to further reduce water usage associated with vineyard operations.