

**ALAMEDA COUNTY  
PLANNING DEPARTMENT**



**OASIS VENTURE LIVERMORE GROW FACILITY  
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION  
(Recirculated)**

**PLN: 2018-00258**

**July 2020**

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***INITIAL STUDY***

***July 2020***

**A. BACKGROUND**

1. Project Title: Oasis Venture Livermore Grow Facility
2. Lead Agency Name and Address: Alameda County Planning Department  
224 West Winton Avenue Suite 111  
Hayward, CA 94544
3. Contact Person and Phone Number: Sonia Urzua  
Senior Planner  
(510) 670-6400
4. Project Location: 7031 and 7033 Morgan Territory Road  
Livermore, CA 94551
5. Project Sponsor's Name and Address: Felix Kukushkin  
Oasis Venture, LLC  
7031 Morgan Territory Road  
Livermore, CA 94551
6. General Plan Designation: Resource Management
7. Zoning: Agricultural
8. Required Approvals from Other Public Agencies: California Department of Food and  
Agriculture CalCannabis License  
California Department of Fish and Wildlife (Pursuant to CCR Section 8102[w])  
San Francisco Bay Regional Water Quality Control  
Board (Pursuant to CCR Section 8102[p])  
State Water Resources Control Board (CCR Section 8102[p])  
Zone 7 Water Agency (Onsite Wastewater Treatment System Permit)  
Alameda County Department of Environmental Health (CCR Section 8308)
9. Project Description Summary:

The Oasis Venture Livermore Grow Facility (proposed project) would consist of growth and cultivation of cannabis on a 92.52-acre property identified by the Alameda County Assessor as Assessor's Parcel Number (APN) 903-0007-001-01. The proposed project

would include development of a 34,213 square foot (sf) greenhouse building, a 6,480-sf processing building, and a 28-stall parking lot.

10. Surrounding Land Uses and Setting:

The project site is located approximately six miles from downtown Livermore, in a rural area. Two private residences exist within the property containing the project site. With the exception of rural single-family residences to the north, west, and east, the surrounding area is predominately undeveloped and vacant. Cayetano creek borders the project site to the west. Land uses in the vicinity consist of agricultural operations and sparse rural residences.

11. Status of Native American Consultation Pursuant to Public Resources Code Section 21080.3.1.

In compliance with Assembly Bill (AB) 52 (Public Resources Code Section 21080.3.1), notification letters were distributed to the Torres Martinez Desert Cahuilla Indians, California Indian Water Commission, Ione Band of Miwok Indians Cultural Committee, Trina Marine Ruano Family, The Confederated Villages of Lisjan, the Amah Mutsun Tribal Band of Mission San Juan Bautista, the Costanoan Rumsen Carmel Tribe, the Indian Canyon Mutsun Band of Costanoan, the Muwekma Ohlone Indian Tribe of the SF Bay Area, the North Valley Yokuts Tribe, and the Ohlone Indian Tribe. Requests to initiate formal consultation were not received.

**B. SOURCES**

All of the technical reports and modeling results used for the project analysis, including the Conceptual Water Supply and Wastewater Plan, Biological Evaluation and Traffic Impact Analysis are available upon request at the Alameda County Community Development Agency, located at 224 West Winton Avenue Suite 111, Hayward, CA 94544. Office hours are Monday through Friday, 8:30 AM to 5:00 PM. The following documents are referenced information sources used for the purposes of this Initial Study:

1. Alameda County Community Development Agency. *Alameda County General Ordinance Code*. October 9, 2018.
2. Alameda County Community Development Agency. *Safety Element of the Alameda County General Plan*. February 4, 2014.
3. Alameda County Planning Department. *Alameda County General Plan Annual Report for 2014*. 2014.
4. Alameda County Transportation Commission. *2017 Congestion Management Program* [pg. 85]. December 2017.
5. Alameda County. *Alameda County Emergency Operations Plan*. December 2012.
6. Alameda County. *Community Climate Action Plan*. Adopted February 4, 2014.
7. Alameda County. *East County Area Plan*. Revised by Initiative November 2000.
8. Alameda Countywide Clean Water Program. *State Construction Permit*. Available at: <https://www.cleanwaterprogram.org/index.php/businesses/construction.html>. Accessed December, 2018.

9. Association of Bay Area Governments. *Resilience Program*. Available at: <http://gis.abag.ca.gov/website/Hazards/?hlyr=liqSusceptibility>. Accessed December 2018.
10. Balance Hydrologics, Inc. *Conceptual Water-Supply and Wastewater Plan, Oasis Venture Livermore Grow Facility, Alameda County, CA*. August 2019 (rev. 7-21-20).
11. Bay Area Air Quality Management District. *Final 2017 Clean Air Plan*. April 19, 2017.
12. California Department of Conservation. *Alameda County Important Farmland Map 2014*. December 2016.
13. California Department of Conservation. *State of California, Special Studies Zones, Tassajara Quadrangle, Official Map*. Effective January 1, 1982.
14. California Department of Transportation. *Transportation and Construction Vibration, Guidance Manual*. September 2013.
15. California Department of Transportation. *Transportation and Construction Vibration Guidance Manual*. [pg. 37]. September 2013.
16. California Division of Mines and Geology. *Mineral Resource Zones and Resource Sectors, Alameda County*. 1983.
17. Department of Toxic Substances Control. *EnviroStor*. Available at: <http://www.envirostor.dtsc.ca.gov/public/>. Accessed December 2018.
18. Federal Emergency Management Agency. *FEMA Flood Map Service Center*. Available at: <https://msc.fema.gov/portal/home>. Accessed December 2018.
19. Federal Highway Administration. *Construction Noise Handbook*. August 2006.
20. Live Oak Associates, Inc. *Oasis Grow Facility Property Biological Evaluation Alameda County, California*. October 24, 2018.
21. Live Oak Associates, Inc. *Response to Comments for the proposed Oasis Fund Grow Facility project at 7033 Morgan Territory Road in Livermore, Alameda County, California. (PN 2305-01)*. May 11, 2020.
22. Natural Resources Conservation Service. *Calculated Coefficients of Linear Extensibility*. Available at: [https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/office/ssr10/tr/?cid=nrcs144p2\\_074840](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/office/ssr10/tr/?cid=nrcs144p2_074840). Accessed July 2018.
23. Northwest Information Center. *Record search Results for the proposed Oasis Fund Livermore Grow Facility*. November 16, 2018.
24. State Water Resources Control Board. *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities*. October 17, 2017.
25. TJKM. *Traffic Impact Analysis for the Proposed Cannabis Cultivation Facility at 7033 Morgan Territory Road, Alameda County*. December 2018.
26. United States Department of Agriculture Natural Resources Conservation Service. *Web Soil Survey*. Available at: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed December 2018.
27. Waste Management. *Altamont Landfill and Resource Recovery Facility*. Available at: [https://www.wmsolutions.com/pdf/factsheet/Altamont\\_Landfill.pdf](https://www.wmsolutions.com/pdf/factsheet/Altamont_Landfill.pdf). Accessed January 2019.

### C. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

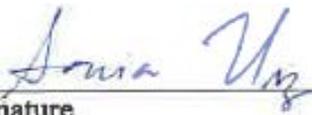
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Aesthetics                             | <input type="checkbox"/> Agriculture and Forest Resources | <input checked="" type="checkbox"/> Air Quality               |
| <input checked="" type="checkbox"/> Biological Resources        | <input checked="" type="checkbox"/> Cultural Resources    | <input type="checkbox"/> Energy                               |
| <input checked="" type="checkbox"/> Geology and Soils           | <input type="checkbox"/> Greenhouse Gas Emissions         | <input type="checkbox"/> Hazards and Hazardous Materials      |
| <input checked="" type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning            | <input type="checkbox"/> Mineral Resources                    |
| <input checked="" type="checkbox"/> Noise                       | <input type="checkbox"/> Population and Housing           | <input type="checkbox"/> Public Services                      |
| <input type="checkbox"/> Recreation                             | <input type="checkbox"/> Transportation                   | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities and Service Systems          | <input type="checkbox"/> Wildfire                         | <input type="checkbox"/> Mandatory Findings of Significance   |

**D. DETERMINATION**

On the basis of this initial study:

- I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

  
\_\_\_\_\_  
Signature

7.31.2020  
\_\_\_\_\_  
Date

Sonia Urzua  
Printed Name

Alameda County Planning Department  
For

## E. INTRODUCTION AND BACKGROUND

In 2019 Alameda County prepared an Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed project. The County used the following methods to solicit public input on the IS/MND: a Notice of Completion was posted with the State Clearinghouse on December 23, 2019. The IS/MND was distributed to applicable public agencies, responsible agencies, and interested individuals. In addition, a Notice of Intent to Adopt a Mitigated Negative Declaration was filed with the Alameda County Clerk's Office concurrently with posting of the IS/MND at the State Clearinghouse. In addition, copies of the document were made available online at <https://www.acgov.org/cda/planning/landuseprojects/currentprojects.htm> and at the Planning Department, located at 224 West Winton Avenue, Room 111, Hayward, CA, 94544. The public review period was extended beyond the required 30 days from January 21, 2020 to February 7, 2020. The County received 41 comment letters during the open comment period on the IS/MND for the proposed project. Since the release of the IS/MND, a number of comments identified inconsistencies and omissions within the IS/MND. Although the underlying analysis within the IS/MND was sound, because the discrepancies resulted in unclear understanding of impacts and comments have been received that require other revisions to the IS/MND, the County is recirculating the IS/MND pursuant to CEQA Guidelines Section 15073.5. A discussion and appropriate revisions incorporated in Responses to Comments are reflected throughout this Recirculated IS/MND. Specifically, the revisions to text include updates to the Project Description to match the Conceptual Water-Supply and Wastewater Plan, as well as revisions to Section IV, Biological Resources, Section X, Hydrology and Water Quality, and other sections as necessary. Note that the complete responses to comments, including identification of the revisions made to the previous IS/MND, are attached to this Recirculated IS/MND as Appendix A.

This Recirculated IS/MND identifies and analyzes the potential environmental impacts of the proposed project. The information and analysis presented in this document are organized in accordance with the order of the California Environmental Quality Act (CEQA) checklist in Appendix G of the CEQA Guidelines. If the analysis provided in this document identifies potentially significant environmental effects of the project, mitigation measures that shall be applied to the project are prescribed.

The mitigation measures prescribed for environmental effects described in this Recirculated IS/MND will be implemented in conjunction with the project, as required by CEQA. The mitigation measures will be incorporated into the project through project conditions of approval. The County of Alameda will adopt findings and a Mitigation Monitoring and Reporting Program for the project in conjunction with approval of the project.

The East County Area Plan (ECAP) was adopted by the Alameda County Board of Supervisors in 1994. In the year 2000, Alameda County Voters approved Measure D, which was an initiative that amended the County's General Plan to establish an Urban Growth Boundary.<sup>1</sup> The Urban Growth Boundary established by Measure D restricts the areas outside the boundary to agricultural, natural resource, and rural uses, and prevents the construction of infrastructure to support any urban development. The proposed project site is identified in the ECAP as an area within the protected land under Measure D. The project would be consistent with the provisions of Measure D.

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<sup>1</sup> Alameda County. *East County Area Plan*. Revised by Initiative November 2000.

This Recirculated IS/MND will rely, in part, on information contained within the ECAP, as well as site-specific technical studies.

### Cannabis Cultivation

In 1996, the voters of the State of California approved Proposition 215, titled “Compassionate Use Act of 1996,” and permitted the growth and cultivation of cannabis for medical purposes. On November 8, 2016, the voters of the State of California approved Proposition 65, which decriminalized the adult-use of cannabis for non-medical purposes and established a regulatory scheme at a state level. The Alameda County Ordinance Code was updated in 2018 to allow permitted cannabis cultivation operations in the unincorporated area of Alameda County to grow both medical and adult use cannabis. Cannabis cultivation, as defined by Chapter 6.106 of the Alameda County General Ordinance Code, means any activity involving the planting, growing, harvesting, drying, curing, grading, or trimming of cannabis.<sup>2</sup> The California Department of Food and Agriculture (CDFA) has jurisdiction over the issuance of licenses to cultivate, propagate, and process commercial cannabis in California. The CDFA issues licenses to outdoor, indoor, and mixed-light cannabis cultivators, cannabis nurseries, and cannabis processor facilities, where the local jurisdiction authorizes cannabis activities. All commercial cannabis cultivation activities within California require a cultivation license from the CDFA. Based on such, the project applicant would be required to demonstrate compliance with the Chapter 6.106 of the County’s General Ordinance Code, as well as CDFA regulations in order to obtain a cultivation license.

## **F. PROJECT DESCRIPTION**

The proposed project location, existing site conditions, and proposed components are described below.

### **Project Location and Existing Site Conditions**

The project site is on a 92.52-acre property located at 7031/7033 Morgan Territory Road in the City of Livermore in Alameda County, CA (APN: 903-0007-001-01) (see Figure 1). The project site is located approximately six miles from downtown Livermore, in a rural area. Two private residences exist within the property containing the project site. With the exception of rural single-family residences to the north, south, west, and east, the surrounding area is predominately undeveloped and vacant (see Figure 2). Cayetano Creek borders the project site to the west. Land uses in the vicinity consist of agricultural and sparse rural residences. The site is designated Resource Management under the ECAP and zoned Agricultural.

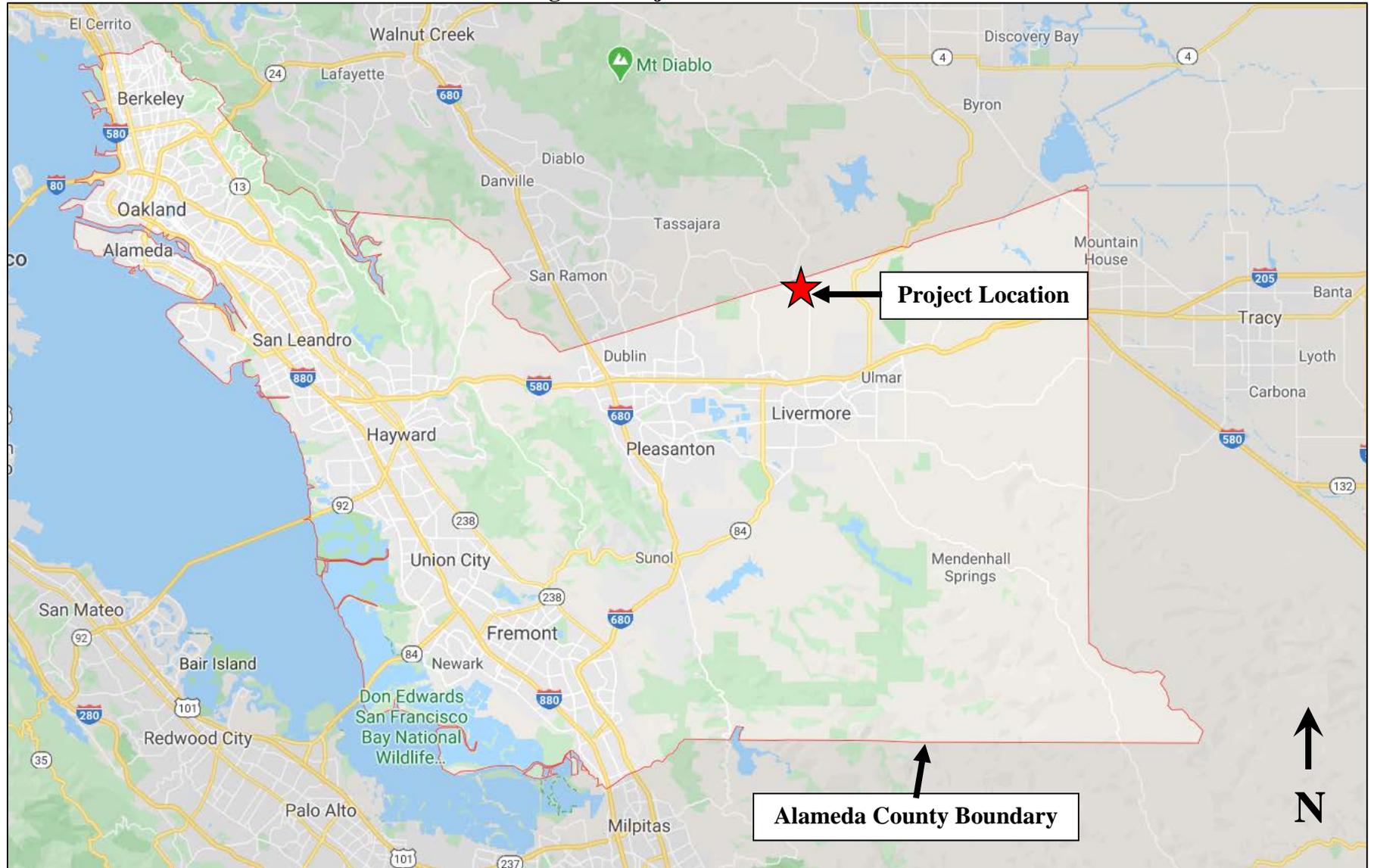
The project site, as defined throughout this Recirculated IS/MND, consists of the development area shown in Figure 3. The project site is a portion of the larger 92.52-acre property.

The remaining area within the subject property includes two private residences, existing wells that serve the property, and undeveloped land. The proposed project would not include any work outside of the portion of the project site depicted in Figure 2 and Figure 3.

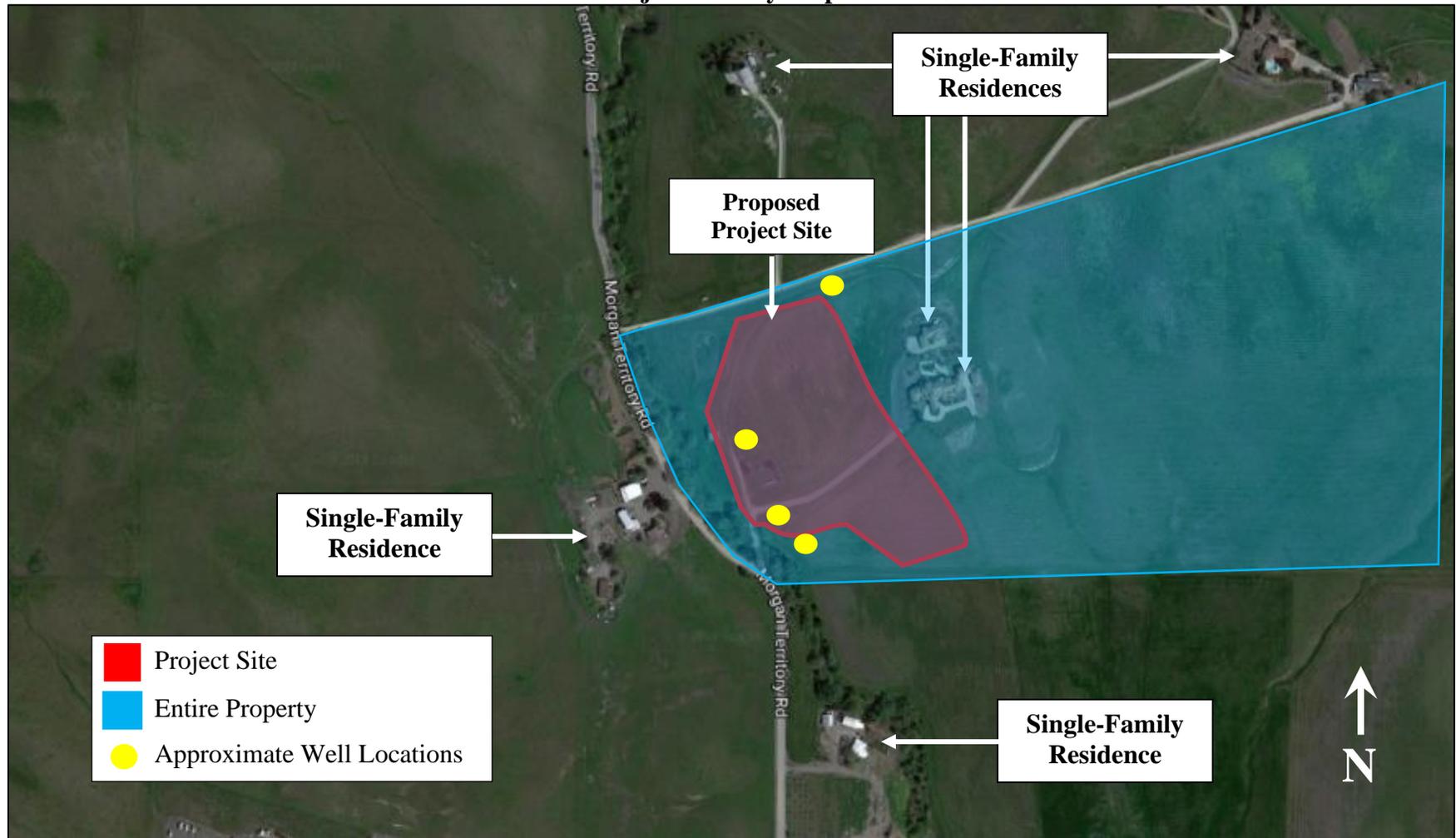
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<sup>2</sup> Alameda County Community Development Agency. *Alameda County General Ordinance Code*. August 7, 2018.

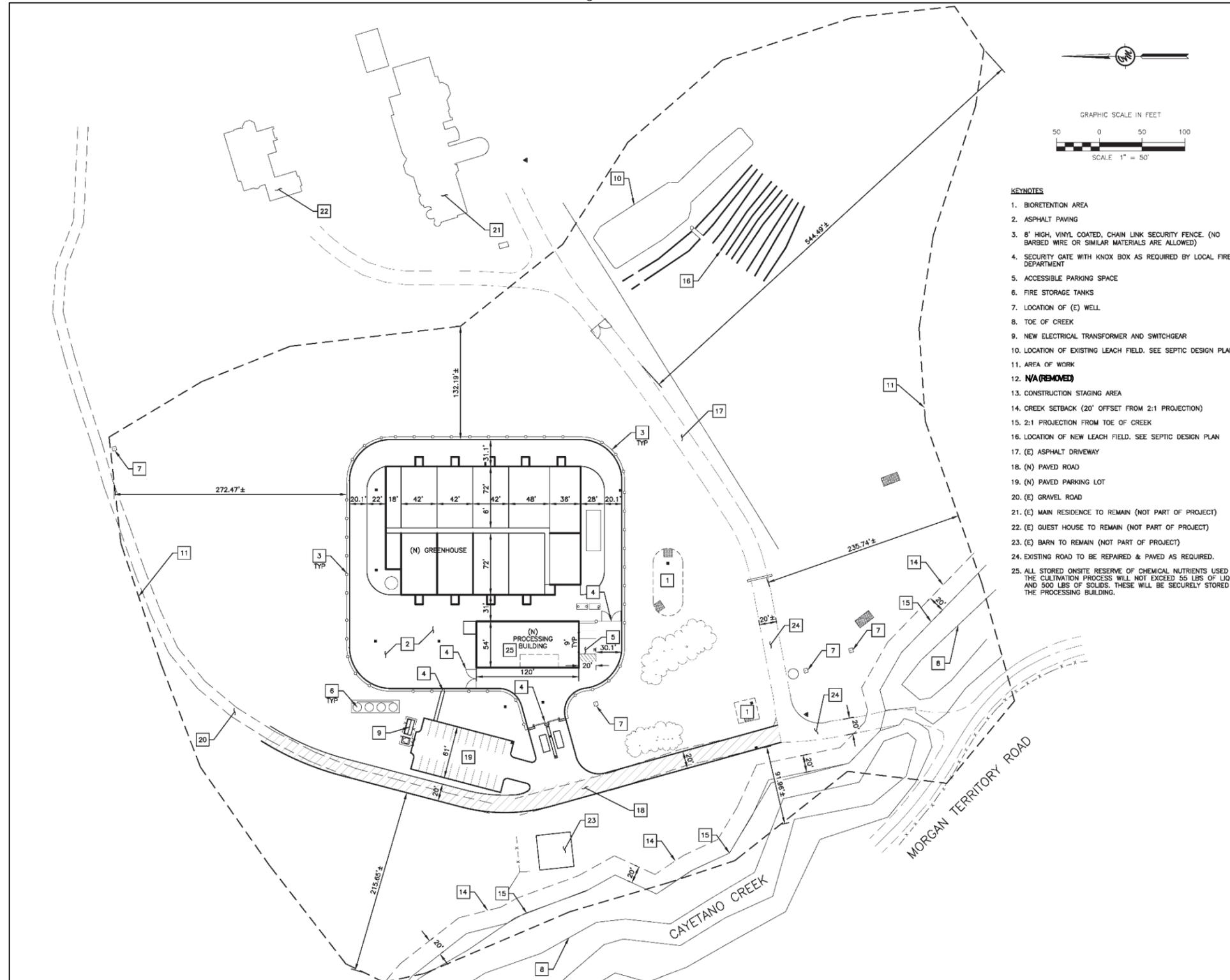
**Figure 1**  
**Regional Project Location**



**Figure 2**  
**Project Vicinity Map**



**Figure 3**  
**Project Site Plan**



## **Project Components**

The proposed project would include development of a 34,213-sf greenhouse building containing approximately 22,000-sf of a cannabis canopy, as well as a 6,480-sf processing building and 28 parking stalls (see Figure 3). As noted above, development activity related to the proposed project would be limited to the portion of the property identified as the project site.

### Building Improvements

The 6,480-sf processing building would be located on the western side of the project area, closer to the main road. The 34,213-sf greenhouse would be constructed to the rear of the processing building and would include the cultivation of the cannabis.

The processing building would house product processing facilities such as dry rooms, trim room, storage room, office, maintenance and the employee areas. The greenhouse would be comprised of a gutter connectable greenhouse made of four-inch by four-inch square galvanized structural steel columns. Trusses are fabricated with two-inch by two-inch square galvanized structural steel. Gutters are 12-gauge steel at a 12-foot gutter height.

### Site Improvements

Improvements to the project site include the construction of a paved area around the greenhouse and processing building to provide the required fire access road. Minor repairs to the existing paved private road from Morgan Territory Road to the project site would be made. Finally, a portion of an existing dirt road, located adjacent to the west of the project area, would be paved to provide access to the new parking area and properties to the north.

### Landscaping

New landscaping would be installed around the project perimeter of the site to provide aesthetic enhancements to the project and to provide visual screening of the facilities. The landscape screening elements are meant to blend into the natural hillside using endemic oaks from the surrounding hillsides. Native blue oak clusters are mixed with native live oaks along with other California native and drought tolerant plants. The landscaping would be water conscious and are considered low water use. Additionally, the proposed landscaping will conform to the County's Water Efficiency Landscape Ordinance (WELO) and the Trivalley Waterwise Program.

### Safety Plan

The project applicant has created a detailed security plan in accordance with Alameda County Ordinance Code 6.106.080. After the initial build out, the facility would implement controlled access to the property, an eight-foot security fence surrounding the cultivation facility, and at least one security guard during all operating hours. Entrance into the cannabis storage areas would be strictly controlled. Members of the public would not be provided access to the facility.

All employees would undergo background checks, be trained in safety procedures on-site, and use the rear entrance to access the facility with keycards. Additionally, video surveillance would be installed on the exterior of the building in all areas of possible ingress and egress.

All cannabis would be stored in high-security, fire-proof safes. Inventory would be removed from the storage safes only for immediate transport. The storage area would have a volumetric intrusion detection device installed and connected to the facility intrusion detection system.

### Staffing

The proposed project's cannabis cultivation facility is anticipated to employ approximately 23 employees; however, not all of the employees would be on-site concurrently. Employees would only be present during the proposed hours of operation which would be from 8:00 AM to 6:00 PM, seven days a week. This Recirculated IS/MND evaluates potential impacts associated with the proposed hours of operation.

### Site Access and Parking

Access to the project site would be provided from Morgan Territory Road by an existing paved private road. The project area is set back approximately 400 feet (ft) from Morgan Territory Road. Entrance to the facility would be secured and limited to essential persons only. The facility would include 28 paved parking spaces, including ADA compliant spaces, in a designated, protected parking area. The parking area would be surrounded by a secure fence and monitored by a security guard during hours of operation. No changes to the existing bridge are proposed.

### Lighting

The proposed project would include installation of security lighting, consistent with Section 6.106.070 of the County Ordinance Code, in order to reduce the potential for criminal activity. The main objectives of the security lighting system would be to illuminate dark areas and detect movement in the protected area. The lighting system would be supplemented with instant-on lighting triggered by motion detectors. The facility and all walkways would be well-illuminated. In addition, all lighting within the parking area would be required to comply with Section 17.52.840 of the County Ordinance Code. Specifically, lighting within the parking area would be required to be designed so that light sources are directed downward and away from any residential areas.

### Odor Mitigation and Cooling System

The project would utilize highly efficient electronic air purification systems to mitigate odors. Specifically, the project would utilize the "urban-gro" air treatment systems for the greenhouse. The technology in the equipment reduces bacterial and microbial contaminants by approximately 99 percent.

Climate control in the greenhouse and processing building would provide optimal growing conditions for the plants. The project would utilize an indirect evaporative cooling system, operating on a recirculation mode. The system design is similar to a water-cooled chiller, but uses water as a cooling medium instead of a refrigerant. However, being non-essential for general cultivation, water for climate control would be provided on a residual basis after meeting irrigation,

processing and cleaning needs. Water, circulating in a closed loop system, is cooled in a cooling tower by a liquid-to-air heat exchanger during a process of auxiliary water evaporation. Cold water is supplied to air handling units where it sensibly cools the processed air in another liquid-to-air heat exchanger. The interior air distribution is done via fabric and plastic sleeves connected to externally mounted air supply manifolds. The design also calls for additional fans and louvers installed under the gable roofs for fresh air supply and for purging hot and humid air

The proposed project would install and utilize a wet-wall system. A wet-wall system creates an air inlet into the greenhouse which draws air in such volumes that due to the air speed through the wet-wall, the water is picked up and evaporated in the greenhouse to provide cooling. Systems are installed with fans at one end of the building, and the wet-wall at the other. Per the Conceptual Water-Supply and Wastewater Plan, water usage for the cooling system would be up to 1,750 gallons per day (gpd) or 0.64 million gallons per year (gpy).<sup>3</sup>

### Utilities

The following is a discussion of the proposed utility sources associated with the proposed project.

#### *Water*

Water for the proposed project would be supplied by four existing on-site wells. Cumulatively, the four wells would produce four gallons of water per minute. Two of the existing wells are located to the south of the driveway, while two of the wells are located north of the driveway. Each well would provide water connections to the overall water system. Additionally, the proposed project would include rainwater harvesting facilities. The water from the existing wells and the rainwater harvesting facilities would be pumped to a new 500,000-gallon storage tank reservoir, to be located at the south side of the proposed greenhouse and processing building. Water in the water storage tank would be routed to a proposed reverse osmosis (RO) treatment system for project uses. Return water from cannabis irrigation and project grey water would be reclaimed on-site by the reclamation system. It should be noted that the proposed project would not combine any water from the rainwater harvesting facilities with the existing potable water supply for the on-site residences. The potable water supply for the existing residences would be kept separate from the proposed project water-supply system.

As discussed in the Conceptual Water-Supply and Wastewater Plan (Balance Hydrologics, 2019 [revised July 21, 2020]), the total anticipated water demand, including the on-site residences, is approximately 6,200 gpd. The rain harvesting system would be expected to supply approximately 860 gpd and the existing groundwater wells would supply approximately 5,800 gpd, for a total of 6,660 gpd. Refer to the Conceptual Water-Supply and Wastewater Plan (Balance Hydrologics, 2019 [revised July 21, 2020]) for additional details related to the project water demand and supply estimates.

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<sup>3</sup> Balance Hydrologics, Inc. *Conceptual Water-Supply and Wastewater Plan, Oasis Venture Livermore Grow Facility, Alameda County, CA.* August 2019 (rev. 7-21-20) (See Appendix D).

### *Wastewater*

The project would include construction of a new septic tank system on the project site. The septic system would include a pump vault connecting to a two-inch force main which would lead to a leach field located approximately 300-ft from the project site. A 5,000-gallon capacity sludge tank would be constructed and sludge would be hauled off-site every four days.

The conceptual design of proposed commercial septic system was developed by Acorn Onsite, Inc. in 2019. Based on review of planning documents and the Feasibility Study, ACDEH has determined that wastewater generated at the site can be managed using on-site wastewater systems at the subject property.

### *Stormwater*

Overland flow and runoff from the project site currently flow into a small drainage ditch, located on the north side of the project site, and drains into Cayetano Creek. Generally, the direction of water flow within the project site is north to south.

The proposed project would include construction of a berm that would wrap around the northern, western, and eastern boundaries of the greenhouse. The berm would serve to route runoff that originates upslope around the outside of the project site, into the existing ditch and eventually into Cayetano Creek.

Most of the stormwater that falls on roof areas within the project site would be captured using a rainwater harvesting system consisting of an underground vault and/or surface tanks, which would then be pumped to the proposed water-storage tank. Stormwater that falls outside of the area served by the rainwater harvesting system would be directed to a proposed bioretention basin. The bioretention basin would be properly sized to treat and mitigate the flow volumes for water quality, hydromodification, and flood control requirements. The bioretention area would be located on the southern edge of the project site, between the proposed greenhouse and the driveway (see Figure 3). Outflow from the area would be routed into the drainage ditch along the driveway through a flow spreader in order to join the off-site flows and discharge into Cayetano Creek.

### **Discretionary Actions**

The proposed project would require the following discretionary actions by Alameda County:

- Adoption of the Recirculated IS/MND;
- Approval of a Mitigation Monitoring and Reporting Program; and
- Approval of a Conditional Use Permit.

Subsequent to completion of the aforementioned actions, the proposed project would require approval of a CalCannabis Permit by the CDFA, an On-Site Wastewater Treatment System Permit by the Zone 7 Water Agency, as well as a Section 404 Clean Water Act permit, a Section 401 Water Quality Certification from the RWQCB, or a Section 1600 Streambed Alteration Agreement from the CDFW.

## G. ENVIRONMENTAL CHECKLIST

The following Checklist contains the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to describe the impacts of the proposed project. A discussion follows each environmental issue identified in the checklist. Included in each discussion are project-specific mitigation measures recommended as appropriate as part of the Proposed Project.

For this checklist, the following designations are used:

**Potentially Significant Impact:** An impact that could be significant, and for which mitigation has not been identified. If any potentially significant impacts are identified, an EIR must be prepared.

**Less-Than-Significant With Mitigation Incorporated:** An impact that requires mitigation to reduce the impact to a less-than-significant level.

**Less-Than-Significant Impact:** Any impact that would not be considered significant under CEQA relative to existing standards.

**No Impact:** The project would not have any impact.

<b>I. AESTHETICS.</b> <i>Would the project:</i>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>

### **Discussion**

- a-b. Examples of typical scenic vistas include mountain ranges, ridgelines, or bodies of water as viewed from a highway, public space, or other areas designated for the express purpose of viewing and sightseeing. In general, a project’s impact to a scenic vista would occur if development of the project would substantially change or remove a scenic vista. Scenic vistas do not exist in the proximity of the project site, as the project site is located in a flat, rural area of the County. The site is not located near any major highway or body of water.

According to the California Scenic Highway Mapping System, the proposed project site is not located near an officially designated State scenic highway.<sup>4</sup> Route 680 in Alameda County affords views considered to be scenic and is designated as a Scenic Highway, but the project site is out of view of Route 680. Because the proposed project would not be visible from Route 680, the proposed project would not have the potential to damage views from the Scenic Highway.

Based on the above, development of the proposed project would not have a substantial adverse effect on a scenic vista and would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway. Thus, a *less-than-significant* impact would occur.

- c. Public views in the project vicinity would consist primarily of views seen by motorists traveling on Morgan Territory Road. The project site is surrounded by predominately agricultural and vacant land, and is removed at least 0.6-mile from Morgan Territory Road. Most of the views of the site from Morgan Territory Road are obstructed by trees lining the roadway.

<sup>4</sup> California Department of Transportation. *California Scenic Highway Mapping System, Alameda County*. Available at: [http://www.dot.ca.gov/hq/LandArch/16\\_livability/scenic\\_highways/](http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/). Accessed November 2018.

Figure 4 through Figure 6 show the current views of the project site from the most exposed portion of Morgan Territory Road, and the current, vacant portion of the project site. The proposed project would convert a portion of the undeveloped project site, and, thus, would alter the existing visual character of the site.

Distinguishing between public and private views is important, because private views are views seen from privately-owned land and are typically associated with individual viewers, including views from private residences. Public views are experienced by the collective public, and include views of significant landscape features and along scenic roads. According to CEQA (Pub. Resources Code, § 21000 et seq.) case law, only public views, not private views, are protected under CEQA. For example, in *Association for Protection etc. Values v. City of Ukiah* (1991) 2 Cal.App.4th 720, the court determined that “we must differentiate between adverse impacts upon particular persons and adverse impacts upon the environment of persons in general. As recognized by the court in *Topanga Beach Renters Assn. v. Department of General Services* (1976) 58 Cal.App.3d 188: “[A]ll government activity has some direct or indirect adverse effect on some persons. The issue is not whether [the project] will adversely affect particular persons but whether [the project] will adversely affect the environment of persons in general.” Therefore, the focus in this section is on potential impacts to public views.

Figure 7 and Figure 8 show the views of the site after buildout. Figure 7 includes views of the site after buildout from a roadway providing access to nearby residences. As shown in Figure 7, the proposed building would be generally consistent in size and massing with the surrounding residential and agriculture structures. In addition, while the proposed project would alter views within the site, the proposed buildings not obstruct views of the hills or landscape beyond the project site. Furthermore, because such views are only available from a private driveway, the following discussion is primarily based on views from Morgan Territory Road, which is the location from which public views are experienced.

As shown in Figure 8, the proposed structure would not alter the existing visual character or quality of the site, as the building would not be developed to a size visible from Morgan Territory Road. Additionally, as seen in Figure 8, the proposed project would develop a relatively small area of land and would be kept to a height which would not obstruct any current views of the hills or landscape beyond the project site. The structures would remain sheltered by vegetation along Morgan Territory Road. Furthermore, new landscaping would be installed around the project perimeter of the site to provide aesthetic enhancements to the project and to provide visual screening of the facilities. The landscape screening elements are meant to blend into the natural hillside using endemic oaks from the surrounding hillsides. Consequently, the proposed project would not result in a substantial degradation of the existing visual character or quality of the site as the proposed structures would be partially screened by vegetation and would be limited in size.

Based on the above, the proposed project would not result in a degradation of the existing visual character or quality of the site or the surroundings, a *less-than-significant* impact would occur.

**Figure 4**  
**View of Project Site Entrance from Morgan Territory Road**



**Figure 5**  
**View of Project Site from Morgan Territory Road looking East**



**Figure 6**  
**Current View of Project Site from Northern Vantage Looking South**



**Figure 7**  
**Simulation Photo of the Proposed Project Buildout**



**Figure 8**  
**Simulated View of Project Site from Morgan Territory Road After Buildout**



- d. Pursuant to Section 6.106.080 of the Alameda County Ordinance Code, the proposed project would install safety lighting around the outside perimeter of the building, creating a new source of light glare where none currently exists. The objective of the lighting system is to illuminate dark areas within the project site.

In addition, the proposed project would comply with the California Code of Regulations (CCR) Sections 8304(c) and 8304(g), in that all outdoor lighting for security purposes would be shielded and downward facing to reduce light spilling onto neighboring properties. The lighting system would only be triggered by motion detectors, which would limit the amount of time when such systems are activated. Lights used for cultivation would also be shielded in order to reduce nighttime glare. Furthermore, all lighting within the parking area would be required to comply with Section 17.52.840 of the County Code of Ordinances. Specifically, lighting within the parking area would be required to be designed so that light sources are directed downward and away from any residential area. Due to the setback from the nearest public roadway and residences, as well as existing vegetation sheltering the structure from view of the public roadway, the proposed project would not create a substantial light source that would affect the day or nighttime views, and a *less-than-significant* impact would occur.

**II. AGRICULTURE AND FOREST RESOURCES.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

**Discussion**

a,e. According to the California Department of Conservation Important Farmland Map, the project site is classified as Grazing Land and does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.<sup>5</sup> Because the project site is not considered Prime or Unique Farmland, or Farmland of Statewide Importance, the proposed project would not convert such land to a non-agricultural use.

The proposed project would involve cultivation of cannabis in an on-site greenhouse. Section 17.06.040 of the County Ordinance Code permits cannabis cultivation as a conditional use in Agricultural districts upon approval of a Conditional Use Permit. The proposed project would not result in the loss of Farmland, nor the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use; therefore, a *less-than-significant* impact would occur.

b. The proposed project is zoned Agricultural, which allows cannabis cultivation as a conditional use upon approval of a Conditional Use Permit by the Board of Zoning Adjustments. The project site is located on land not enrolled in a Williamson Act contract. Thus, the project would result in *no impact* related to a conflict with existing zoning for agricultural use or a Williamson Act contract.

<sup>5</sup> California Department of Conservation. *Alameda County Important Farmland Map 2014*. December 2016.

- c-d. The proposed project is zoned Agricultural and classified as Grazing Land by the California Department of Conservation. The project site is not classified as forest land, timberland, or Timberland Production. Alameda County permits cannabis cultivation in Agricultural zones of unincorporated parts of the County. Thus, the project would not conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production. Because the proposed project would not result in rezoning or loss of forest land for non-forest use, the project would result in *no impact* related to such.

**III. AIR QUALITY.**

*Would the project:*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion**

a,b. Alameda County is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), who regulates air quality in the San Francisco Bay Area. The SFBAAB area is currently designated as a nonattainment area for the State and federal ozone, State and federal particulate matter 2.5 microns in diameter (PM<sub>2.5</sub>), and State particulate matter 10 microns in diameter (PM<sub>10</sub>) ambient air quality standards (AAQS). The SFBAAB is designated attainment or unclassified for all other AAQS. It should be noted that on January 9, 2013, the U.S. Environmental Protection Agency (USEPA) issued a final rule to determine that the Bay Area has attained the 24-hour PM<sub>2.5</sub> federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal PM<sub>2.5</sub> AAQS until such time as the BAAQMD submits a redesignation request and a maintenance plan to the USEPA, and the USEPA approves the proposed redesignation.

In compliance with regulations, due to the nonattainment designations of the area, the BAAQMD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. The current air quality plans are prepared in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG).

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which was adopted on October 24, 2001 and approved by the California Air Resources Board (CARB) on November 1, 2001. The plan was submitted to the USEPA on November 30, 2001 for review and approval. The most recent State ozone plan is the 2017 Clean Air Plan (CAP), adopted on April 19, 2017.<sup>6</sup> The 2017 CAP was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, particulate matter (PM), toxic air contaminants (TACs), and GHG. The control strategies included in the 2017 CAP serve as the backbone of the 2017 CAP, and build upon existing regional, state, and national programs for emissions reductions. The 2017 CAP includes 85 control measures, which provide an integrative approach to reducing ozone, PM, TACs, and GHG emissions.

<sup>6</sup> Bay Area Air Quality Management District. *Final 2017 Clean Air Plan*. April 19, 2017.

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal AAQS within the SFBAAB. To ensure continued attainment of AAQS, and to work towards attainment of AAQS for which the area is currently designated as nonattainment, the BAAQMD has adopted rules and regulations as well as thresholds of significance for project emissions, which are consistent with applicable air quality plans. The BAAQMD’s significance thresholds associated with development projects for emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO<sub>x</sub>), as well as for PM<sub>10</sub> and PM<sub>2.5</sub>, expressed in pounds per day (lbs/day) and tons per year (tons/yr), are listed in Table 1. By exceeding the BAAQMD’s mass emission thresholds for emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>, a project would be considered to conflict with or obstruct implementation of the BAAQMD’s air quality planning efforts.

<b>Pollutant</b>	<b>Construction</b>	<b>Operational</b>	
	<b>Average Daily Emissions (lbs/day)</b>	<b>Average Daily Emissions (lbs/day)</b>	<b>Maximum Annual Emissions (tons/year)</b>
ROG	54	54	10
NO <sub>x</sub>	54	54	10
PM <sub>10</sub> (exhaust)	82	82	15
PM <sub>2.5</sub> (exhaust)	54	54	10

*Source: BAAQMD, CEQA Guidelines, May 2017.*

The proposed project’s construction emissions were quantified using the California Emissions Estimator Model (CalEEMod) software version 2016.3.2 – a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including construction data, trip generation rates, vehicle mix, trip length, average speed, etc. Where project-specific information is available, such information should be applied in the model. As such, project-specific trip generation information provided by TJKM Traffic Consultants was applied to the modeling. Furthermore, based on project site plans, the proposed project was assumed to include the export of 165 cubic yards of material during project construction and site grading. Operation of the proposed project would include installation of two emergency generators within the project site. The project applicant has not yet determined whether the emergency generators would be propane or diesel powered; however, in order to provide a conservative assumption for operational emissions, both generators were applied as diesel-powered in the modeling.

The proposed project’s estimated emissions associated with construction and operation are presented and discussed in further detail below. A discussion of the proposed project’s contribution to cumulative air quality conditions is provided below as well. All modeling results are included as Appendix B to this Recirculated IS/MND.

Construction Emissions

According to the CalEEMod results, the proposed project would result in maximum unmitigated construction criteria air pollutant emissions as shown in Table 2.

<b>Table 2</b>			
<b>Maximum Unmitigated Construction Emissions (lbs/day)</b>			
<b>Pollutant</b>	<b>Proposed Project Emissions</b>	<b>Threshold of Significance</b>	<b>Exceeds Threshold?</b>
ROG	4.83	54	<b>NO</b>
NO <sub>x</sub>	54.80	54	<b>YES</b>
PM <sub>10</sub> (exhaust)	2.39	82	<b>NO</b>
PM <sub>10</sub> (fugitive)	18.21	None	<b>N/A</b>
PM <sub>2.5</sub> (exhaust)	2.20	54	<b>NO</b>
PM <sub>2.5</sub> (fugitive)	9.97	None	<b>N/A</b>

*Source: CalEEMod, December 2018 (see Appendix B).*

As shown in the table, the proposed project’s construction emissions would be below the applicable thresholds of significance for ROG, PM<sub>10</sub>, and PM<sub>2.5</sub>. However, NO<sub>x</sub> emissions related to construction of the proposed project would slightly exceed the applicable BAAQMD threshold of significance.

Although thresholds of significance for mass emissions of fugitive dust PM<sub>10</sub> and PM<sub>2.5</sub> have not been identified by the County or BAAQMD, the proposed project’s estimated fugitive dust emissions have been included for informational purposes. All projects under the jurisdiction of the BAAQMD are required to implement all of the BAAQMD’s Basic Construction Mitigation Measures, which include the following:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator.
8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take

corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.

The proposed project’s required implementation of the BAAQMD’s Basic Construction Mitigation Measures listed above would reduce the construction-related emissions from the levels estimated and presented in Table 2. However, the proposed project could still result in emissions above the applicable threshold of significance for construction NO<sub>x</sub>. Therefore, the project would be considered to result in a potentially significant air quality impact during construction.

### Operational Emissions

According to the CalEEMod results, the proposed project would result in maximum operational criteria air pollutant emissions as shown in Table 3. As shown in the table, the proposed project’s operational emissions would be well below the applicable thresholds of significance. As such, the proposed project would not result in a significant air quality impact during operations.

<b>Table 3</b>					
<b>Unmitigated Maximum Operational Emissions</b>					
<b>Pollutant</b>	<b>Proposed Project Emissions</b>		<b>Threshold of Significance</b>		<b>Exceeds Threshold?</b>
	<b>lbs/day</b>	<b>tons/yr</b>	<b>lbs/day</b>	<b>tons/yr</b>	
ROG	1.22	0.22	54	10	<b>NO</b>
NO <sub>x</sub>	1.58	0.28	54	10	<b>NO</b>
PM <sub>10</sub> (exhaust)	0.04	0.01	82	15	<b>NO</b>
PM <sub>10</sub> (fugitive)	0.90	0.16	None	None	<b>N/A</b>
PM <sub>2.5</sub> (exhaust)	0.24	0.01	54	10	<b>NO</b>
PM <sub>2.5</sub> (fugitive)	0.04	0.04	None	None	<b>N/A</b>

*Source: CalEEMod, December 2018 (see Appendix B).*

### Cumulative Emissions

Past, present, and future development projects contribute to the region’s adverse air quality impacts on a cumulative basis. By nature, air pollution is largely a cumulative impact. A single project is not sufficient in size to, by itself, result in nonattainment of AAQS. Instead, a project’s individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project’s contribution to the cumulative impact is considerable, then the project’s impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project’s individual emissions would be cumulatively considerable. The thresholds of significance presented in Table 1 represent the levels at which a project’s individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB’s existing air quality conditions. If a project exceeds the significance thresholds presented in Table 1, the proposed project’s emissions would be cumulatively considerable, resulting in significant adverse cumulative air quality impacts to the region’s existing air quality conditions. Because the proposed project would result in emissions above the applicable threshold of significance for construction-related emissions of NO<sub>x</sub>, the project could result in a cumulatively considerable contribution to the region’s existing air quality conditions.

## Conclusion

As stated previously, the applicable regional air quality plans include the 2001 Ozone Attainment Plan and the 2017 CAP. According to BAAQMD, if a project would not result in significant and unavoidable air quality impacts, after the application of all feasible mitigation, the project may be considered consistent with the air quality plans. Because the proposed project would result in short-term construction emissions of NO<sub>x</sub>, an ozone precursor, above the applicable threshold of significance, the project could conflict with or obstruct implementation of regional air quality plans. Therefore, the proposed project could contribute to the region's nonattainment status of ozone, thus, contributing to the violation of an air quality standard. However, with mitigation incorporated, a *less-than-significant* impact associated with construction-related emissions of NO<sub>x</sub> would result.

## Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the construction-related emissions of NO<sub>x</sub> from 54.80 lbs/day to 51.52 lbs/day, which would be below the BAAQMD's threshold of significance of 54 lbs/day. Thus, implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

*III-1. Prior to approval of any grading plans, the project applicant shall show on the plans via notation that the contractor shall ensure that all heavy-duty diesel-powered equipment (e.g., rubber-tired dozers, scrapers, cranes, etc.) to be used in the construction of the project (including owned, leased, and subcontractor vehicles) shall, at a minimum, meet U.S. Environmental Protection Agency emissions standards for Tier 2 engines or equivalent. The plans shall be submitted to the Planning Department for review and approval.*

- c. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Sensitive receptors are typically defined as facilities where sensitive receptor population groups (i.e., children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. Given that the proposed project would not include the placement of housing or other habitable structures, the project would not be considered a sensitive receptor. The nearest existing sensitive receptor would be the existing residence within the project site and the residence located to the west of the project site, across Morgan Territory Road.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and toxic air contaminants (TAC) emissions, which are addressed in further detail below.

### Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Emissions of CO are of potential concern, as the pollutant is a toxic gas that results from the incomplete combustion of carbon-containing fuels such as gasoline or wood.

In order to provide a conservative indication of whether a project would result in localized CO emissions that would exceed the applicable threshold of significance, the BAAQMD has established screening criteria for localized CO emissions. According to BAAQMD, a proposed project would result in a less-than-significant impact related to localized CO emission concentrations if the following screening criteria is met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, underpass, etc.).

As discussed in Section XVI, Transportation and Circulation, of this Recirculated IS/MND, the proposed project would generate approximately 110 total daily vehicle trips, with 11 trips occurring during the AM peak hour and 11 trips occurring during the PM peak hour. Given that the project would generate fewer than 100 peak hour trips and would be consistent with the site's current land use designation, the project would not conflict with the Alameda County Transportation Commission Congestion Management Program (CMP). Additionally, traffic counts completed for the proposed project as part of a Traffic Impact Analysis<sup>7</sup> showed that Manning Road, west of North Livermore Avenue, experiences traffic volumes of 2,229 vehicles per day, while Morgan Territory Road experiences approximately 576 vehicles per day. Based on these traffic volumes, the roadways would continue to operate far below BAAQMD's threshold of 44,000 vehicle per hour with the addition of 110 daily vehicle trips associated with the proposed project. Thus, the proposed project would not increase traffic volumes at an affected intersection to more than 44,000 vehicles per hour. Furthermore, areas where vertical and/or horizontal mixing is limited due to tunnels, underpasses, or similar features do not exist in the project area. As such, the proposed project would not be expected to result in substantial levels of localized CO that would expose sensitive receptors to substantial levels of pollutants.

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<sup>7</sup> TJKM. *Traffic Impact Analysis for the Proposed Cannabis Cultivation Facility at 7033 Morgan Territory Road, Alameda County*. December 2018. (See Appendix E).

## TAC Emissions

Another category of environmental concern is TACs. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, rail yards, and stationary diesel engines. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

The CARB's Handbook includes facilities (distribution centers) associated with 100 or more heavy-duty diesel trucks per day as a source of substantial DPM emissions. Operation of the proposed development would involve approximately 23 employees driving personal vehicles to and from the site during operational days, but is not expected to involve frequent heavy-duty diesel truck trips. Furthermore, the movement of goods to and from the project site may include some diesel-fueled vehicles; however, such movement of goods is anticipated to constitute a small fraction of the 110 anticipated daily trips related to project operations. Because operation of the proposed project would not include diesel truck trips in excess of 100 trips per day, the proposed project would not expose existing sensitive receptors to substantial amounts of DPM emissions or concentrations associated with such during project operations.

Project operations would include installation of two emergency back-up generators within the project site. Although the project applicant has not finalized the fuel type to be used for the two emergency back-up generators, for the purposes of this environmental analysis, both generators have been assumed to be diesel-fueled, as diesel-fueled generators would emit DPM. The two generators would only be used to provide back-up power to the proposed facilities and during required testing. Thus, the generators would only operate intermittently or in emergency situations. Although finalized locations for the generators have not been determined, the generators would likely be placed in close proximity to the proposed structures that would be provided power by the generators. Consequently, both proposed generators would likely be over 200 ft away from the nearest existing residences. DPM is a highly dispersive gas; thus, during the limited occasions when the generators are used, any DPM emitted by the generators would disperse prior to reaching the existing residences. The proposed project would be required to comply with CCR Sections 8304(e), 8305, and 8306 related to the use of generators. Specifically, the generators shall meet the one of the following characteristics: the emergency definition for portable engines; operate eighty hours or less in a calendar year; meet Tier 3 engine specifications with level 3 diesel particulate filter requirements; or meet Tier 4 engine specifications. In addition, installation, maintenance, and operation of the generator would be regulated by BAAQMD through Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants. Rule 5 would require that the generator meets health risk limits and requirements for Toxics Best Available Control Technology. Considering the distance of the proposed generators to the nearest sensitive receptors, the limited use of the generator, and the existing BAAQMD

regulations for such generators, the potential future generators would not be anticipated to generate substantial amounts of TACs that could affect existing sensitive receptors near the project site.

In addition to the limited amount of DPM emissions resulting from potential operation of diesel-fueled vehicles and stationary generators on-site during operations, short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust. Construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. Specifically, construction would occur over an approximately 23-month period. Mass grading of the project site, when emissions would be most intensive, would occur over the period of approximately nine days. Health risks are typically associated with exposure to high concentrations of TACs over extended periods of time (e.g., 30 years or greater), whereas the construction period associated with the proposed project would be limited in duration.

All construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation, which is intended to help reduce emissions associated with off-road diesel vehicles and equipment, including DPM. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources. In addition, construction equipment would operate intermittently throughout the day and only on portions of the site at a time, and construction activity would likely only occur during normal working hours, in compliance with Section 6.60.070 of the County Ordinance Code. Because construction equipment on-site would not operate for long periods of time and would be used at varying locations within the site, associated emissions of DPM would not occur at the same location (or be evenly spread throughout the entire project site) for long periods of time. Due to the temporary nature of construction and the relatively short duration of potential exposure to associated emissions, the potential for any one sensitive receptor in the area to be exposed to concentrations of pollutants for a permanent or substantially extended period of time would be low. Therefore, construction of the proposed project would not be expected to expose nearby sensitive receptors to substantial pollutant concentrations.

### Conclusion

Based on the above discussion, the proposed project would not expose any sensitive receptors to substantial concentrations of localized CO or TACs during construction or operation. Therefore, the proposed project would result in a *less-than-significant* impact related to the exposure of sensitive receptors to substantial pollutant concentrations.

- d. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, a quantitative analysis is difficult. Certain land uses such as wastewater treatment facilities, landfills, confined animal facilities, composting operations, food manufacturing plants, refineries, and chemical plants have the potential to generate considerable odors. The proposed project would include the cultivation and processing of cannabis, as well as composting of organic waste, which would have the potential to create objectionable odors.

Although the cultivation and processing of cannabis, including the composting of organic waste, could be considered to create objectionable odors, Section 6.106 of the County Ordinance Code requires that cannabis cultivation sites be designed to include odor control devices sufficient to ensure that odors are not detected outside of the lot on which the operation is located. Provision of such odor control devices would be ensured during County review of the cannabis cultivation permit required for operation of the proposed project. Considering the requirements of Section 6.106 of the County Ordinance Code, operation of the proposed project would not be permitted to result in the emission of objectionable odors detectable outside of the lot within which the project is operating.

Furthermore, Section 6.106 of the County Ordinance Code specifies that any condition resulting in violation of the cultivation permit conditions, which would include the emission of odors detectable outside of the subject lot, would be deemed a public nuisance, subject to enforcement by the County. Chapter 6.106 requires new projects to be designed with sufficient odor absorbing ventilation and exhaust systems so that any odor generated on the premises is not detected outside of the site. In order to comply with Chapter 6.106 an Odor Control Plan was prepared by the project applicant, which demonstrates the type of odor control devices that would be used during operations of the proposed project. Specifically, a Semi Hybrid, Indirect Evaporation Cooling unit would include the intake of air through three different vents, while clean air would then be released out of a different vent on the unit. County enforcement activity would ensure that the condition causing the emission of odors detectable outside of the lot within which the project is operating would be rectified.

It should be noted that BAAQMD also regulates objectionable odors through BAAQMD Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain effective until such time that citizen complaints have not been received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. Thus, if odor complaints are made after the proposed project is developed, the BAAQMD would ensure that such odors are addressed and any potential odor effects are reduced.

With respect to dust, all projects under the jurisdiction of BAAQMD are required to implement the BAAQMD's Basic Construction Mitigation Measures. Such measures would act to reduce construction-related dust by ensuring that haul trucks with loose material are covered, reducing vehicle dirt track-out, and limiting vehicle speeds within project site, among other methods, which would ensure that construction of the proposed project does not result in substantial emissions of dust. Following project construction, vehicles operating within the project site would be limited to paved areas of the site, and non-paved areas would be landscaped. Thus, project operations would not include sources of dust that could adversely affect a substantial number of people.

For the aforementioned reasons, operation of the proposed project would not create objectionable odors affecting a substantial number of people, and a *less-than-significant* impact related to objectionable odors would result.

**IV. BIOLOGICAL RESOURCES.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion**

- a. The following discussion is based on a Biological Evaluation and response to comments memo prepared by the ecological consulting firm Live Oak Associates, Inc. for the proposed project (see Appendix C).<sup>8</sup>

Several species of plants and animals within the State of California have low populations, limited distributions, or both. Such species may be considered “rare” and are vulnerable to extirpation. State and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the State. A sizable number of native plants and animals have been formally designated as threatened,

<sup>8</sup> Live Oak Associates, Inc. *Oasis Grow Facility Property Biological Evaluation Alameda County, California*. October 24, 2018.

or endangered under State and federal endangered species legislation and/or have been designated as “species of special concern” or “Fully Protected species” by the CDFW. The California Native Plant Society (CNPS) has developed lists of native plants considered rare, threatened, or endangered. Collectively, such plants and animals are referred to as “special-status species.” In addition, the project site is located within the East Alameda County Conservation Strategy (EACCS) area, which is intended to provide a framework to protect, enhance and restore natural resources in eastern Alameda County. The EACCS is also intended to improve and streamline the environmental permitting process for impacts resulting from infrastructure and development projects.

A site specific survey was performed by Live Oak Associates in October 2018. During the survey, all habitat types in and adjacent to the project site were surveyed and classified, and plant and animal species observed were recorded. In addition, the California Natural Diversity Database (CNDDDB) was queried for special-status species known to occur within the Tassajara U.S. Geological Survey 7.5-minute quadrangle and the eight surrounding quadrangles (Clayton, Antioch South, Brentwood, Diablo, Byron Hot Springs, Dublin, Livermore, and Altamont). Thus, because the study includes the entire property, including a survey of Cayetano Creek, a conservative analysis is provided. Because the proposed project would only disturb approximately three acres of the 92.52-acre property, which is not anticipated to include Cayetano Creek, the likelihood of special-status species occurring on the project site is lower than the estimates provided.

Habitat located on the project site includes primarily California annual grassland, which is mowed and vegetated to generally less than four inches in height. Mixed riparian woodland exists along Cayetano Creek on the western boundary of the area. The dominant trees present in the project area include valley oak, coast live oak, black walnut, blue gum, blue elderberry, and Monterey cypress. In addition, sparse herbaceous understory is present.

Based on information from CDFW, USFWS, CNDDDB, and CNPS, as well as observations during the site survey, 43 special-status plant species and 29 special-status wildlife species have the potential to occur within the vicinity of the site. A number of plant and animal species were dismissed from further analysis by Live Oak Associates because the species in question occurs in either serpentine or alkaline soils, which are absent from the site. Further details regarding the special-status species that were deemed to have the potential to occur within the vicinity of the site are provided below.

### Special-Status Plants

Most special status plant species that occur, or once occurred, within the project region are considered absent from the project site or unlikely to occur because their essential habitat is absent or marginal on the site, the species is not known to occur in the immediate project vicinity, the species was ruled out as occurring on the site during the October 2018 survey, and/or the species has not been observed in the region in many decades. However, according to Live Oak Associates, two special-status plant species have the potential to occur within the annual grasslands of the site: the large-flowered fiddleneck and the bent-flowered fiddleneck. Although the species were not identified on the project site during the October survey, a focused survey conducted during the March to June blooming period would be required to rule out the occurrence of either species on the project site.

### Special-Status Wildlife Species

According to the Biological Evaluations performed for the proposed project, 29 special-status animal species occur, or once occurred, regionally. Of the 29 species, 10 would be absent from or unlikely to occur on the project site due to unsuitable conditions. The remaining 19 species may occur more frequently as regular foragers may be residents on the site. Project buildout would have a minimal effect on the breeding success of the species and would, at most, result in a relatively small reduction of foraging and/or nesting habitat that is abundantly available regionally. Impacts related to each special-status species with potential to occur on the project site are discussed below.

#### *Amphibians and Reptiles*

The Biological Evaluation identified the following amphibians and reptiles as having potential to occur on the project site:

- Foothill yellow-legged frog (*Rana boylei*);
- California red-legged frog (*Rana draytonii*);
- Western pond turtle (*Actinemys marmorata*);
- Alameda whipsnake (*Masticophis lateralis euryxanthus*); and
- California tiger salamander (*Ambystoma californiense*).

The project site consists of habitats that may be suitable to the foothill yellow-legged frog and California red-legged frog, both of which are listed as species of special concern by the CDFW. Cayetano Creek is expected to be the highest quality habitat for both species and is expected to act only as a movement corridor. The proposed project would not disturb the riparian corridor, and thus, the likelihood of migrating frogs occurring on the project site is low. However, if a migrating frog were to occur on the project site, construction could disturb the frog. The project area is located within critical habitat designated by the USFWS for the California red-legged frog.

The western pond turtle is found in ponds, lakes, streams, and quiet waters. Suitable habitat exists in Cayetano Creek when water is present; however, the suitable habitat is of very low quality for turtles. The proposed project would not disturb the creek, but development of the project would result in the loss of a small amount of potential suitable habitat. Additionally, while unlikely, the possibility exists that a turtle could move into the construction zone during feeding or movement, which may result in injury.

Alameda whipsnake is a State and federally listed threatened species. Alameda whipsnakes are typically found in chaparral and coastal sage scrub communities (i.e., communities dominated by chamise or coastal sage plants). Telemetry data indicate that, although home ranges of Alameda whipsnakes are centered on shrub communities, they venture up to 500 ft into adjacent habitats, including grassland, oak savanna, and occasionally oak-bay woodland. Riparian woodland adjacent to the development area provides suitable habitat for the whipsnake, and the adjacent grasslands may be used for feeding and dispersal habitat. Therefore, while unlikely, Alameda whipsnakes could move into the construction zone, which would result in a potentially significant impact.

California tiger salamander is known to breed in vernal pools and stock ponds of central California. Adults are also known to inhabit grassland adjacent to breeding sites. The project site within or adjacent to modeled potential habitat for California tiger salamander and the north mitigation area of the EACCS. In addition, several small mammal burrows occur on-site, which are suitable for estivation. Therefore, while unlikely, the possibility exists that the species could move into the construction zone, which could result in a potentially significant impact to California tiger salamander.

#### *Migratory Birds and Nesting Raptors*

The Biological Evaluation identified the following migratory birds and nesting raptors as having the potential to occur in the project area:

- Grasshopper sparrow (*Ammodramus svannarum*);
- Loggerhead shrike (*Lanius ludovicianus*);
- Swainson's hawk (*Buteo swainsonii*);
- White-tailed kite (*Elanus leucurus*);
- Northern harrier (*Circus cyaneus*);
- American peregrine falcon (*Falco peregrines anatum*); and
- Golden eagle (*Aquila chrysaetos*).

Both grasshopper sparrow and loggerhead shrike are listed as California species of special concern. The area supports suitable breeding and foraging habitat for both special-status species, and thus, ground disturbance could have an impact on individual grasshopper sparrows or loggerhead shrikes.

Raptors include species of birds that primarily hunt and feed on vertebrates, including mice, shrews, and gophers. Raptors typically nest in trees and breed during spring or summer. The project area provides potentially suitable breeding or foraging habitat for the raptors listed above. The nearest recorded raptor is the Golden eagle, which is known to occur nearly two miles northwest of the site.

The Federal Migratory Bird Treaty Act (MBTA) prohibits killing, possessing, or trading of migratory birds, including grasshopper sparrow, loggerhead shrike, and raptors, except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA encompasses whole birds, parts of birds, and bird nests and eggs. In addition, birds of prey, or raptors, are protected in California under provisions of the State Fish and Wildlife Code, Section 3503.5, which prohibits the unlawful take, possession, or destruction of any birds of prey or nests of birds of prey. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

While trees would not be removed as part of the proposed project, foraging habitat could be disturbed by construction of the project area. If a migratory bird or raptor should nest on or adjacent to the site prior to or during proposed construction activities, such activities could result in the abandonment of active nests or direct mortality to special-status birds.

### *Burrowing Owls*

The Biological Evaluation identified the burrowing owl as having the potential to occur in the project area.

- Burrowing owl (*Athene cunicularia*)

While the ground-dwelling burrowing owl was not observed on the site during the 2018 site visit, suitable habitat for burrowing owls is present on-site in the form of small mammal burrows. Listed as a California species of special concern, if a burrowing owl were to nest or occupy a burrow in the proposed project area, construction activities could result in the abandonment of active nests or direct mortality of the birds. Given the small size of the project site, occurrence of the burrowing owl is unlikely, but construction activities that adversely affect the nesting success of the burrowing owl constitute a violation of State and federal laws. Additionally, should burrowing owls occur in the development area during the breeding season, project buildout would result in the permanent loss of burrowing owl habitat.

### *Special-Status Bats*

The Biological Evaluation identified the following special-status bats as having the potential to occur in the project area:

- Pallid bat (*Antrozous pallidus*);
- Townsend's big-eared bat (*Plecotus townsendii*); and
- Western red bat (*Lasirurus blossevillii*).

All bats listed above are classified as California Species of Special Concern. All three special-special-status bats roost in rocky outcrops, caves, and grasslands. The riparian habitat and tree foliage in the project area provide potential foraging and roosting habitat. The nearest documented occurrence of all three species is more than three miles from the site.

### *Mammals*

The Biological Evaluation identified the following mammals as having the potential to occur in the project area:

- Ringtail (*Bassariscus astutus*);
- American badger (*Taxidea taxus*);
- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*); and
- San Joaquin kit fox (*Vulpes macrotis mutica*).

Many special-status mammal species have the potential to occur on the project site. Ringtail is a California protected species that resides in rocky or tails slopes in riparian habitats. Suitable habitat is restricted to the riparian woodlands in the project area. Ringtails have not been documented within three miles of the site, but could be impacted if an individual ringtail appears on the project site. American badger, a California species of

special concern, is found in drier open stages of most shrub, forest, and herbaceous habitats. The project site provides suitable habitat for badgers, although the nearest documented occurrence is just over two miles to the east. The San Francisco dusky-footed woodrat and the San Joaquin kit fox frequent oak riparian, shrub habitats, and annual grasslands. While loss of habitat would not impact either species, harm could occur if an individual enters the project site.

### Conclusion

As discussed above, the proposed project site contains special-status plants which could be impacted as a result of the project site. The project site also contains suitable habitat or foraging environment for 19 special-status species with the potential to appear on the property.

Following project implementation, the special-status plant and animals with potential to occur on site would continue to be able to use the site, as the riparian habitat would not be disturbed during operation of the proposed project, and most of the grassland would not be developed at all. While special-status plants and animals could be disturbed during construction activities, with implementation of mitigation, the project would have a *less-than-significant* impact on special-status plants and animals.

### Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

#### *Large-flowered and bent-flowered fiddleneck*

*IV-1 Prior to commencement of ground-disturbing activities, the project applicant shall have a botanical survey conducted during the appropriate blooming season for the large-flowered and bent-flowered fiddleneck to determine whether the species are present on the project site. The results of the survey shall be submitted to the Planning Department. If populations of the species are found to occur on the project site and in the event the project cannot avoid significant impacts to the special-status plants, the on-site open area shall be surveyed to determine if the area adequately compensates for lost populations on the project site. If the open area is not adequate for compensation, then a Site Restoration Plan shall be designed by a qualified botanist. The Restoration Plan shall include identification of appropriate locations to restore lost populations on-site, a description of the planning techniques and restoration effort, a timetable for restoration, a monitoring plan for performance criteria, and a description of site maintenance activities to follow restoration activities. If special-status plants are not found on the project site, additional mitigation would not be necessary.*

*Special-Status Amphibians: Foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, and California tiger salamander.*

*IV-2(a) Prior to the start of construction, a pre-construction survey shall be performed by a qualified biologist to determine presence of special-status amphibians, including foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, and California tiger salamander and submitted to the Planning Department. If special-status amphibians are identified on-site, all ground-disturbing activities shall cease until the individuals leave the site on their own accord.*

*All construction personnel shall be trained on identification of special-status amphibians and required practices. The construction zone shall be cleared and silt fencing shall be erected and maintained around the construction zone.*

*A qualified biologist shall be on-site during initial ground disturbance in portions of the project area that contain suitable habitat for special-status amphibians.*

*If special-status amphibians are not found on site during the survey or construction, additional mitigation would not be necessary.*

*IV-2(b) If aquatic habitat is present, a qualified biologist shall stake and flag an exclusion zone prior to activities. The exclusion zone shall be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone shall encompass the maximum practicable distance from the work site and at least 500 feet from the aquatic feature wet or dry. Additional measures to avoid California tiger salamander shall include, but not be limited to, the following:*

- If the work site is within the typical dispersal distance (contact USFWS/CDFG for latest research on this distance for species of interest) of potential breeding habitat, barrier fencing shall be constructed around the worksite to prevent amphibians from entering the work area. Barrier fencing will be removed within 72 hours of completion of work.*
- Monofilament plastic shall not be used for erosion control.*
- Construction personnel shall inspect open trenches in the morning and evening for trapped amphibians.*
- A qualified biologist possessing a valid ESA Section 10(a)(1)(A) permit or Service approved under an active biological opinion, shall be contracted to trap and to move amphibians to nearby suitable habitat if amphibians are found inside fenced area.*
- Work shall be avoided within suitable habitat from October 15 (or the first measurable fall rain of one-inch or greater) to May 1.*
- Standard mitigation ratio of 3:1 for amphibians shall be included as compensation for loss of upland habitat.*

*A Mitigation and Monitoring Plan shall be prepared for the explicit purpose of managing the site. The plan shall be submitted to the County for review and approval. At a minimum the plan shall:*

- *Identify the approaches to be used and provide evidence that sufficient water budget exists for any proposed enhancement;*
- *Identify a suitable planting regime for restoring or enhancing riparian habitats;*
- *Identify success criteria for monitoring both the upland and riparian habitats that are consistent with similar habitats regionally;*
- *Monitor restored or enhanced riparian habitats for 5 years;*
- *Define and identify maintenance and management activities to manage the habitats to meet the stated goals of support habitat characteristics suitable for the CTS. This may include suitable fencing so as to control access, limited cattle grazing or other procedures to manage grass height and forage production at levels that benefit the CTS, removal of trash.*
- *Define and provide for a financial mechanism such as a non-wasting endowment or an assessment district that funds the management of the open space into perpetuity.*

#### *Nesting Raptors and Migratory Birds and Special-Status Bats*

*IV-3(a) No more than 14 days prior to the initiation of ground-disturbing activities, a qualified biologist shall conduct a pre-construction survey for tree-nesting raptors and migratory birds. The survey shall be submitted to the Planning Department. If nesting raptors or migratory birds are detected on-site during the survey, a suitable construction buffer of 500 feet shall remain in place for the duration of the breeding season or until a biologist gives confirmation that all chicks have fledged.*

*Monitoring for nesting raptors and migratory birds shall continue throughout the duration of project construction activities. Should any active nests be discovered in or within 500 feet of the construction zone, the qualified biologist shall establish a suitable construction-free buffer around the nest. The buffer shall be identified on the ground with flagging or fencing and shall remain in place until the biologist has determined the young have fledged. Additional measures shall be implemented for golden eagle and include, but not be limited to, the following:*

- *Enhance suitable burrowing owl habitat on public and private lands in the study area through implementation of specific measures in management plans, including, implementing a standard mitigation ratio of 3:1 for golden to compensate for loss of habitat.*
- *Maintain the nesting golden eagle population in the study area at a level that allows for long-term viability without human intervention.*

- *Enhance suitable golden eagle habitat on public and private lands in the study area through implementation of species-specific measures in management plans.*
- *The use of rodenticides shall be prohibited in protected areas, and when possible, outside of protected areas. When rodent management is needed to protect the integrity of structures such as levees and stock ponds dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use integrated pest management (IPM) principles.*

*IV-3(b) Should work be required within the riparian corridor, a bat assessment shall be conducted outside of maternity season and outside of overwintering season when human conviction can occur (March 1-April 15 or August 15-October 15). The assessment shall be submitted to the Planning Department. If avoidance of trees, including hollow or dead trees, is not feasible, any roosting pallid bats, Townsend's big-eared bats, and Western red bat identified in the pre-construction survey shall be passively relocated by a biologist or professional pest control specialist during the non-breeding season (September 1 to April 14).*

*If work does not take place within the riparian corridor or special-status bats are not present based on the survey, additional mitigation is not required.*

#### *Burrowing Owl*

*IV-4(a) A qualified biologist shall conduct a pre-construction survey for burrowing owls within the construction zone and within 250 feet of the zone no more than 14 days prior to the onset of ground disturbance, and submit the results to the Planning Department. Survey methodology shall be consistent with Appendix D: Breeding and Non-breeding Season Surveys and Reports of the CDFW Staff Report on Burrowing Owl Mitigation (2012). If ground-disturbing activities cease for two weeks or more after starting, an additional take avoidance survey shall be conducted within 24 hours prior to ground disturbance.*

*If burrowing owls are present in the work zone, a no-activity zone shall be established by a CDFW-approved qualified biologist to be large enough to avoid nest abandonment and be a minimum of 500 feet from the nest. If an effective no-activity zone cannot be established in either case, an experienced burrowing owl biologist will develop a site-specific plan (i.e., a plan that considers the type and extent of the proposed activity, the duration and timing of the activity, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls.*

*If burrowing owl is not found within 500 feet of the proposed construction zone, additional mitigation is not required. Additional measures to avoid burrowing owl shall include, but not be limited to, the following:*

- *Enhance suitable burrowing owl habitat on public and private lands in the study area through implementation of specific measures in management plans, including, implementing a standard mitigation ratio of 3:1 for burrowing owls to compensate for loss of habitat.*
- *Purchase easements on and surrounding burrowing owl nest colonies or potential nest sites to ensure that the parcel will remain in types of grazing land, irrigate pasture, or dryland agriculture that provide foraging habitat for nesting burrowing owls.*
- *The use of rodenticides shall be prohibited in protected areas, and when possible, outside of protected areas. When rodent management is needed to protect the integrity of structures such as levees and stock ponds dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use integrated pest management (IPM) principles.*

*IV-4(b) Prior to the issuance of building permits, the applicant shall mitigate the loss of burrowing owl nesting habitat (suitable habitat within 0.5 mile of documented nest occurrence during previous 3 years), by protecting habitat in accordance with the mitigation guidelines outlined in Table 3 - 10 of the EACCS. The above requirement shall be included via notation on any grading plans approved for the project to the satisfaction of the Alameda County Planning Department.*

*American badger and San Joaquin kit fox*

*IV-5(a) Prior to ground-disturbing activity, a pre-construction survey shall be conducted to determine the presence or absence of badgers and San Joaquin kit foxes and the results submitted to the Planning Department.*

*If an active badger or San Joaquin kit fox den is identified during a pre-construction survey, a construction buffer of up to 300 feet shall be established around the den. If potential dens cannot be avoided during construction, a qualified biologist shall determine if the dens are occupied. If unoccupied, the qualified biologist shall collapse the dens by hand in accordance with USFWS procedures. If occupied, a qualified biologist shall create an exclusion zone with a radius of 50-100 feet.*

*If active dens are not found during the pre-construction survey, additional mitigation is not required.*

*IV-5(b) Prior to issuance of building permits, additional measures shall be implemented to increase the American badger population while protecting and enhancing suitable habitat and important regional linkages in the study area. Additional measures shall include, but not be limited to, the following:*

- *Mitigate the loss of suitable American badger habitat by protecting habitat in accordance with mitigation guidelines outline in Table 3-10 of the EACCS, including implementing a standard mitigation ratio of 3:1 for American badger habitat to compensate for loss of habitat.*
- *Acquire parcels within documented American badger populations in the study area that meet the conservation goals and objectives of this strategy through fee title purchase and/ or conservation easement and using funding that comes from non-mitigation sources (e.g., grant funding, local fundraising efforts)*
- *Acquire parcels and manage vegetation in areas that protect linkages across I-580 and I-680 through fee title purchase, conservation easement, or agricultural easement.*
- *Allow the expansion of California ground squirrel colonies on all protected lands except when needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands.*
- *The use of rodenticides in protected areas and, when possible, outside protected areas shall be prohibited. When rodent management is needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use IPM principles.*

IV-5(c)

*Prior to issuance of building permits, additional measures shall be implemented to increase the San Joaquin kit fox population while protecting and enhancing suitable habitat and important regional linkages in the study area. Additional measures shall include, but not be limited to, the following:*

- *Mitigate the loss of suitable San Joaquin kit fox habitat by protecting habitat in accordance with mitigation guidelines outline in Table 3-11 of the EACCS, including implementing a standard mitigation ratio of 3:1 for San Joaquin kit fox habitat to compensate for loss of habitat.*
- *Acquire parcels with documented San Joaquin kit fox den sites in the study area that meet the conservation goals and objectives of this strategy through fee title purchase and/ or conservation easement and using funding that comes from non-mitigation sources (e.g., grant funding, local fundraising efforts)*
- *Conduct targeted presence/absence surveys, including scat scent surveys with dogs, on private and public lands on both sides of I-580 and along the California Aqueduct to identify linkages between and across these barriers.*
- *Acquire parcels and manage vegetation in areas that protect linkages across infrastructure barriers and that meet the conservation goals and objectives of this strategy through fee title purchase or conservation easement.*

- *Create new passages (undercrossings or overcrossings) across I-580 between Livermore and the Alameda/San Joaquin County Line and overcrossings at key locations along the California Aqueduct that are large enough to accommodate movement of terrestrial mammals, including San Joaquin kit fox.*
- *Create an incentive program that will encourage private landowners to manage ground squirrels on their property using IPM principles and work toward a balance between species needs and the requirements of a working landscape.*
- *Allow the expansion of California ground squirrel colonies on all protected lands except when needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands.*
- *The use of rodenticides in protected areas and, when possible, outside protected areas shall be prohibited. When rodent management is needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use IPM principles.*

*San Francisco dusky-footed woodrats and Ringtails*

*IV-6 Prior to ground-disturbing activities, a qualified biologist shall conduct a preconstruction survey for San Francisco dusky-footed woodrats and ringtail. The survey shall be submitted to the Planning Department. If ringtails are located in the project area, construction shall halt until they leave the area on their own. Should a woodrat nest be located, and found in a development area, a qualified biologist shall dismantle the woodrat nest, while providing temporary shelter in the meantime. If ringtails or San Francisco dusky-footed woodrats are not present, additional mitigation is not required.*

*All Special Status Wildlife Species*

*IV-7 During construction activities, all pipes used for fencing or other purposes shall be capped and trenching shall contain exit ramps to avoid direct morality while construction areas are active. The above requirement shall be included via notation on any grading plans approved for the project to the satisfaction of the Alameda County Planning Department.*

b,c. According to the Biological Evaluation, wetlands were not observed on the project site during the October 2018 survey. Potentially jurisdictional waters are present in the project area in the form of Cayetano Creek. The Creek is regulated by the U.S. Army Corp of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the CDFW. However, the proposed project would be constructed on the project site, which is dominated by California annual grassland and would not disturb or alter the creek. Should the project require the placement of fill within the bed and bank of Cayetano Creek or result in the removal of woody riparian vegetation, then the project would be subject to the

regulatory authority of the USACE, RWQCB, and CDFW. It should also be noted that the State Water Board has regulatory jurisdiction over impacts to rare and endangered species in Cayetano Creek. Thus, any project activities that could impact the aquatic species discussed above could be subject to the State Water Board jurisdiction.

Because the project would not disturb the Creek, mitigation at this time is not necessary. However, if any work were to occur within the Creek, including improvements to the culvert bridge, then the project would comply with all State and federal regulations related to construction work that would impact riparian habitats. The applicant may be required to obtain a Section 404 Clean Water Act permit, a Section 401 Water Quality Certification from the RWQCB, or a Section 1600 Streambed Alteration Agreement from the CDFW. Whether or not the proposed project would require a Streambed Alteration Agreement, written verification from the CDFW would be required in accordance with CCR Section 8102(w). In addition, CCR Sections 8102(dd) and 8216 which requires the project applicant to notify the State Water Resources Control Board or CDFW in writing if cannabis cultivation would cause significant adverse impacts on the environment in a watershed or other geographic area. As discussed throughout this Recirculated IS/MND, impacts on the environment would be mitigated to a less-than-significant level and would not conflict with CCR Sections 8102(dd) and 8216. Furthermore, the project applicant would be required to comply with CCR Sections 8304(a) and 8304(b), which require coordination with the CDFW, SWRCB, and RWQCB. Thus, because the proposed project would not have a substantial adverse effect on a riparian habitat or other sensitive natural community or on federally protected wetlands through direct removal or filling, a *less-than-significant* impact would occur.

- d. Wildlife movement corridors are areas where regional wildlife populations regularly and predictably move during dispersal or migration. Movement corridors in California are typically associated with valleys, rivers, and creeks supporting riparian vegetation, and ridgelines. The project site is located near an existing residence with the remainder of the surrounding area being open space interspersed with sparse residential development. Within the site, wildlife uses the upland non-native grassland as part of their home and dispersal movements; the creek is likely used as a movement corridor and for dispersal. The proposed development would be set back from the creek. Following project buildout, wildlife species presently using the site are expected to continue moving through the open areas of the property and within the riparian corridor associated with the creek after buildout. Therefore, impacts to wildlife movement would be considered *less-than-significant*.
- e. The proposed project would encourage preservation of riparian and seasonal wetlands, consistent with Policy 126 of the ECAP, as well as encourage preservation of areas known to support special-status species, as stated in Policy 125. Thus, the proposed project would be consistent with the goals of the ECAP. The project site is located on a cleared area, and tree removal would not be necessary. Thus, the proposed project would have a *less-than-significant* impact related to conflict with any local policies or ordinances protecting biological resources.
- f. The project site is located within the Livermore Watershed of Conservation Zone 4 of the East Alameda County Conservation Strategy (EACCS). The EACCS identifies the Foothill

yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, California tiger salamander, golden eagle, western burrowing owl, American badger, and San Joaquin kit fox as focal species that are protected under federal and state laws. Mitigation Measures IV-1 through IV-7 follow the guidelines of the EACCS in order to adequately mitigate impacts related to the foregoing species, as well as any other special-status species with potential to occur on-site. The mitigation measures identified in this Recirculated IS/MND help achieve the goals and objectives defined in Section 3.5 and Tables 3-2 and 3-3 of the EACCS. Therefore, upon implementation of mitigation, the proposed project would not conflict with the provisions of the adopted EACCS, or other approved local, regional, or State habitat conservation plan, and a *less-than-significant* impact would occur.

**V. CULTURAL RESOURCES.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	✘	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries.	<input type="checkbox"/>	✘	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion**

- a. Historical resources are typically items that are associated with the lives of historically important persons and/or historically significant events, or that embody the distinctive characteristics of a type, period, region or method of construction. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics. The proposed project site does not contain any existing permanent structures or any other resources that could be considered historic. Additionally, the project site does not contain any historic resources listed on the California Historical Resources Information System, which includes resources listed on the California Register of Historical Resources.<sup>9</sup> Therefore, the project would not cause a substantial adverse change in the significance of a historical resource, and a *less-than-significant* impact would occur.
- b,c. Cultural resources have not been discovered in or adjacent to the proposed project area. An evaluation of the environmental setting and features associated with known sites was performed by the Northwest Information Center (NWIC).<sup>10</sup> The results determined that Native American resources, including archaeological resources, in the project vicinity have been found in Holocene alluvial deposits, at the foothill to valley floor interface, and near intermittent or perennial watercourses. The project area contains Holocene alluvial fan deposits and is situated adjacent to Cayetano Creek. Given the similarity of the environmental factors, a possibility exists for unrecorded archaeological resources, including human remains, to appear in the project area. Furthermore, the proposed project would be required to implement Mitigation Measures V-1 and V-2 in the event that unrecorded archaeological resources, including human remains, are discovered in the project area and would comply with CCR Section 8304(d). Therefore, the proposed project could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.5 and/or disturb human remains, including those interred outside of formal cemeteries. However, with implementation of mitigation, a *less-than-significant* impact would occur.

<sup>9</sup> Northwest Information Center. *Record search Results for the proposed Oasis Fund Livermore Grow Facility*. November 16, 2018.

<sup>10</sup> *Ibid.*

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

V-1 *Prior to the initiation of ground-disturbing activities, the developer or contractor shall inform all supervisory personnel and all contractors whose activities may have subsurface soil impacts of the potential for discovering archaeological resources, paleontological resources, or tribal cultural resources.*

*In the event that paleontological or archaeological resources are encountered during grading or other site work, all such work shall be halted immediately within 100 feet of the find(s) and the project applicant shall immediately notify the Planning Department of the discovery. The notation shall also reflect that, in the case that paleontological or archaeological resources are encountered, the project applicant shall be required, at their own expense, to retain the services of a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist for the purpose of recording, protecting, or curating the discovery as appropriate. Further site work within the area of discovery would not be allowed until the preceding work has occurred. Review and approval of the grading plan shall be the responsibility of the Alameda County Public Works Agency.*

V-2 *If human remains, or remains that are potentially human, are found during construction, all work shall be halted immediately within 100 feet of the discovery, and a professional archeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance. The archaeologist shall notify the Alameda County Coroner (per §7050.5 of the State Health and Safety Code). If the Coroner determines the remains are Native American and not the result of a crime scene, then the Coroner shall notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the project (§5097.98 of the Public Resources Code). The designated MLD shall have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the applicant does not agree with the recommendations of the MLD, the NAHC can mediate (§5097.94 of the Public Resources Code). If an agreement is not reached, the applicant must rebury the remains where they will not be further disturbed (§5097.98 of the Public Resources Code). This shall also include either recording the site with the NAHC or the appropriate Information Center, using an open space or conservation zoning designation or easement, or recording a reinternment document with the county in which the property is located (AB 2641). Work shall not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.*

<b>VI. ENERGY.</b> <i>Would the project:</i>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>	<input type="checkbox"/>

**Discussion**

a,b. The main forms of available energy supply are electricity, natural gas, and oil. A description of the California Green Building Standards Code and the Building Energy Efficiency Standards, with which the proposed project would be required to comply, as well as discussions regarding the proposed project’s potential effects related to energy demand during construction and operations are provided below.

California Green Building Standards Code

The California Green Building Standards Code, otherwise known as the CALGreen Code (CCR Title 24, Part 11), is a portion of the California Building Standards Code (CBSC), which became effective with the rest of the CBSC on January 1, 2017. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the CALGreen Code include, but are not limited to, the following measures:

- Compliance with relevant regulations related to future installation of Electric Vehicle charging infrastructure in residential and non-residential structures;
- Indoor water use consumption is reduced through the establishment of maximum fixture water use rates;
- Outdoor landscaping must comply with the California Department of Water Resources’ Model Water Efficient Landscape Ordinance (MWELo), or a local ordinance, whichever is more stringent, to reduce outdoor water use;
- Diversion of 65 percent of construction and demolition waste from landfills;
- Mandatory periodic inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies; and
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board.

### Building Energy Efficiency Standards

The 2016 Building Energy Efficiency Standards is a portion of the CBSC, which expands upon energy-efficiency measures from the 2013 Building Energy Efficiency Standards resulting in a five percent reduction in energy consumption from the 2013 standards for commercial structures. Energy reductions relative to previous Building Energy Efficiency Standards are achieved through various regulations including requirements for the use of high efficacy lighting, improved water heating system efficiency, and high-performance attics and walls.

The 2019 standards provide for additional efficiency improvements beyond the current 2016 standards. Non-residential buildings built in compliance with the 2019 standards use approximately 30 percent less energy compared to the 2016 standards, primarily due to lighting upgrades.<sup>11</sup>

### Construction Energy Use

Construction of the proposed project would involve on-site energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met via a hookup to the existing electricity grid. Project construction would not involve the use of natural gas appliances or equipment.

Even during the most intense period of construction, due to the different types of construction activities (e.g., site preparation, grading, building construction), only portions of the project site would be disturbed at a time, with operation of construction equipment occurring at different locations on the project site, rather than a single location. In addition, all construction equipment and operation thereof would be regulated by the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. The In-Use Off-Road Diesel Vehicle Regulation would subsequently help to improve fuel efficiency and reduce GHG emissions. Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction.

The CARB has recently prepared the *2017 Climate Change Scoping Plan Update* (2017 Scoping Plan),<sup>12</sup> which builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. Appendix B of the 2017 Scoping Plan includes examples of local actions (municipal code changes, zoning changes, policy directions, and mitigation measures) that would support

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<sup>11</sup> California Energy Commission. *Title 24 2019 Building Energy Efficiency Standards FAQ*. November 2018.

<sup>12</sup> California Air Resources Board. *The 2017 Climate Change Scoping Plan Update*. January 20, 2017.

the State's climate goals. The examples provided include, but are not limited to, enforcing idling time restrictions for construction vehicles, utilizing existing grid power for electric energy rather than operating temporary gasoline/diesel-powered generators, and increasing use of electric and renewable fuel-powered construction equipment. The In-Use Off-Road Diesel Vehicle Regulation described above, with which the proposed project must comply, would be consistent with the intention of the 2017 Scoping Plan and the recommended actions included in Appendix B of the 2017 Scoping Plan.

Based on the above, the temporary increase in energy use occurring during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the proposed project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

### Operational Energy Use

Following implementation of the proposed project, PG&E would provide electricity to the project site. Energy use associated with operation of the proposed project would be typical of grow facility uses, requiring electricity for interior and exterior building lighting, heating, ventilation, and air conditioning (HVAC), electronic equipment, appliances, security systems, and more. It should be noted that the cannabis would be grown in a greenhouse, which would reduce the required amount of interior lighting, as compared to a typical indoor grow operation. Supplemental lighting would be included and distributed throughout the grow area; however, the required lighting would be typical of commercial uses. Additionally, project operations would include installation of two emergency back-up generators within the project site. The two generators would only be used to provide back-up power to the proposed facilities and during required testing. Thus, the generators would only operate intermittently or in emergency situations. The use of the generators was included in evaluation of the air quality impacts and energy use on-site. In addition to on-site energy use, the proposed project would result in transportation energy use associated with vehicle trips generated by employee commutes.

The proposed project would be subject to all relevant provisions of the most recent update of the CBSC, including the Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed structure would consume energy efficiently through the incorporation of such features as door and window interlocks, direct digital controls for HVAC systems, and high efficiency outdoor lighting. Required compliance with the CBSC would ensure that the building energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary. In addition, CCR Section 8102(s) requires the identification of all power sources for cultivation activities. As discussed above, energy use associated with operation of the proposed project would be typical of grow facility uses, requiring electricity and natural gas for interior and exterior building lighting, HVAC, electronic equipment, appliances, security systems, and more.

Furthermore, electricity supplied to the project by PG&E would comply with the State's Renewable Portfolio Standard (RPS), which requires investor-owned utilities, electric

service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 60 percent by 2030. Thus, a portion of the energy consumed during project operations would originate from renewable sources.

With regard to transportation energy use, the proposed project would comply with all applicable regulations associated with vehicle efficiency and fuel economy.

### Conclusion

Based on the context above, construction and operation of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Thus, a *less-than-significant* impact would occur.

**VII. GEOLOGY AND SOILS.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	✘	<input type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	✘	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion**

ai-aiv. The project site is located in an area of moderate seismicity. Active faults do not cross the site and the site is not mapped within an Alquist-Priolo Earthquake Fault Zone;<sup>13</sup> however, the San Francisco Bay Area is an area of high seismic risk. The nearest active faults are the Greenville Fault, located approximately 2.5 miles from the project site, and the Calaveras Fault, located approximately 9 miles from the project site.

**Ground Rupture**

The proposed project is not underlain by any known faults and as a result, the proposed project would not be subject to risks related to fault rupture.

<sup>13</sup> California Department of Conservation. *State of California, Special Studies Zones, Tassajara Quadrangle, Official Map*. Effective January 1, 1982.

### Ground Shaking

Due to the proximity of the site area to nearby active faults, including but not limited to the Greenville and Calaveras fault zones, strong ground shaking could occur at the site as a result of an earthquake on any one of the faults. However, the proposed development would be subject to all applicable regulations within the California Building Standards Code (CBSC) and Chapter 15.08 of the County's General Ordinance Code, which provide standards to protect property and public safety by regulating the design and construction of foundations, building frames, and other building elements. Compliance with such would ensure that a well-designed and well-constructed structure can be reasonably expected to resist collapse, thus reducing loss of life in a major earthquake.

### Landslides

Seismically-induced landslides are triggered by earthquake ground shaking. The risk of landslide hazard is greatest in areas with steep, unstable slopes. The project site is located on relatively flat land, and according to the ABAG, is not at high risk of landslides.<sup>14</sup>

### Liquefaction

Liquefaction is the temporary transformation of loose, saturated granular sediments from a solid state to a liquefied state as a result of seismic ground shaking. In the process, the soil undergoes transient loss of strength, which commonly causes ground displacement or ground failure to occur. Because saturated soils are a necessary condition for liquefaction, soil layers in areas where the groundwater table is near the surface have higher liquefaction potential than those in which the water table is located at greater depths. According to the ABAG Resilience Program's interactive Hazards Map, the project site is located in an area of relatively low liquefaction susceptibility.<sup>15</sup>

### Conclusion

The project site is not within an Alquist-Priolo Earthquake Fault Zone. While the San Francisco Bay Area is an area of relatively high seismic risk, the proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides. Therefore, a *less-than-significant* impact would occur.

- b. Ground disturbance on the project site would be limited to the project area. Because the area is relatively uniform in elevation, grading would be minimal and soil disturbance would mostly be related to paving and construction. During construction, activities would be subject to the grading, erosion, and sediment control regulations included in Chapter 15.36 of the County Code of Ordinances.<sup>16</sup>

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<sup>14</sup> Association of Bay Area Governments. *Resilience Program*. Available at: <http://gis.abag.ca.gov/website/Hazards/?hlyr=liqSusceptibility>. Accessed December 2018.

<sup>15</sup> *Ibid.*

<sup>16</sup> Alameda County. *Alameda County Code of Ordinances*. October 9, 2018.

Per the Alameda County Code of Ordinances, new development within the County that disturbs one or more acres of land is required to comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit and prepare a Stormwater Pollution Prevention Plan (SWPPP) incorporating Best Management Practices (BMPs) to control sedimentation, erosion, and hazardous materials contamination of runoff during construction. Including the paving of the parking area, the proposed project would disturb approximately 3.5 acres and, thus, would be subject to such requirements. In addition, per Chapter 15.36.240 of the County Code of Ordinances, the project applicant would be required to submit a grading plan to Alameda County Public Works Department prior to the approval of improvement plans and issuance of building permits, which includes a conceptual plan for erosion and sediment control. The plan shall conform to County standards to prevent significant sediment and soil erosion during construction and include the standards and guidelines found in the California Stormwater Quality Association, Stormwater Best Management Practice Handbook. Compliance with such would ensure that the proposed project would not in substantial soil erosion or the loss of topsoil, and a *less-than-significant* impact would occur.

- c. The project site is not located within an Alquist-Priolo Earthquake Faulting Zone, and as noted previously, the ABAG does not deem the site high risk for landslides or liquefaction. In addition, as noted earlier, the CBSC and Chapter 15.08 of the County Code of Ordinances provide standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, and other building elements.

Lateral spreading is horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically, lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. Given that the project site does not contain any free faces, lateral spreading would not present a likely hazard at the site.

Subsidence is the gradual settling or sinking of the earth's surface with little horizontal movement. Subsidence takes place gradually, usually over a period of several years. Although subsidence has the potential to occur in the project area, the proposed project would comply with applicable CBSC standards and regulations. Compliance with the CBSC would ensure that subsidence/settlement risks would be less than significant.

Compliance with applicable ordinances, coupled with the low risk for landslides and liquefaction in the project area, would ensure that the soil would not become unstable as a result of the project and cause a landslide, lateral spreading, subsidence, liquefaction, or collapse. Thus, a *less-than-significant* impact would occur.

- d. Per the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey program,<sup>17</sup> two mapped soils exist in the project area. The composition of each soil is listed in Table 4 below.

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<sup>17</sup> United States Department of Agriculture Natural Resources Conservation Service. *Web Soil Survey*. Available at: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed December 2018.

<b>Table 4 Soils Present on Project Site</b>				
<b>Soil Type</b>	<b>Percent Slope</b>	<b>Percent Linear Extensibility</b>	<b>Percent Clay</b>	<b>Shrink-Swell Rating</b>
Clear Lake clay	0-2	8.7	45	1.00
Diablo clay	9-15	7.5	50	1.00

The NRCS classifies soils as having a high expansive potential if the soil has a linear extensibility rating of greater than three percent and a clay content of greater than 25 percent.<sup>18</sup> Based on the above, the project site would be classified as having a high expansion potential by the NRCS. Therefore, the project would be located on expansive soil as defined by Table 18-1b of the Uniform Building Code; however, with implementation of mitigation, the impact would be *less-than-significant*.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

*VI-1 Per the Alameda County Code of Ordinances, Chapter 15.36.320, a geotechnical or geologic investigation report shall be required when the shrink-swell rating of the soil in the area is greater than 0.5 or the County has reason to suspect that highly expansive soils are present.*

*All grading and foundation plans for the development shall be approved by the County Public Works Agency. The plans shall ensure that all geotechnical recommendations specified in the geotechnical or geologic investigation report for the proposed project are properly incorporated and utilized in the project design, including recommendations related to expansive soils.*

- e. The proposed project would include construction of a septic system, septic tank, and leach field. The septic system would connect to a two-inch force main, which would drain to the leach field for purification. The project would be required to submit a Service Request Application for an Onsite Wastewater Treatment Systems (OWTS) permit through the Alameda County Environmental Health Department (ACEHD). The geotechnical report performed for the project site would also be submitted to the ACEHD for review.

Additionally, the project would be subject to Section 15.18.040 of the County Code of Ordinances, which requires that any proposed OWTS follow the standards and guidelines contained in the Alameda County OWTS Manual. Every OWTS must also adhere to all federal, state, and local building, mechanical, electrical, and plumbing codes. Thus, the proposed project would have a *less-than-significant* impact related to soils being incapable of adequately supporting the use of a septic system.

<sup>18</sup> Natural Resources Conservation Service. *Calculated Coefficients of Linear Extensibility*. Available at: [https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/office/ssr10/tr/?cid=nrcs144p2\\_074840](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/office/ssr10/tr/?cid=nrcs144p2_074840). Accessed July 2018.

- f. Paleontological resources or fossils are the remains of prehistoric plant and animal life. Fossil remains such as bones, teeth, shells, and wood are found in the geologic deposits in which they are originally buried. The project site is underlain by Holocene or Pleistocene age Quaternary alluvium and marine deposits. Based on the CHRIS search performed for the proposed project, cultural resources have been found in Holocene alluvial deposits in Alameda County. Given the similar conditions at the project site, ground-disturbing activities could result in the discovery of a paleontological resource. Disturbance of such could result in a *potentially significant* impact; however, the impact would be ***less-than-significant*** with mitigation incorporated.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

*VI-2 Implement Mitigation Measures V-1 and V-2.*

**VIII. GREENHOUSE GAS EMISSIONS.**

*Would the project:*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion**

- a, b. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on earth. An individual project’s GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

The portion of the project site proposed for development is predominantly vacant; as such, substantial existing sources of GHG emissions do not exist on-site. Accordingly, implementation of the proposed project would cumulatively contribute to increases of GHG emissions. Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO<sub>2</sub>) and, to a lesser extent, other GHG pollutants, such as methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), associated with area sources, mobile sources or vehicles, utilities (electricity), water usage, wastewater generation, and the generation of solid waste. The primary source of GHG emissions for the project would be mobile source emissions. The common unit of measurement for GHG emissions is expressed in terms of annual metric tons of CO<sub>2</sub> equivalents (MTCO<sub>2e</sub>/yr).

The project site is located within Alameda County and is within the jurisdictional boundaries of the BAAQMD. Both Alameda County and BAAQMD have recommended approaches for analyzing a project’s potential impacts related to GHG emissions. The following sections present an analysis of potential impacts related to GHG emissions under Alameda County and BAAQMD approaches separately.

**Alameda County**

The County has adopted a Community Climate Action Plan (CCAP), which includes measures directed at reducing GHG emissions from existing and future development throughout unincorporated portions of the County.<sup>19</sup> Upon adoption, the CCAP was integrated into the County’s General Plan. Successful implementation of the CCAP is intended to reduce GHG emissions to 15 percent below 2005 levels by 2020 and set the

<sup>19</sup> Alameda County. *Community Climate Action Plan*. Adopted February 4, 2014.

County on a path toward reducing emissions to 80 percent below 1990 levels by 2050, as required by statewide GHG emission reduction goals.<sup>20</sup> In order to determine the consistency of a proposed project with the CCAP, the CCAP directs staff to consider the following: the extent to which the project supports or includes applicable strategies and measures, or advances the actions identified in the CCAP; the consistency of the project with population projections adopted by the ABAG; and the extent to which the project would interfere with implementation of CCAP strategies, measures, or actions.

The proposed project would not include development of any new residences, but would involve the employment of 23 employees. Given the lack of on-site development of new residential units, the proposed project would not result in direct population growth in excess of ABAG's growth projections. Furthermore, 23 employees is a relatively small number of employees compared to the existing population of the area. Therefore, the proposed project would not be anticipated to result in a direct on-site or indirect increase in population beyond ABAG's growth assumptions for the region.

The majority of the CCAP's measures concern County actions and provide direction for County staff to develop regulations for future development within the County. To the extent that such CCAP measures have been implemented by the County, the majority of such measures would be incorporated into the County's Green Building Program, which is included as Section 460 of the County Ordinance Code. The proposed project would be required to comply with the applicable regulations included in Section 460 of the County Ordinance Code, and through compliance with Section 460, the proposed project would be constructed in a manner consistent with the CCAP strategies applicable to new development. Furthermore, the proposed project would be required to comply with applicable statewide building codes such as the California Green Building Code (CalGreen) and the California Building Energy Efficiency Standards Code. The foregoing statewide building codes include requirements for construction waste diversion, water use efficiency, energy efficiency, and building system efficiencies. Compliance with such requirements would ensure that the proposed project would not conflict or inhibit implementation of the CCAP, including Waste Strategy 2, which encourages construction waste diversion, Energy Strategy 2, which encourages energy efficiency, and Water Conservation Strategy 3, which encourages water reuse and recycling.

Considering that the proposed project would not conflict with ABAG's population projections for the area, and the project would be designed in compliance with Section 460 of the County Ordinance Code, as well as the State building codes discussed above, the proposed project would be considered to comply with the applicable CCAP strategies. Thus, the proposed project would not be considered to conflict with the CCAP.

### BAAQMD

BAAQMD maintains thresholds of significance for project-level evaluations of GHG emissions. The BAAQMD threshold of significance for project-level operational GHG emissions is 1,100 MTCO<sub>2e</sub>/yr. BAAQMD's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would

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<sup>20</sup> Alameda County Planning Department. *Alameda County General Plan Annual Report for 2014*. 2014.

not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move towards climate stabilization. If a project would generate GHG emissions above the threshold level, the project would be considered to generate significant GHG emissions and conflict with applicable GHG regulations.

The proposed project's GHG emissions were quantified using CalEEMod using the same assumptions as presented in the Air Quality section of this Recirculated IS/MND, and compared to the 1,100 MTCO<sub>2e</sub>/yr threshold of significance. The CO<sub>2</sub> intensity factor within the model was adjusted to reflect the Pacific Gas & Electric Company's anticipated progress towards statewide renewable portfolio standard goals. All CalEEMod results are included in Appendix B of this Recirculated IS/MND.

According to the CalEEMod results, the proposed project would result in unmitigated operational GHG emissions of 298.65 MTCO<sub>2e</sub>/yr, which is well below the 1,100 MTCO<sub>2e</sub>/yr threshold of significance. Construction GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change. BAAQMD has not adopted a threshold of significance for construction-related GHG emissions. However, even if the proposed project's total construction GHG emissions of 569.97 MTCO<sub>2e</sub>/yr were to be included with the annual operational GHG emissions, the resultant total GHG emissions of 868.63 MTCO<sub>2e</sub>/yr would still be below the 1,100 MTCO<sub>2e</sub>/yr threshold of significance. Therefore, the proposed project would not be expected to result in a significant impact related to GHG emissions, based on BAAQMD's approach to analysis.

### Conclusion

Based on the above, the proposed project would not be considered to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs; and impacts would be considered *less than significant*.

**IX. HAZARDS AND HAZARDOUS MATERIALS.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion**

- a. The proposed project consists of construction of a greenhouse for cannabis cultivation. Cultivation activities would not involve routine transport, use, or disposal of hazardous waste. Cannabis plants and byproducts are organic waste and not hazardous, as defined in Section 42649.8(c) of the Public Resources Code. The proposed project would handle cannabis waste according to California Code of Regulations §8308, Cannabis Waste Management. In accordance with State disposal requirements, all cannabis waste would be hauled to a facility that recycles organic material. In transport of any cannabis product, the track and trace system would be used, so as to account for all cannabis product leaving the site.

The proposed project would not employ the use of pesticides and would minimize the use of fertilizer to the extent possible. Additionally, the proposed project would adhere to the County Ordinance Code Chapter 6.106 regulations on handling of pesticides and fertilizers. Because cannabis waste and associated fertilizer products are not considered hazardous,

the project would not create a significant hazard to the public through the routine transport, use, or disposal of hazardous materials and a *less-than-significant* impact would occur.

- b. Chapter 6.95 of the Alameda County Health and Safety Code requires a Hazardous Materials Business Plan (HMBP) if the project plans to keep hazardous waste above the set thresholds. The thresholds are 55 gallons of a liquid, 500 pounds of a solid, and 200 cubic feet of any compressed gas. Because the project does not plan to use hazardous waste in excess of the set amounts, an HMBP is not required.

Construction activities associated with the proposed project would involve the use of products such as concrete, paints, and adhesives, as well as heavy equipment, which would contain fuels, oils, and hydraulic fluid. However, the project contractor would be required to comply with all California Health and Safety Codes and local ordinances regulating the handling, storage, and transportation of hazardous and toxic materials, as overseen by the California Environmental Protection Agency (CalEPA) and the Department of Toxic Substances Control (DTSC). As such, the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment, and thus, a *less-than-significant* impact would occur.

- c. The proposed project site is not located within 0.25-mile of an existing school. The nearest school, Andrew N. Christensen Middle School, is located approximately 3.5 miles south of the site. As noted above, the project would not emit hazardous emissions or involve the routine use, handling, or transport of hazardous materials. Therefore, the proposed project would have *no impact* related to the emission of hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school.
- d. According to the list of hazardous materials sites compiled by the California Environmental Protection Agency, pursuant to Government Code Section 65962.5, the project site is not considered a hazardous material site.<sup>21</sup> Therefore, the project would not create a significant hazard to the public or the environment related to such, and *no impact* would occur.
- e. The project site is not located within an airport land use plan or within two miles of a public or private airport. The Livermore Municipal Airport is the closest airport to the project site and is located approximately seven miles southwest. Therefore, *no impact* would occur with respect to airport-related safety hazards.
- f. The proposed project is consistent with the planned and permitted uses per the zoning designation and would not alter the layout of the existing on-site circulation system. Development of the project would not result in any modifications to roadways currently providing emergency vehicle access along Morgan Territory Road. Consequently, implementation of the proposed project would not impair or physically interfere with the adopted emergency response plan or emergency evacuation plan, and a *less-than-significant* impact would occur.

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<sup>21</sup> Department of Toxic Substances Control. *EnviroStor*. Available at: <http://www.envirostor.dtsc.ca.gov/public/>. Accessed December 2018.

- g. The proposed project is located in a rural area of the County, and is not adjacent to an urbanized area. According to the Safety Element of the Alameda County General Plan, Figure S-5, the project site is located in a moderate fire hazard severity zone.<sup>22</sup> The Uniform Fire Code, Section 6.04 of the County Ordinance Code, and the CBSC call for the installation, maintenance, and ongoing inspection of fire prevention systems under direction of the local fire chief. Under the Fire Code, Section 903.2.18.1, installation of an automatic sprinkler system would be required for the proposed structures. Policy P2 of the Safety Element would also ensure the project implement careful site design, landscaping, and vegetation management in order to minimize wildland fire hazards. In addition, the project would not involve the placement of housing or other inhabitable buildings on the site. The proposed buildings would be used only during hours of operation, and during times that the proposed buildings are not in use, employees would not be exposed to fire risk at the project site.

Compliance with the Uniform Fire Code and all applicable State and local ordinances would ensure that the proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Thus, a *less-than-significant* impact would occur.

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<sup>22</sup> Alameda County Community Development Agency. *Safety Element of the Alameda County General Plan*. February 4, 2014.

<b>X. HYDROLOGY AND WATER QUALITY.</b> <i>Would the project:</i>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	✘	<input type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	✘	<input type="checkbox"/>	<input type="checkbox"/>

### **Discussion**

- a. The proposed project is under the jurisdiction of the San Francisco Bay Regional Water Quality Board (SFBRWQB), which operates under the State Water Resources Control Board (SWRCB) to regulate stormwater discharges associated with construction activities and cannabis regulation. Where clearing, grading, or excavation results in a land disturbance of one or more acres, Performance Standard NDCC-13 of the County's National Pollutant Discharge Elimination System (NPDES) permit requires applicants to show proof of coverage under the State's General Construction Permit prior to receipt of any construction permits. Thus, because the project would disturb more than one acre, the project would be required to comply with the County's NPDES permit. The Countywide Clean Water Program requires that all construction projects within the County incorporate construction controls using specific BMPs outlined by the Program.<sup>23</sup> The State's General

<sup>23</sup> Alameda Countywide Clean Water Program. *Construction*. Available at: <https://www.cleanwaterprogram.org/index.php/businesses/construction.html>. Accessed December, 2018.

Construction Permit requires a Stormwater Pollution Prevention Plan (SWPPP) to be prepared for the site. A SWPPP describes Best Management Practices (BMPs) to control or minimize pollutants from entering stormwater and must address both grading/erosion impacts and non-point source pollution impacts of the development project. Because the proposed project would disturb greater than one acre of land, the proposed project would be subject to the requirements of the State's General Construction Permit and, with implementation of the required SWPPP and BMPs included therein, the proposed project would not result in a violation of water quality standards and/or degradation of water quality. Furthermore, the proposed project would be required to submit an erosion and sediment control plan with submittal of the grading permit application to ensure water quality is not degraded. The plan would include erosion and sediment control measures that would be implemented during grading and would be approved by the County. Without submittal and approval of a SWPPP and erosion and sediment control plan, the proposed project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

As stated by the Cannabis Cultivation Policy<sup>24</sup>, the State Water Board certifies that cannabis cultivation activities must comply with the conditions of the Policy and General Order. During operation, the proposed project would adhere to all State and local requirements regarding waste discharge requirements. All commercial cannabis cultivators must enroll and obtain coverage under the Cannabis General Order Waste Discharge Requirements (WDR) program, as well as obtain verification of the project water source by the SWRCB. The proposed project would include construction of a berm that would wrap around the northern, western, and eastern boundaries of the greenhouse. The berm would serve to route runoff that originates upslope around the outside of the project site, into the existing ditch and eventually into Cayetano Creek.

Most of the stormwater that falls on roof areas within the project site would be captured using a rainwater harvesting system consisting of an underground vault and connections to the overall water system. Rainwater would be captured within the site and routed from the underground vault to the proposed water storage tank. The rainwater would then be routed from the storage tank to the RO treatment system. Following reclamation, the rainwater would then be available for use in cannabis irrigation activities.

Stormwater that falls outside of the area served by the rainwater harvesting system would be managed through stormwater facilities constructed for the project, including a rip rap dissipator and a ten by ten-foot bioretention area which would include a cobble dissipator to properly treat and mitigate the flow volumes for water quality, hydromodification, and flood control requirements. After being properly treated and dispersed, outflow would then flow into Cayetano Creek. Implementation of BMPs under the NPDES permit and enrollment in the WDR program, would ensure that the project would have a *less-than-significant* impact related to water quality standards and waste discharge requirements.

- b,e. Water supplies to the project site are serviced by Zone 7 of the Alameda County Flood Control and Water Conservation District, known as the Zone 7 Water Agency (Zone 7).

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<sup>24</sup> State Water Resources Control Board. *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities*. October 17, 2017.

Water resources for Zone 7 include surface water and groundwater. Groundwater is supplied primarily by the Livermore Valley Groundwater Basin.

The proposed project would obtain water for cannabis cultivation through four wells on the project site that cumulatively produce four gallons per minute (gpm) or 5,800 gallons per day (gpd). Additionally, the proposed project would harvest rainwater, which would connect to the water system. Rain harvesting would be anticipated to harvest 314,000 gallons per year (gpy). Water storage within the project site would be provided by a 500,000-gallon storage reservoir. Irrigation for cannabis is estimated to require 3,600 gpd year-round, with some expected seasonal variation. Seasonal fluctuations, however, are heavily moderated by the use of grow lights and climate control in the greenhouse. Water for cannabis irrigation would undergo reverse osmosis treatment and be blended with reclaimed water. The water demand for pre-irrigation reverse osmosis treatment is 3,000 gpd. The reclamation system would be a separate treatment that would collect climate-control flush water used for processing and cleaning, concentrate from pre-irrigation reverse osmosis treatment, and irrigation runoff and return water. The project sanitary uses include bathroom and sink use by project employees and visitors. The domestic-grade wastewater from sanitary uses would be discharged to a new commercial OWTS located on the project site. Water demand for sanitary uses would be approximately 550 gpd on average. Other water demand would include supply to the existing residences on the project site and landscape irrigation. Total yearly water demand for the project is anticipated to be 2.3 million gpy, which is equal to seven acre-feet per year. It should be noted that the proposed project would not combine any of the rainwater that falls on the site with the existing potable water supply for the on-site residences. The potable water supply for the existing residences would be kept separate from the project water and the new water storage tank.

In order to evaluate groundwater supply for the proposed project and potential drawdown effects from pumping the wells on the project site, a Conceptual Water-Supply and Wastewater Plan was created for the proposed project (see Appendix D).<sup>25</sup> The study took in to account the geologic framework at the project site and in the vicinity, estimated areal recharge to groundwater at the property, conducted a 24-hour pumping and recovery test at each of the four wells on the project site, calculated the area of influence estimates of pumping from the wells, and characterized the ionic composition of groundwater collected at each well. Based on the results of the study, groundwater recharge from rainfall on the project site is estimated to result in eight acre-feet of recharge on average per year, which is approximately equivalent to continuous pumping of five gpm or 7,200 gpd.

With continued pumping from an aquifer, the hydraulic pressures and water levels in the vicinity of the wells are lowered and the effect propagates outward from the well, which can be conceptually represented as a “cone of depression.” A recharge boundary results in reduced drawdown after the cone of depression encounters a stream, lake, or other recharge source, while a no-flow or low-permeability boundary results in increased drawdown after the cone of depressions encounters a zone of low permeability due to change in lithology or a fault. Neither a recharge boundary from Cayetano Creek, nor a bedrock boundary was apparent from the 24-hour pumping data. Additionally, the Conceptual Water-Supply and

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<sup>25</sup> Balance Hydrologics, Inc. *Conceptual Water-Supply and Wastewater Plan, Oasis Venture Livermore Grow Facility, Alameda County, CA.* August 2019 (Rev. 7-21-20) (See Appendix D).

Wastewater Plan estimated the radius of influence of the proposed wells based on a maximum daily demand of four gpm sustained for 24 hours and an average dry-season demand of four gpm for 184 days. The analysis for both cases did not indicate drawdown effects at the nearest neighbor's well.

It should be noted that per Zone 7 Water Agency requirements, the proposed project would be required to include installation of monitoring wells between the existing on-site wells and the downgradient parcel and/or the nearest off-site well. The proposed project would be required to adhere to the "Water Wells Ordinance" in the County Code of Ordinances. Any new monitoring wells must be permitted by Zone 7 before commencement of work.

Overall, the four wells on the project site would supply sufficient water for operations and maintenance of the project without decreasing groundwater supplies or interfering with groundwater recharge. The rain water harvesting and reclamation system would reduce water use directly from the wells. Additionally, based on the Conceptual Water-Supply and Wastewater Plan, the groundwater recharge on the project site would be sufficient to replenish the use on the site. The Conceptual Water-Supply and Wastewater Plan also determined that the wells would not impact the groundwater table or nearby wells in the vicinity of the project site. Furthermore, any new impervious surfaces associated with the proposed project would not interfere substantially with groundwater recharge within the Livermore Valley Groundwater Basin. The stormwater facilities would allow stormwater to infiltrate on-site soils and potentially contribute to groundwater recharge within the landscaped areas. Stormwater that does not infiltrate soils would be directed from the bioretention area in to the existing ditch and eventually discharged into Cayetano Creek, which also contributes to groundwater recharge in the area. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that a net deficit in aquifer volume or lowering of the local groundwater table level would occur. Because the proposed project would include development of new monitoring wells, the proper permitting would be required by the Zone 7 Water Agency. Thus, with mitigation requiring permitting, the project would result in a *less-than-significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

*IX-1 Prior to Building permit issuance, final project improvement plans shall demonstrate that the project will include installation of monitoring wells between the existing on-site wells and the downgradient parcel and/or the nearest off-site well. Consistent with the requirements of the Zone 7 Water Agency, each of the project water supply wells shall include flow meters that provide daily totals of the volume extracted. Monthly reports of the water levels in each of the pumping wells, as well as the monitoring wells, shall be submitted to the Zone 7 Water Agency. The project operator shall notify the Zone 7 Water Agency if the pumping volumes in the on-site wells exceed the volumes evaluated in the Conceptual Water-Supply and Wastewater Plan prepared for the proposed project by Balance Hydrologics, Inc. (2019).*

- ci-ciii. The proposed project would include construction of rainwater harvesting system which would be used to capture rainwater falling directly on the project site through construction of underground vaults and connection to the water system. Additionally, stormwater and runoff from impervious surfaces and adjacent landscaping would be directed to a bioretention area that would properly treat and mitigate the flow volumes for water quality, hydromodification, and flood control requirements. The bioretention area would be located at the southern edge of the project site, between the greenhouse and the driveway. Outflow from the bioretention area would be routed into the drainage ditch along the driveway through a flow spreader in order to join the off-site flows and discharge into Cayetano Creek. Although the project site is not subject to flooding under existing conditions, the drainage improvements would ensure that flooding would not occur on the project site.

All municipalities within Alameda County (and the County itself) are required to develop more restrictive surface water control standards for new development projects as part of the renewal of the Countywide National Pollutant Discharge Elimination System (NPDES) permit. Known as the “C.3 Standards”, new development and redevelopment projects that create or replace 10,000 or more square feet of impervious surface area must contain and treat stormwater runoff from the site. As previously discussed, most of the stormwater that falls on roof areas within the project site would be captured using a rainwater harvesting system consisting of an underground vault and connections to the overall water system. Stormwater that falls outside of the area served by the rainwater harvesting system would be managed through stormwater facilities constructed for the project, including a rip rap dissipator and a ten by ten-foot bioretention area which would include a cobble dissipator to properly treat and mitigate the flow volumes for water quality, hydromodification, and flood control requirements. The proposed project would adhere to applicable standards through routing runoff to the proposed bioretention area and properly treating the runoff prior to discharge into Cayetano Creek.

The proposed project would not alter the existing drainage pattern such that would alter the course of a stream or river. Consequently, the proposed project would not substantially alter the drainage pattern of the site, including through the alteration of the course of a stream or river, or result in substantial erosion or siltation, increase the rate of surface runoff, or create runoff water which would exceed the capacity of existing or planned stormwater drainage systems, and a *less-than-significant* impact would occur.

- civ. According to the Federal Emergency Management Agency (FEMA), the proposed project is located within an Area of Minimal Flood Hazard (Zone X).<sup>26</sup> Dams built in the Bay Area over the last 150 years were constructed using then-current construction techniques and seismic knowledge of the time. In the 1970s, State law required dam owners to develop maps depicting areas that might be inundated by dam failure. The Alameda County Emergency Operations Plan does not map the project site in an area which would be impacted by dam failure.<sup>27</sup> Additionally, the project would not involve construction or placement of housing within a flood zone. For the reasons listed above, the project would have *no impact* related to exposure of people or structures to risk of loss, injury or death involving flooding, including dam failure.

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<sup>26</sup> Federal Emergency Management Agency. *FEMA Flood Map Service Center*. Accessed December 2018. Available at: <https://msc.fema.gov/portal/home>.

<sup>27</sup> Alameda County. *Alameda County Emergency Operations Plan*. December 2012.

- d. A tsunami is a series of waves generated in a body of water by an impulsive disturbance along the seafloor that vertically displaces the water. A seiche can be considered very similar to a tsunami, with the difference being that the water waves are generated in a closed or restricted body of water such as a lake or within a harbor. The project site is located over 20 miles from the coastline and over 3.5 miles from closest reservoir. The project site is not considered at risk of inundation by the Alameda County Emergency Operations Plan. Additionally, mudflows typically affect areas where wildfires or human modification of the land have destroyed vegetation and on steep slopes that have been altered for construction of buildings. Because the area has not experienced a wildfire and is considered at moderate risk, and the area is not located on a steep slope or in areas where slopes have been modified, the mudflow risk would not be high. Therefore, a *less-than-significant* associated with inundation by seiche or tsunami would occur.

**XI. LAND USE AND PLANNING**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion**

a. A project risks dividing an established community if the project would introduce infrastructure or alter land uses so as to change the land use conditions in the surrounding community or isolate an existing land use. The proposed project would develop a greenhouse and a processing building for the purpose of cultivating cannabis, which is a conditionally permitted use under the Agricultural zoning designation. With the exception of rural single-family residences to the north, south, west, and east, the project site and surrounding area is predominately undeveloped and vacant. Cayetano Creek borders the project site to the west. Land uses in the vicinity consist of agricultural and sparse rural residences. The site is designated Resource Management under the ECAP and zoned Agricultural. Currently, two existing single-family homes are located on the project site. Given that the existing single-family residences do not belong to an established community and would not be demolished as part of the proposed project, the project would not have the potential to physically divide an established community. The project site is located on privately owned agricultural land and would be consistent with the land use and zoning designations of the County. Thus, the proposed project would not physically divide an established community, and ***no impact*** would occur.

b. The proposed project site is zoned Agricultural and designated Resource Management in the ECAP. The site is also located in an area outside of the urban growth boundary as established by Measure D. Measure D restricts areas outside of the urban growth boundary to agricultural, natural resource, and rural uses, and prevents the construction of infrastructure to support any urban development. The Alameda County Zoning Ordinance states that cultivation of cannabis may be an appropriate conditionally permitted use in the agricultural districts and outside of the urban growth boundary established by Measure D. Additionally, the project would adhere to Policy 79 of the ECAP, which requires areas designated Resource Management do not require the extension of public sewer or water, detract from agricultural production in the area, or create a concentration of commercial uses in the area. Furthermore, the proposed project would not conflict with County policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect. For example, in compliance with the EACCS, the proposed project would be subject to pay all applicable fees according to the EACCS prior to construction and completion of pre-construction surveys for yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, California tiger salamander golden eagle, western burrowing owl, American badger, and San Joaquin kit fox and nesting and migratory birds (Mitigation Measures IV-1 through IV-7). Therefore, upon implementation of mitigation, the proposed project would not conflict with the provisions of the EACCS. Finally, the proposed project would comply with Chapters 17.52.585 and 6.106 of the Ordinance Code, which regulates

the cultivation of cannabis in the unincorporated areas of Alameda County. Because the proposed project would be consistent with all applicable land use plans, policies, and regulations with jurisdiction over the project, a *less-than-significant* impact would occur related to significant environmental impacts due to a conflict with any land use plan, policy, or regulation adopted for the purpose of mitigating an environmental effect.

<b>XII. MINERAL RESOURCES.</b>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<i>Would the project:</i>				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘

**Discussion**

a,b. The California Division of Mines and Geology (CDMG) has produced Mineral Land Classification (MLC) Studies as specified by the Surface Mining and Reclamation Act of 1974. According to CDMG mapping, the proposed project site is not located within a specified Mineral Resource Zone (MRZ).<sup>28</sup> In addition, the ECAP does not specify mineral resource recovery sites within the vicinity of the proposed project site. Therefore, the proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State or result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Thus, *no impact* regarding mineral resources would result.

<sup>28</sup> California Division of Mines and Geology. *Mineral Resource Zones and Resource Sectors, Alameda County*. 1983.

**XIII. NOISE.**

*Would the project result in:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion**

- a. The existing noise environment in the project vicinity is defined primarily by vehicle noise from Morgan Territory Road and Manning Road. However, Morgan Territory Road is not a frequented road, and, thus, the current noise environment is not substantial. The nearest sensitive receptors to the project site would be the existing single-family residence located on the property and a single-family residence located approximately 600 feet west of the site. It should be noted that CEQA requires analysis of a project's effects on the environment. Generally, consideration of the potential effects of a site's environment on a project are outside the scope of required CEQA review as discussed above. However, when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. "In those specific instances, it is the Project's impact on the environment – and not the environment's impact on the Project – that compels an evaluation of how future residents or users could be affected by exacerbated conditions."

**Construction Noise**

Construction within the project site would result in temporarily increased noise levels from grading and other construction activities on the project site. Construction noise from site development would include mechanical equipment, such as earthmovers, dump trucks, and similar equipment during grading, the delivery of construction materials, construction of foundations, framing, roofing, and similar operations. Because noise levels dissipate with distance from the source, noise levels received by the surrounding sensitive receptors would fluctuate depending on the distance of the noise source on the project site from the fixed location of the receptor.

Construction activities would temporarily increase the level of noise produced on the project site. Based on the Federal Highway Administration's Construction Noise Handbook, activities related to construction would generate maximum noise levels ranging

from 76 to 80 dB at a distance of 50 feet.<sup>29</sup> The noise levels from construction operations decrease at a rate of approximately 6 dB per doubling of distance from the noise source. Therefore, construction noise levels at the nearest off-site sensitive receptor would be approximately 60 dB at most. According to the Noise Element of the Alameda County General Plan, residences surrounded by agricultural land should not be exposed to noise levels above 65 dB. Considering that construction-related noise is not anticipated to exceed 60 dB at the nearest residence, the construction activity would not exceed the Alameda County General Plan Noise Standard.

In addition, construction noise would only occur during the approximately 23-month construction period. Chapter 6.60 of the Alameda County Code of Ordinances includes various regulations and standards for noise levels and vibration within the County. Section 6.60.070 of the Code exempts all noise sources associated with construction, provided construction activities are restricted to the hours of 7:00 AM to 7:00 PM, Monday through Friday, and 8:00 AM to 5:00 PM on Saturday and Sunday. The proposed construction activities would be limited to such hours in compliance with the County Code.

#### Project Operational Noise

The proposed project includes development of a greenhouse and processing building for cannabis cultivation, as well as an associated parking area. Typical noise-generating equipment associated with cannabis cultivation would include ventilation fans, truck loading/unloading, and water pumps. The proposed project would implement a wet-wall evaporative cooling system, which uses the natural cooling process of water evaporation in conjunction with exhaust fans to provide cooling for large volume buildings. The use of the wet-wall system would reduce noise typically associated with HVAC systems. The proposed project would use state-of-the-art technology in order to increase the efficiency of a ventilation fan, and reduce operational noise levels.

Project operations would include two backup generators on-site. Use of the generators would be limited to occasional testing and emergency situations. While the location of the generators has not yet been determined, they would likely be close to the proposed greenhouse structure, and more than 200 feet from the nearest sensitive receptor. Considering the distance between the proposed generators and nearest sensitive receptors, the noise produced by the generators would not be anticipated to disturb any nearby residents. However, should the generators be located closer than 200 feet, the proposed project could exceed the County's noise standards and a significant impact could occur.

Traffic to the project site would be limited to employees and authorized personnel, as operation is not open to the public. The project is expected to produce at most 110 trips per day, which is well below the current 576 trips along Morgan Territory Road and 2,229 trips along Manning Road. Given the small addition of trips, the proposed project would not result in substantial amounts of additional traffic noise.

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<sup>29</sup> Federal Highway Administration. *Construction Noise Handbook*. August 2006.

Conclusion

Overall, the temporary nature of construction activities on the project site, as well as adherence to the noise standards under the County’s General Ordinance Code, would ensure that the project would not generate any substantial temporary increase in ambient noise levels. However, should the use of generators occur within 200-feet, operations of the proposed project could exceed the County’s noise standards. However, with mitigation the proposed project would result in a *less-than-significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

*XIII-1. Prior to issuance of any building permits, the project applicant shall show on the plans via notation that all generators proposed within the site are located at least 200 feet from the nearest residence. The plans shall be submitted to the Planning Department for review and approval.*

- b. Heavy-duty construction equipment would be used during construction of the proposed project (e.g., tractors, pavers, excavators). Such equipment has the potential to generate groundborne vibration. Levels of vibration include imperceptible vibrations at low levels, low rumbling and minor vibration at moderate levels, and structural or architectural damage at high levels. For structural damage, the California Department of Transportation (Caltrans) uses a vibration limit of 0.5 inches/second, peak particle velocity (in/sec, PPV), for buildings structurally sound and designed to modern engineering standards and 0.2 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern. The threshold of 0.2 in/sec PPV is also used by Caltrans as the threshold for human annoyance caused by vibration. Although all surrounding structures are assumed to be structurally sound, the 0.2 in/sec PPV threshold offers a conservative value with regards to structural damage and is used as the threshold of significance for the analysis. Table 5 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet.

<b>Table 5</b>	
<b>Vibration Source Levels for Construction Equipment</b>	
<b>Equipment</b>	<b>PPV at 25 ft (in/sec)</b>
Vibratory Roller	0.210
Large Bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003
<i>Source: Caltrans, Transportation and Construction Vibration: Guidance Manual, September 2013.</i>	

The most substantial source of vibration during construction activities would be operation of vibratory rollers, which, as shown above, would generate vibrations of approximately 0.21 inches per second peak particle velocity (PPV) at a distance of 25 feet.<sup>30</sup>

The nearest sensitive receptor are the single-family residences on the property of the project site, located approximately 200 feet away. Because the closest residence is located approximately 200 feet away, the PPV experienced at the nearest residence would be reduced from the PPV's reported in Table 5. The Caltrans *Transportation and Construction Vibration Guidance Manual* provides a formula for estimating maximum vibration dissipation with distance.<sup>31</sup> Calculations were completed to determine the maximum vibration caused by the construction activities using the Caltrans formula. Because the vibratory roller would be the most intense possible source of vibrations, the reference PPV of 0.210 in/sec was used for the calculations. At a distance of 200 from the project site any sensitive receptors would receive 0.021 in/sec PPV from the use of a vibratory roller, which is well below the 0.2 in/sec PPV significance threshold used for this analysis. Furthermore, construction is temporary and would be restricted to daytime hours per the County Ordinance Code Section 6.60.070. Consequently, the project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels, resulting in a *less-than-significant* impact.

- c. As noted previously, the proposed project site is not located within the vicinity of a public airport or a private airstrip, nor is the site addressed by an airport land use plan. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels associated with airports, and *no impact* would occur.

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<sup>30</sup> California Department of Transportation. *Transportation and Construction Vibration, Guidance Manual*. September 2013.

<sup>31</sup>  $PPV_{Equipment} = PPV_{Reference} (25/D)^{1.1}$

Where: D = distance from equipment to the receiver in feet (assumed to be 200 feet)

PPV<sub>Ref</sub> = reference PPV at 25 feet (from Table 5)

Source: Caltrans. *Transportation and Construction Vibration Guidance Manual*. [pg. 37]. September 2013.

**XIV. POPULATION AND HOUSING.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>✘</b>

**Discussion**

- a,b. The nature of the improvements included in the proposed project is such that the project would not induce population growth in the project area either directly or indirectly. In addition, the proposed project does not involve the demolition of existing housing, the creation of new housing, or the extension of major infrastructure. As such, the project would not displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere. Thus, the proposed project would result in ***no impact*** with regard to population and housing.

**XV. PUBLIC SERVICES.**

*Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
e. Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘

**Discussion**

a,b. Fire protection is currently provided to the project site by the Alameda County Fire Department. The Fire Department currently serves a population of approximately 394,000 people over 508 square miles. The Fire Department has 30 fire stations, 26 engine companies, and sufficient equipment and firefighters to provide a wide variety of services to the unincorporated areas, as well as many cities, of Alameda County. The proposed project is consistent with land use and zoning designations and thus, has been accounted for in the County’s necessary supply of fire protection. Additionally, the proposed project would adhere to Chapter 6.04 of Title 6 of the Ordinance Code relating to the prevention of fires. The Code requires the proposed project pay fire fees required by the County and install an automatic sprinkler system where a possible fire area exceeds 5,000 square feet. Thus, because the project would be in compliance with the County Fire Department regulations, consistent with the land use designation for the project site, and would not directly induce any population growth, fire services currently provided by the County would be adequate to serve the proposed project without the need for new or expanded facilities.

The Alameda County Sheriff’s Office provides policing to the project site and other unincorporated areas of the County. The Sheriff’s Office has over 1,500 authorized positions and a sufficient budget to provide policing services to the County. Each employee of the proposed project would be required to submit fingerprints and photo identification for background checks and verification by the Sheriff’s Office. Additionally, the security plan created for the proposed project would undergo review and approval by the Sheriff’s Office. During operations of the proposed project, security video would be maintained for 30 days and made available to the Sheriff’s Office upon request. In accordance with Section 6.106.020 of Ordinance Code, the project would adhere to all requirements by the Sheriff’s Office.

The proposed project would be consistent with land use and zoning designations and would not involve construction of housing which would induce population growth in the area. Additionally, because the project would adhere to all applicable regulations regarding fire and police services, the proposed project would not create additional demand for fire and police protection services. Therefore, the proposed project would result in a *less-than-*

*significant* impact related to the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts.

- c-e. The proposed project would not directly result in the development of housing or increase the population of the area. Thus, the proposed project would not create an increased need for schools or parks in the vicinity. In addition, the proposed project is consistent with the site's General Plan land use and zoning designations. As such, buildout of the site, including associated demand for schools and parks has been anticipated by the County and analyzed in the General Plan EIR. Thus, the proposed project would not directly or indirectly result in an increase in demand for schools, parks, or other public facilities. Therefore, *no impact* would occur.

**XVI. RECREATION.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✘

**Discussion**

- a,b. The proposed project would not involve the placement of housing or other development that would create a demand for recreational services or facilities. Consequently, the proposed project would not result in the physical deterioration of existing neighborhood or regional parks or other recreational facilities, nor would the project require construction or expansion of recreation facilities, and ***no impact*** would occur.

**XVII. TRANSPORTATION.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

**Discussion**

- a. A Traffic Impact Analysis (TIA) was conducted for the proposed project by TJKM in December 2018<sup>32</sup> (see Appendix E). The purpose of the TIA was to study existing and future conditions of traffic at the project site.

The TIA evaluated the following study intersections, also shown in Figure 9 below, during the peak periods of 7:00-9:00 AM and 4:00-6:00 PM:

1. Morgan Territory Road/Manning Road; and
2. Proposed project driveway/Morgan Territory Road

The operations of roadway facilities are described with the term Level of Service (LOS). LOS is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. The operational LOS are given letter designations from A to F, with A representing the best operating conditions (free-flow and F the worst (severely congested flow with high delays).

According to the 2012 Alameda Countywide Transportation Plan, the LOS standard for highway systems is LOS D. The ECAP Policy 193 requires traffic volumes on intercity arterials in the project vicinity do not exceed LOS D within unincorporated areas. Table 6 below summarizes the relationship between LOS and delay for unsignalized intersections.

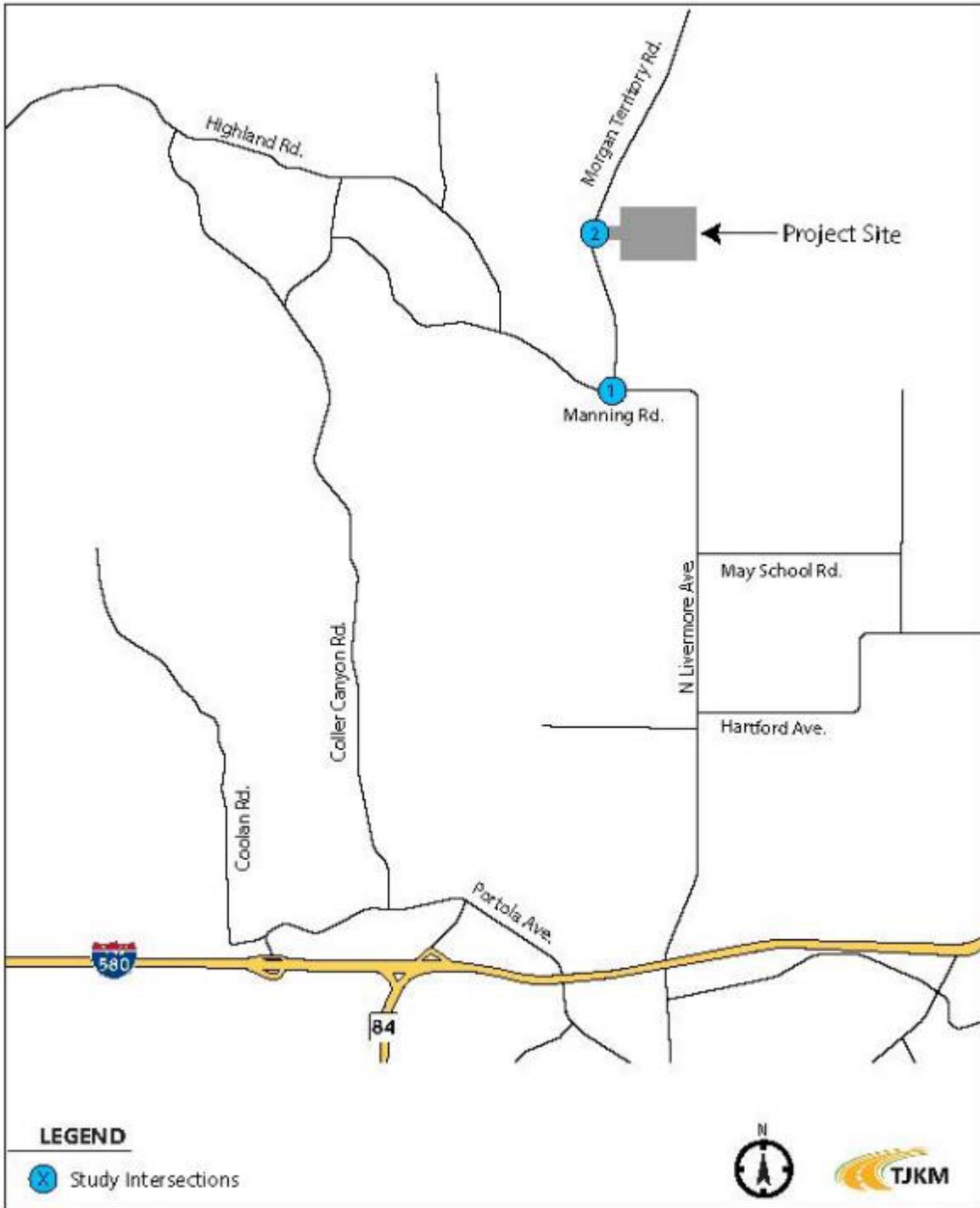
**Study Scenarios**

The study addressed the following traffic scenarios:

- Existing Conditions – Evaluates the study intersections based on existing traffic volumes, lane geometry, and traffic controls; and
- Existing Plus Project Condition – Identical to Existing Conditions, but includes the addition of traffic from the proposed project.

<sup>32</sup> TJKM. *Traffic Impact Analysis for the Proposed Cannabis Cultivation Facility at 7033 Morgan Territory Road, Alameda County*. December 2018.

**Figure 9**  
**Regional Location of Study Intersections**



LOS	Description	Average Delay (seconds per vehicle)
A	No delay for stop-controlled approaches.	0 to 10
B	Operations with minor delays.	> 10 to 15
C	Operations with moderate delays.	> 15 to 25
D	Operations with some delays.	> 25 to 35
E	Operations with high delays and long queues.	> 35 to 50
F	Operation with extreme congestion, with very high delays and long queues unacceptable to most drivers.	> 50

*Source: TJKM, December 2018.*

### Proposed Project

The proposed project would operate on a continuous spanning of three shifts, seven days per week, with five to six cars per shift. Table 7 shows the expected trip generation for the proposed project. Trip distribution assumptions were developed based on existing travel patterns and are expected to be as follows: 70 percent to/from Livermore Avenue and 30 percent to/from Manning Avenue.

Land Use Type	Size	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Cannabis Cultivation Center	92.52 Acres	11	0	11	0	11	11

*Source: TJKM, December 2018.*

As shown in the table above, the proposed project would produce 11 peak hour trips and 110 total daily trips.

### Existing Plus Project Conditions

The existing operations of the study intersections were evaluated for the highest on-hour volumes during weekday morning and evening peak periods (7:00-9:00 AM and 4:00-6:00 PM, respectively). In addition, seven day average daily traffic (ADT) counts were conducted at both Morgan Territory Road north of Manning Road and Manning Road west of North Livermore Avenue. For Existing Plus Project conditions, project traffic was added to the existing volumes at the study intersections. The Existing versus Existing Plus Project conditions are shown in Table 8 below.

As shown in the table, the study intersections would operate at an acceptable LOS under both Existing and Existing Plus Project conditions. The proposed project would not increase delays at major intersections in the vicinity by more than 0.2 seconds.

<b>Table 8 Intersection LOS – Existing Plus Project Conditions</b>						
<b>Intersection</b>	<b>Control</b>	<b>Peak Hour</b>	<b>Existing</b>		<b>Existing Plus Project</b>	
			<b>Delay</b>	<b>LOS</b>	<b>Delay</b>	<b>LOS</b>
1. Morgan Territory Road/Manning Road	Two-Way Stop	AM	10.5	B	10.6	B
		PM	11.7	B	11.8	B
2. Morgan Territory Road/Project Driveway	One-Way Stop	AM	9.0	A	9.0	A
		PM	9.0	A	9.2	A

*Source: TJKM. December 2018.*

The proposed project would increase vehicle traffic from 576 vehicles to 686 vehicles per day on Morgan Territory Road north of Manning Road. Traffic on Manning Road west of North Livermore Avenue would increase from 2,229 vehicles to 2,339 vehicles per day.

### Alternative Transportation

The expected trips to the proposed project would primarily include single passenger vehicles. Based on the TIA counts conducted, pedestrian and bicycle activity along Morgan Territory Road is relatively limited. The nearest transit stop is approximately seven miles from the project site. While alternative transportation would not likely be used, the proposed project would not create a hazard or otherwise decrease the performance of any forms of alternative transportation. Additionally, because the proposed project is consistent with the site’s current land use designation, the proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

### Conclusion

Per the Alameda County Transportation Commission CMP, projects that are consistent with an applicable General Plan and would result in fewer than 100 peak hour trips are not subject to review by the Commission.<sup>33</sup> Given that the project would generate a maximum of 11 peak hour trips and would be consistent with the site’s current General Plan land use and zoning designations, the project would not conflict with the CMP.

In addition, the TIA analyzed the potential impacts on the LOS of nearby intersections and determined that operation of the proposed project would not result in any impacts related to degradation of the LOS of nearby intersections. Therefore, the project would not result in any conflicts with adopted County LOS standards, or plans to maintain such standards.

Because the project is consistent with the site’s current land use designation, traffic associated with development of the project site has been accounted for in the County’s planning efforts. Furthermore, as discussed above, the TIA showed that implementation of the proposed project would not result in impacts related to the degradation of the LOS at

<sup>33</sup> Alameda County Transportation Commission. *2017 Congestion Management Program* [pg. 85]. December 2017.

any studied intersections, and thus, the proposed project would not conflict with any program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and pedestrian facilities. Therefore, a *less-than-significant* impact would occur related to traffic management.

- b. Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Pursuant to Section 15064.3, analysis of vehicle miles traveled (VMT) attributable to a project is the most appropriate measure of transportation impacts. Other relevant considerations may include the effects of the project on transit and non-motorized travel.

Per Section 15064.3(3), a lead agency may analyze a project's VMT qualitatively based on the availability of transit, proximity to destinations, etc. While changes to driving conditions that increase intersection delay are an important consideration for traffic operations and management, LOS methodology does not fully describe environmental effects associated with fuel consumption, emissions, and public health. Section 15064.3(3) changes the focus of transportation impact analysis in CEQA from measuring impact to drivers to measuring the impact of driving.

The Governor's Office of Planning and Research prepared the *Technical Advisory on Evaluating Transportation Impacts in CEQA* in December of 2018. As noted therein, lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing. Many local agencies have developed screening thresholds to indicate when detailed analysis is needed. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant impact. Given that that the proposed project would generate approximately 110 ADT, the proposed project would result in a less-than-significant impact related to VMT.

Furthermore, the proposed project is consistent with the General Plan land use designation for the site and would not generate more than 100 peak-hour trips. Thus, the project is consistent with the Alameda County Transportation Commission CMP, which evaluates VMT and has incorporated programs to reduce VMT within the County.

While the incorporation of alternative transportation would not be feasible at the project site, the project is consistent with the County's CMP. Furthermore, because the proposed project would generate approximately 110 ADT, the project would result in a less-than-significant impact related to VMT. Based on the above, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and a *less-than-significant* impact would occur.

- c,d. Primary access to the project site would be provided by the existing driveway on Morgan Territory Road. The driveway currently provides access to the existing residence on the site. The internal circulation would include a parking area and two-way driveway. The TIA evaluated any hazards associated with access to the project site.

### Site Distance Analysis

The TIA for the proposed project determined that the line of sight between vehicles exiting the driveway and vehicles travelling northbound along Morgan Territory Road is clear and visible. The line of sight of vehicles exiting the driveway and traveling southbound is affected by existing vegetation and a horizontal curve just north of the driveway. Because the foregoing conditions are existing, the TIA recommends to the County that trees in the public right of way be kept trimmed to a minimum of eight feet from the ground and ground cover be kept trimmed to a maximum height of three feet. Additionally, the TIA recommends the installation of a stop sign at the project driveway, as well as blind driveway signs for southbound travelling vehicles. Given that the proposed project would not modify the existing driveway at Morgan Territory Road and would not substantially increase the volume of traffic travelling to and from the project site through the driveway, the proposed project would not substantially increase hazards due to a geometric feature.

### Emergency Access

Emergency access to the proposed project would continue to be provided by the full access driveway on Morgan Territory Road. The internal circulation for the proposed project was reviewed as part of the TIA for issues related to safety and parking. Based on the TIA, the access roadway is expected to be adequate for passenger vehicles, as well as emergency vehicles.

### Conclusion

Based on the above, the proposed project driveway at Morgan Territory Road would provide adequate site distance for vehicles exiting the project driveway. In addition, adequate emergency vehicle access would be provided to the project site. Therefore, a ***less-than-significant*** impact could occur related to substantially increasing hazards due to design features or introduction of incompatible uses.

**XVIII. TRIBAL CULTURAL RESOURCES.**

*Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion**

- a,b. Tribal cultural resources are generally defined by Public Resources Code 21074 as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe.

In compliance with AB 52 (Public Resources Code Section 21080.3.1), a project notification letter was distributed to the Torres Martinez Desert Cahuilla Indians, California Indian Water Commission, Ione Band of Miwok Indians Cultural Committee, Trina Marine Ruano Family, The Confederated Villages of Lisjan, the Amah Mutsun Tribal Band of Mission San Juan Bautista, the Costanoan Rumsen Carmel Tribe, the Indian Canyon Mutsun Band of Costanoan, the Muwekma Ohlone Indian Tribe of the SF Bay Area, the North Valley Yokuts Tribe, and the Ohlone Indian Tribe. Requests to initiate formal consultation were not received.

As discussed in Section V, Cultural Resources, of this Recirculated IS/MND, the proposed project site does not contain any existing permanent structures or any other resources that could be considered historic, and Native American resources have not been identified within the vicinity of the site. Furthermore, a search of the Sacred Lands File maintained by the Native American Heritage Commission (NAHC) returned negative results for the presence of known tribal resources in the project area. Thus, the proposed project would not be expected to cause a substantial adverse change in the significance of a listed tribal cultural resource.

As discussed in Section V of this Recirculated IS/MND, Native American resources in the project vicinity have been found in Holocene alluvial deposits, at the foothill to the valley

floor interface, and near intermittent or perennial watersheds. Similar circumstances exist in the project area. As such, while the discovery of underlying resources considered significant to a California Native American Tribe is not expected, the possibility exists that construction of the proposed project could result in a substantial adverse change in the significance of a tribal cultural resource if previously unknown tribal cultural resources are uncovered during grading or other ground-disturbing activities. However, with implementation of mitigation, a *less-than-significant* impact would occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

XVII.           *Implement Mitigation Measures V-1 and V-2.*

**XIX. UTILITIES AND SERVICE SYSTEMS.**

*Would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion**

- a-c. Brief discussions of the wastewater, stormwater drainage, water, electrical, and telecommunications facilities that would serve the proposed project are included below.

Wastewater

Wastewater treatment for the proposed project would be provided by construction of an on-site septic tank and leach field. The septic system would serve restrooms within the processing building for use by employees only. The septic system would not receive any wastewater associated with cannabis irrigation. According to Chapter 15.18 of the County Code of Ordinances, if the amount of wastewater received by an OWTS exceeds 10,000 gpd, the method of treatment must be submitted for review and approval by the San Francisco RWQCB. Wastewater produced by the project would not exceed 550 gpd, and thus, would not require review by the San Francisco RWQCB.

The proposed project includes construction of a leach field, which would remove contaminants and impurities from the liquid that emerges after anaerobic digestion in a septic tank. The septic system would be subject to the Alameda County Septic System Ordinance per the ACEHD, and would require review by the department prior to approval of the permit. Wastewater would be directed to a leach field, which would filter and purify water. Any additional sludge would be kept in a 5,000-gallon sludge tank which would be hauled off-site every four days.

Given the relatively small production of wastewater by the proposed project, implementation of a new septic system would not be anticipated to cause significant environmental effects. Furthermore, the proposed septic system would be subject to review and approval by the ACEHD, which would ensure that the system would be adequately designed to avoid any potential impacts. It should be noted that other potential impacts related to the construction of the proposed septic systems, such as impacts to cultural resources related to ground disturbing activity, are analyzed throughout this Recirculated IS/MND.

### Stormwater

The proposed project includes stormwater improvements to the existing project area, including construction of an underground vault for rain harvesting, as well as construction of a new bioretention. The bioretention area would be properly sized to treat and mitigate the flow volumes for water quality, hydromodification, and flood control requirements. Outflow from the bioretention area would be routed into the drainage ditch along the driveway through a flow spreader in order to join the off-site flows and discharge in to Cayetano Creek, and, thus, would not involve expansion of the County's existing stormwater drainage facilities. Furthermore, the proposed project would be subject to required payment of the Development Impact Fee for Flood Protection and Storm Water Drainage, which is collected by the Zone 7 Water Agency.

### Water

Four existing wells are present on the project site, which would provide water to the proposed project. Based on the latest flow tests performed at each of the four wells on the project site, the cumulative yield produced by all four wells would be four gallons per minute (gpm). In addition, rainwater would be harvested at the project site, which would connect to the water system for the proposed project. The rainwater harvesting system would be anticipated to collect 314,000 gallons per year (gpy). Water storage for the proposed project would be provided by a 500,000-gallon storage reservoir. From the water-storage tank, the water would be routed to a proposed reverse osmosis (RO) treatment system to provide water to the proposed project, including cannabis irrigation. Return water from cannabis irrigation and project grey water would be reclaimed on-site by the reclamation system. It should be noted that the proposed project would not combine any of the rainwater with the existing potable water supply for the on-site residences. The potable water supply for the existing residences would be kept separate from the project water and the new water storage tank.

According to the Conceptual Water-Supply and Wastewater Plan, the anticipated average annual water demand for the existing uses and proposed project is approximately 3,000 gpd for pre-irrigation RO treatment, 1,750 gpd for a cooling system, 550 gpd for sanitary uses, 700 gpd for the existing on-site residences, and 200 gpd for landscaping uses, for a total demand of 6,200 gpd.<sup>34</sup> The rain harvesting system would be expected to supply approximately 314,000 gpy (860 gpd) and the existing groundwater wells would supply approximately 5,800 gpd, for a total of 6,660 gpd average annual yield. As such, the project

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<sup>34</sup> Balance Hydrologics, Inc. *Conceptual Water-Supply and Wastewater Plan, Oasis Venture Livermore Grow Facility Alameda County, CA*. August 2019 (Rev. 7-21-20) (See Appendix D).

site would be expected to generate and store enough water to supply the 6,200 gallons per day necessary for the proposed project.

Based on the above, the expected increase in water supply through both groundwater extraction and artificial recharge would sufficiently meet the water needs of the proposed project.

#### Electricity and Telecommunications

Electricity service for the proposed project would be provided by PG&E by way of new electrical infrastructure in the project vicinity. Any upgrades to, or extension of, existing infrastructure would be performed by PG&E. Because the analysis throughout this Recirculated IS/MND has conservatively included the entire property, any improvements associated with the project have been taken into consideration.

Because the proposed project would grow cannabis using a greenhouse, electricity would not be used on the same scale that indoor operations would. While lighting would be installed in the greenhouse as supplemental, the use would be consistent with what would be expected from an agricultural operation. Thus, impacts to electricity and telecommunications infrastructure would be less than significant.

#### Conclusion

Based on the above, the proposed project would include the necessary installation or improvements to infrastructure in order to supply water, wastewater treatment, stormwater treatment, and electrical power to the project site. The construction of such would ensure that the site is adequately served by water, as well has sufficient wastewater treatment facilities. Sufficient water supplies would be available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Thus, a *less-than-significant* impact would occur.

- d.e. As discussed in Section VIII, Hazards and Hazardous Materials, of this Recirculated IS/MND, the proposed project would dispose of solid waste in accordance with California Code of Regulations Section 8308, Cannabis Waste Management. The proposed project would compost some organic solid waste on-site, and any remaining waste would be hauled to a facility that recycles organic material, in compliance with all applicable local and State regulations. The Altamont Landfill serves Alameda County and accepts solid waste, in accordance with the Cannabis Waste Management regulations. The Altamont Landfill had a remaining capacity of 42.4 million tons in 2014 and processes 1.5 million tons of waste, annually.<sup>35</sup> The proposed project would produce waste associated with cannabis production and some incidental waste associated with employee presence.

During construction of the proposed project, solid waste is not anticipated to be generated as demolition would not occur. Should any construction waste be generated, the waste would be temporary, and would be disposed of appropriately in compliance with all

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<sup>35</sup> Waste Management. *Altamont Landfill and Resource Recovery Facility*. Available at: [https://www.wmsolutions.com/pdf/factsheet/Altamont\\_Landfill.pdf](https://www.wmsolutions.com/pdf/factsheet/Altamont_Landfill.pdf). Accessed January 2019.

applicable regulations related to solid waste, including Section 5.408 of the 2016 CalGreen, which requires that at least 65 percent of non-hazardous construction waste (not including soil and land-clearing debris) is recycled or salvaged for reuse.

Considering the remaining capacity at the Altamont Landfill, the project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, and would comply with federal, State, and local statutes and regulations related to solid waste result. Thus, a *less-than-significant* impact would occur.

**XX. WILDFIRE.**

*If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*

	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	✘	<input type="checkbox"/>

**Discussion**

a-d. According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program, the project site is not located within or near a Very High Fire Hazard Severity Zone or State Responsibility Area.<sup>36</sup> While the site is located in a moderate fire hazard severity zone, the Uniform Fire Code, Section 6.04 of the County Ordinance Code, and the CBSC call for the installation, maintenance, and ongoing inspection of fire prevention systems under direction of the local fire chief. Under the Fire Code, Section 903.2.18.1, installation of an automatic sprinkler system would be required for the proposed structures. Policy P2 of the Safety Element would also ensure the project implement careful site design, landscaping, and vegetation management in order to minimize wildland fire hazards. In addition, the project would not involve the placement of housing or other inhabitable buildings on the site.

Alameda County developed a Community Wildfire Protection Plan in 2012, and based on the plan, the project would adhere to all applicable recommendations and requirements. Additionally, as noted in Section IX, implementation of the proposed project would not interfere with any emergency operations plan or evacuation route.

Compliance with the Uniform Fire Code and all applicable State and local ordinances would ensure that the proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Thus, a *less-than-significant* impact would occur.

<sup>36</sup> CAL FIRE. *Fire Hazard Severity Zones in SRA*. Adopted November 7, 2007.

<b>XXI. MANDATORY FINDINGS OF SIGNIFICANCE.</b>	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion**

- a. As discussed in Section IV, Biological Resources, of this Recirculated IS/MND, a small number of special-status wildlife species could potentially occupy the project site. Such species, if present, could be negatively affected by project construction. However, this Recirculated IS/MND includes mitigation measures that would reduce any potential impacts to less-than-significant levels. Additionally, the proposed project would not require demolition of or alteration of structures or resources in a way that would eliminate important examples of major periods of California history. Therefore, with implementation of the mitigation measures set forth in this Recirculated IS/MND, the proposed project would have *less-than-significant* impacts related to degradation of the quality of the environment, effects on plant or wildlife species, and elimination of a plant or animal community.
- b,c. The proposed project involves the development of a greenhouse and processing building for the purposes of cannabis cultivation. The proposed project would develop the site in a manner consistent with existing land use and zoning designations. As discussed throughout this Recirculated IS/MND, substantial adverse effects on human beings are not anticipated with implementation of the proposed project. As discussed in Section III, Air Quality, of this Recirculated IS/MND, impacts related to air quality would be mitigated to a level which would not create any adverse effects on the surrounding area. The proposed project would not include the placement of housing and would not result in any adverse effects to nearby sensitive receptors. Because all potential impacts would be mitigated to less-than-significant levels with implementation of the mitigation measures required within this Recirculated IS/MND, the proposed project is not expected to have individually or

cumulatively significant impacts. Therefore, impacts related to environmental effects that could cause adverse effects on human beings or that would be individually limited, but cumulatively significant would be *less than significant*.

## **APPENDIX A**

### **RESPONSES TO COMMENTS ON THE DECEMBER 2019 IS/MND**

# RESPONSES TO COMMENTS

## INTRODUCTION

This Responses to Comments document contains comments received during the public review period of the Oasis Fund Livermore Grow Facility Project Initial Study/Mitigated Negative Declaration (IS/MND). This document will be attached to the revised and recirculated IS/MND. In addition, Balance Hydrologics, Inc. prepared a Technical Memorandum (see Attachment 1)<sup>1</sup> to provide responses to specific comment letters related to hydrology and water supply, while Live Oak Associates, Inc. prepared a Technical Memorandum to provide responses to specific comments related to biological resources (see Attachment 2).<sup>2</sup>

According to CEQA Guidelines Sections 15073 and 15074, the lead agency must consider the comments received during consultation and review periods together with the IS/MND. However, unlike with an Environmental Impact Report (EIR), comments received on an IS/MND are not required to be attached to the negative declaration, nor must the lead agency make specific written responses to public agencies. Nonetheless, the lead agency has chosen to provide responses to those specific public comments that are related to the environmental analysis contained in the IS/MND. Non-environmental comments have been considered by the County as part of staff's report to the Planning Commission.

## BACKGROUND

The County of Alameda used the following methods to solicit public input on the IS/MND: a Notice of Completion of the IS/MND was posted with the State Clearinghouse on December 23, 2019. The IS/MND was distributed to applicable public agencies, responsible agencies, and interested individuals. In addition, copies of the document were made available at the Planning Department, located at 224 West Winton Avenue, Room 111, Hayward, CA, 94544. The public review period was extended beyond the required 30 days from January 21, 2020 to February 7, 2020.

## LIST OF COMMENTERS

The County of Alameda received 41 comment letters during the open comment period on the IS/MND for the proposed project. The comment letters, presented in alphabetical order, were authored by the following agencies, groups, and members of the public:

### Agencies

- Letter 1 ..... Alameda County Flood Control and Water Conservation District – Zone 7, Elke Rank
- Letter 2 ..... Alameda County Flood Control and Water Conservation District – Zone 7, Matt Katen
- Letter 3 . Alameda County Flood Control and Water Conservation District – Zone 7, Carol Mahoney
- Letter 4 .....California Department of Food and Agriculture, Lindsay Rains
- Letter 5 ..... Department of Fish and Wildlife, Gregg Erickson
- Letter 6 ..... San Francisco Bay Regional Water Quality Control Board, Brian Wines

<sup>1</sup> Balance Hydrologics, Inc. *Subject Response Comments on CUP-MND for Oasis Fund Livermore Grow Facility Project*. June 10, 2020.

<sup>2</sup> Live Oak Associates, Inc. *SUBJECT: Response to Comments for the proposed Oasis Fund Grow Facility project at 7033 Morgan Territory Road in Livermore, Alameda County, California*. May 11, 2020.



**Groups**

Letter 7 .....Oasis Fund Livermore Grow Facility, Chuck Campos  
Letter 8 .....Sierra Club, Dick Schneider

**Members of the Public**

Letter 9 ..... Altman, Larry  
Letter 10 ..... Augello, Marilyn  
Letter 11 ..... Bernardi, Chris  
Letter 12 ..... Blakely, Kris  
Letter 13 ..... De Vore, Lauren  
Letter 14 ..... Dial, Susie  
Letter 15 ..... Galustian, Ted  
Letter 16 ..... Gerich, Carol  
Letter 17 ..... Hardiman, Carol  
Letter 18 ..... Hartwig, Janet  
Letter 19 ..... Hydrick, Jennifer  
Letter 20 ..... Jensen, Layne and Erik  
Letter 21 ..... Jensen, Linda  
Letter 22 ..... King, Jason  
Letter 23 ..... Kopic, Majorie  
Letter 24 ..... Martin, Nancy  
Letter 25 ..... Meeker, Donald  
Letter 26 ..... Meylan, Emile and Lisette and Meylan, Mariela  
Letter 27 ..... Mille, Grazie and Sarboraria, Meredith  
Letter 28 ..... Miracle, Brian  
Letter 29 ..... Morris, Albert and Brenda  
Letter 30 ..... Morris, Brenda  
Letter 31 ..... Piscotty, Mark  
Letter 32 ..... Respitia, Angelica  
Letter 33 ..... Ryan, Rick  
Letter 34 ..... Shock, Robert  
Letter 35 ..... Springer, Susan  
Letter 36 ..... Stivers, Rick and Teri  
Letter 37 ..... Swanson, Stacey  
Letter 38 ..... Uribe, Cheryl  
Letter 39 ..... Webb, Susan  
Letter 40 ..... Wheeler, Cindy  
Letter 41 ..... Wood, Tracy

**RESPONSES TO COMMENTS**

The Responses to Comments below includes each comment letter received regarding the Oasis Livermore Grow Facility Project, as well as responses to each comment. Each bracketed comment letter is followed by numbered responses to each bracketed comment. Where revisions to the IS/MND text were made, new text is double underlined and deleted text is ~~struck through~~. CEQA Guidelines Section 15073.5 states the following regarding recirculation requirements for negative declarations:

- (a) A lead agency is required to recirculate a negative declaration when the document must be substantially revised after public notice of its availability has previously



been given pursuant to Section 15072, but prior to its adoption. Notice of recirculation shall comply with Sections 15072 and 15073.

- (b) A “substantial revision” revision of the negative declaration shall mean:
- (1) A new, avoidable significant effect is identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or
  - (2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required.
- (c) Recirculation is not required under the following circumstances:
- (1) Mitigation measures are replaced with equal or more effective measures pursuant to Section 15074.1.
  - (2) New project revisions are added in response to written or verbal comments on the project's effects identified in the proposed negative declaration which are not new avoidable significant effects.
  - (3) Measures or conditions of project approval are added after circulation of the negative declaration which are not required by CEQA, which do not create new significant environmental effects and are not necessary to mitigate an avoidable significant effect.
  - (3) New information is added to the negative declaration which merely clarifies, amplifies, or makes insignificant modifications to the negative declaration.
- (d) If during the negative declaration process there is substantial evidence in light of the whole record, before the lead agency that the project, as revised, may have a significant effect on the environment which cannot be mitigated or avoided, the lead agency shall prepare a draft EIR for consultation and review pursuant to Sections 15086 and 15087, and advise reviewers in writing that a proposed negative declaration had previously been circulated for the project.

Since the release of the IS/MND, inconsistencies and omissions have been identified within the IS/MND. A discussion and appropriate revisions related to those inconsistencies are addressed herein under Response to Comment 1-2. Although the underlying analysis within the IS/MND was sound, because the discrepancies resulted in unclear understanding of impacts and comments have been received that required other revisions to the IS/MND, the County is recirculating the IS/MND pursuant to CEQA Guidelines Section 15073.5.



Letter 1



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7  
100 NORTH CANYONS PARKWAY • LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

January 29, 2020

Sonia Urzua, Planner  
Alameda County Planning Department  
224 West Winton Avenue, Suite 111  
Hayward, CA 94544  
Sent by e-mail to: [sonia.urzua@acgov.org](mailto:sonia.urzua@acgov.org)

**Re: Oasis Fund Livermore Grow Facility CUP - Mitigated Negative Declaration**

1-1

Zone 7 Water Agency (Zone 7, or Zone 7 of the Alameda County Flood Control and Water Conservation District) has reviewed the referenced document in the context of Zone 7's mission to provide water supply, flood protection, and groundwater and stream management within the Livermore-Amador Valley. Following are our comments for your consideration:

1-2

1. Inconsistencies in MND. Values associated with water use at the project site are inconsistent throughout the IS/MND. In particular the project description (Page 12) states that the wells will yield seven (7) gallons per minute while the analysis in Section X: Hydrology and Water Quality (Page 56) suggests that the total well yield will be four (4) gallons per minute. There are numerous inconsistencies between the rainwater capture values, crop irrigation needs, and the overall descriptions and analyses of how, and how much, water will be used at the site. This made analysis of the true hydrologic impacts difficult because it was unclear which value was used to determine the relative impact to the environment, and would ultimately be included in any future Conditional Use Permit. Zone 7 compiled tables showing the chief inconsistencies and presented these tables at our Board of Directors meeting on January 15, 2020. Below is a copy of the tables presented for your reference.

Letter 1  
Cont'd



**Review of Wastewater Loading  
 OASIS FUND LIVERMORE GROW FACILITY**

WASTEWATER	From Water Supply and Wastewater Plan for Project (Balance Hydrologics, 2019)		Described in IS/MND (County Planning Dept., Dec. 2019)		Maximum Permissible on 100 acres (Zone 7 Resolution 1165)
<b>NON-RESIDENTIAL</b>					
Employees	23	480 gpd	20-30	400-800 gpd	
Visitors <sup>(1)</sup>	6	90 gpd	0-6	0-90 gpd <sup>(2)</sup>	
Total Non-Residential		550 gpd		400-690 gpd	
<b>RESIDENTIAL</b>					
Residence 1 <sup>(1)</sup>	1	320 gpd	1	320 gpd <sup>(2)</sup>	
Residence 2 <sup>(1)</sup>	1	320 gpd	1	320 gpd <sup>(2)</sup>	
Total Residential		640 gpd		640 gpd	6400 gpd <sup>(3)</sup>
<b>TOTAL ONSITE WASTEWATER LOADING</b>		<b>3.7 RRE</b>		<b>3.3 - 4.2 RRE</b>	<b>20 RRE<sup>(3)</sup></b>

ac = acre    gpd = gallons per day    RRE = rural residential equivalence

<sup>(1)</sup> = Item not considered in Mitigated Negative Declaration (MND).  
<sup>(2)</sup> = Value from Balance Hydrologics report used since not included in MND  
<sup>(3)</sup> = Pro-rated at 320 gpd/5 ac and 1 RRE/5 ac

1-2  
 Cont'd

**Water Supply Review of  
 OASIS FUND LIVERMORE GROW FACILITY**

WATER	From Water Supply and Wastewater Plan for Project (Balance Hydrologics, 2019)		Described in IS/MND (County Planning Dept., Dec. 2019)	
<b>WATER DEMAND</b>				
Irrigation	3,600 gpd	4.0 af/yr	2,800 - 3,600 gpd	3.1 - 4.0 af/yr
Restrooms	550 gpd	0.6 af/yr	550 - 1,000 gpd	0.6 - 1.1 af/yr
Climate Control	1,750 gpd	2.0 af/yr	2,740 - 10,000 gpd	3.1 - 11.2 af/yr
Residence	700 gpd	0.8 af/yr	700 gpd <sup>(2)</sup>	0.8 af/yr
Landscape	200 gpd	0.2 af/yr	200 gpd <sup>(2)</sup>	0.2 af/yr
<b>TOTAL DEMAND</b>	<b>6,800 gpd</b>	<b>7.6 af/yr</b>	<b>6,990 - 15,500 gpd</b>	<b>8.0 - 17.3 af/yr</b>
<b>WATER SUPPLY</b>				
No. of Wells	4 wells		4-5 wells	
Groundwater	5,800 gpd <sup>(1)</sup>	6.5 af/yr	5,760 - 10,080 gpd	6.5 - 11.3 af/yr
Rainwater Harvest	860 gpd	1.0 af/yr	860 - 1,096 gpd	1.0 - 1.2 af/yr
Reclaimed Wastewater	1,200 gpd	1.3 af/yr	1,200 gpd <sup>(3)</sup>	1.3 af/yr
<b>TOTAL SUPPLY</b>	<b>7,860 gpd</b>	<b>8.8 af/yr</b>	<b>7,820 - 12,376 gpd</b>	<b>8.8 - 13.8 af/yr</b>

IS/MND = Initial Study/Mitigated Negative Declaration    gpd = gallons per day    af/yr = acre-foot per year

<sup>(1)</sup> = Drawdown analysis was done for only 5,760 gpm at 24 hr and 184 days in Balance Hydrologics report  
<sup>(2)</sup> = Residential and Landscape demands not included in MND. Assumed value from Balance Hydrologics report.  
<sup>(3)</sup> = Onsite recycled water value from Balance Hydrologics report used since not included in MND



Letter 1  
Cont'd

1-3

2. Rescission of Authorization of Onsite Wastewater Treatment System (OWTS). The Hydrology Report, cited in the IS/MND in Section X: Hydrology and Water Quality was provided to Zone 7 as a part of an earlier review associated with the approval process for an onsite wastewater treatment system (OWTS) for the proposed project. On September 18, 2019, the OWTS use at the project site was deemed to be an exception to Zone 7 Resolution No. 1165, and authorized under the following conditions:

- a. The total onsite nitrogen loading from the application and/or disposal of the treated wastewater shall conform to the 1 Rural Residential Equivalent/5 acre limitation.
- b. That Alameda County Department of Environmental Health (ACDEH) must also approve the OWTS use and provide oversight during design, construction, operation, and maintenance of the OWTS.
- c. The Applicant obtains a valid Conditional Use Permit from County Planning for the planned cannabis cultivation activities.
- d. No wastewater disposal, other than that from the restroom facilities, shall be allowed without prior approval by the Zone 7 Water Agency.
- e. Zone 7 shall receive copies of periodic permit compliance reports when they are submitted to ACDEH.

Upon review of the IS/MND, the conditions set forth in this exception appear to not be incorporated into the IS/MND and presumably the CUP; therefore, on January 15, 2020, the Zone 7 Board of Directors rescinded their previous approval until such time as it can be demonstrated that the County project approvals will meet these requirements. Before Zone 7 will consider approval of the OWTS again, we seek the County's written agreement to incorporate reasonable conditions of approval (like those that were adopted by the Zone 7 Board of Directors in September 2019) as conditions to be included in the CUP.

1-4

4. Need for Environmental Impact Report. Zone 7 believes that the proposed project may have a significant adverse impact on groundwater resources if the values presented in the IS/MND are used to develop the Conditional Use Permit. Zone 7 believes that these conditions constitute "fair argument" that the proposed project would have a significant adverse impact on groundwater resources that requires the preparation of an EIR. Recognizing this deficiency in the IS/MND, during the January 15, 2020 meeting, the Board of Directors of Zone 7 voted to request the County to prepare a full EIR for this project.

Specifically, the Hydrology Report analyzed the "potential for off-site drawdown impacts" under Section 3.3, page 17. In this analysis, of the four wells tested, only Well #3 had the ability to sustain a constant-rate pump test. The other three wells triggered



Letter 1  
Cont'd

1-4  
Cont'd

↑ pump shut-offs and did not have sufficient yield to maintain constant pumping over a 24-hour period. The 24-hour well yield of Well #3 was estimated at 3.2 gallons per minute. Wells #1, #2, and #4 would need to be intermittently pumped, along with the constant pumping of Well #3, to achieve the estimated overall yield of four (4) gallons per minute. Moreover, the well tests referenced indicated that the pumping would reach neighboring wells after a period of 184 days; it is not plausible that the Applicant will only pump the wells for six months out of the year. This issue – by itself – calls for additional analysis in a comprehensive EIR.

1-5

Furthermore, various chapters of the IS/MND reference different overall pumping rates, up to seven (7) gallons per minute, or almost double the rate analyzed in the Hydrology Report. There is no analysis in the Hydrology Report or elsewhere in the information contained with the IS/MND that analyzes such a pumping rate. Such a rate needs analysis and thorough discussion in a full-blown EIR in order for Zone 7 and the public to be confident that such a pumping rate will not endanger the groundwater basin.

1-6

Finally, the Applicant may be tempted to meet the shortfalls in well production by trucking in water from other sources. The County has, quite properly, barred that type of water transportation in connection with cannabis facilities. Zone 7 strongly supports the County's policy and urges that the Applicant not be able to make up the shortfall in local groundwater supplies by means of trucking.

1-7

5. Groundwater Supply, Quality, and Wells. The project area is situated near the edge of a "fringe" portion of the Livermore Valley Groundwater Basin; as such, the underlying groundwater is subject to the management provisions of the basin's Alternative Groundwater Sustainability Plan (GSP), which was prepared by Zone 7 Water Agency and approved by the State Department of Water Resources in 2019. As the designated Groundwater Sustainability Agency (GSA), Zone 7 strives to maintain sufficient groundwater supplies and good groundwater quality within the groundwater basin. To support these goals, the project needs to be consistent with the Alternative GSP and Zone 7's Sustainable Groundwater Management Ordinance, as well as the State's Water Recycling Policy (and associated orders), and the County's Water Wells Ordinance. Links to many of these documents can be found on Zone 7's website at <https://www.zone7water.com/>.

1-8

Our records indicate there are four water wells in the project area that will need to be protected or decommissioned. The approximate location is shown on the enclosed well map. Zone 7 issued a permit in 2018 for the construction of one of the four wells at the site (2S/2E 17G 4). As a stipulation for the construction of this well, one of the other three wells (2S/2E17G 2) was to be destroyed within 30 days of construction of the new well. In April 2019, Zone 7 informed the applicant that they were out of compliance



with the permit. Applicant stated that they intended to complete a hydrology report that included all wells at the site and requested that the permit requirements be held until the results of the hydrology report were complete. The Balance Hydrologics Report was completed in August 2019.

Zone 7 provided initial comments on the proposed project in the attached letter, dated October 2, 2019. The following elements are required to receive concurrence from Zone 7, as the Groundwater Sustainability Agency, that the project provides sufficient safeguards to groundwater:

- a. Installation of monitoring wells between the wells of the project and the downgradient parcel and/or the nearest off-site well;
- b. Flow-meters on each of the project wells that provide daily totals of the volume extracted;
- c. Monthly reporting of water levels in each of the pumping wells and the monitoring wells to Zone 7;
- d. Notification of Zone 7 if the pumping volumes exceed those analyzed in the Balance Hydrologics Report.

Please immediately notify Zone 7 Water Agency if any other wells exist in the project area. All well locations should be field verified and noted on the plans. If any of the wells are to be decommissioned, a well destruction permit must be obtained from Zone 7 before the work begins. A Zone 7 drilling permit is also needed for any other water well or soil boring work that may be planned for this project. The drilling permit application and fee schedule can be downloaded from the Zone 7 website at <http://www.zone7water.com/permits-a-fees/64-well-drilling-and-destruction-permits>.

6. Development Impact Fee. New development and the expansion of existing development may impose a burden on the existing flood protection and storm drainage infrastructure within the Zone 7 service area. Developments creating new impervious areas within the Livermore-Amador Valley are subject to the assessment of the Development Impact Fee for Flood Protection and Storm Water Drainage. These fees are collected for Zone 7 by the local governing agency: 1) upon approval of final map for public improvements creating new impervious areas; and/or 2) upon issuance of a building or use permit required for site improvements creating new impervious areas. Fees are dependent on whether post-project impervious area conditions are greater than pre-project conditions and/or whether fees have previously been paid. Please refer to Zone 7's Flood Protection & Storm Water Drainage Development Impact Fee Ordinance and additional information at: <http://www.zone7water.com/permits-a-fees>.

1-8  
Cont'd

1-9



**Letter 1  
Cont'd**

1-10

7. Water-wise landscaping. Zone 7 encourages the use of sustainable, climate-appropriate, and drought tolerant plants, trees and grasses that thrive in the Tri-Valley area. Find more information at: <http://www.trivalleywaterwise.com>.

In an effort to ensure that mailed notices and referrals from your agency make their way to the appropriate staff at Zone 7 in a timely manner, we are requesting that your databases / mailing lists are updated to reflect the following points of contact, specifically for routine development referrals and for CEQA / environmental reviews.

1-11

<b>For CEQA / environmental review:</b>	<b>For development review / referral:</b>
Zone 7 Water Agency <b>Attn: CEQA Review / Elke Rank</b> 100 North Canyons Parkway Livermore, CA 94551 <a href="mailto:ceqa@zone7water.com">ceqa@zone7water.com</a>	Zone 7 Water Agency <b>Attn: Dev Referral / Steven Ellis</b> 100 North Canyons Parkway Livermore, CA 94551 <a href="mailto:reviewers@zone7water.com">reviewers@zone7water.com</a>
Staff contact: Elke Rank, <a href="mailto:erank@zone7water.com">erank@zone7water.com</a>	Staff contact: Steven Ellis, <a href="mailto:sellis@zone7water.com">sellis@zone7water.com</a>

We appreciate the opportunity to comment on this project. If you have any questions on this letter, please feel free to contact me at (925) 454-5005 or via email at [erank@zone7water.com](mailto:erank@zone7water.com).

Sincerely,



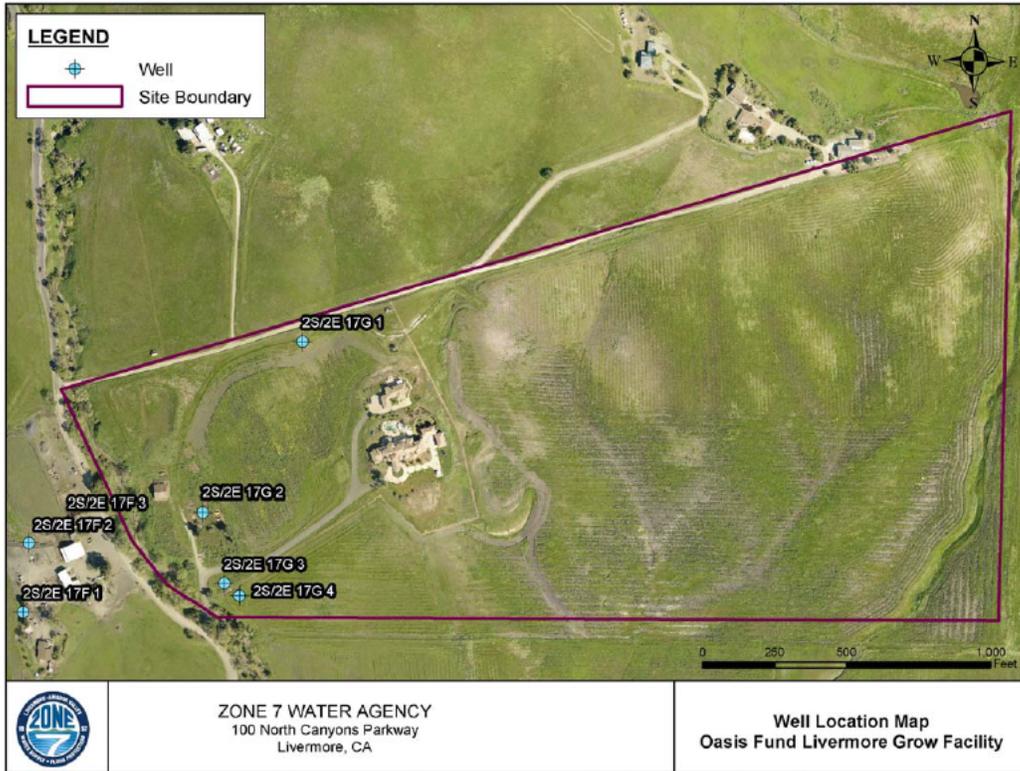
Elke Rank

cc: Carol Mahoney, Amparo Flores, file



1-12

Well Locations at 7058 Morgan Territory Road (Date Run: January 2020)



Well ID	2S/2E 17G 2	2S/2E 17G 1	2S/2E 17G 3	2S/2E 17G 4
City	Livermore	Livermore	Livermore	Livermore
Status	abandoned	active	active	active
Status Note	Destruction pending	<Null>	<Null>	<Null>
Longitude	-121.779621	-121.777061	-121.779058	-121.778837
Latitude	37.761768	37.762203	37.760113	37.760012
Parcel	903 0007 001 01	903 0007 001 01	903 0007 001 01	903 0007 001 01
Completed	4/26/2002	3/14/2001	7/24/2002	8/3/2018
Permit ID	22053	21044	22086	2018091
Driller	DEJESUS PUMP & WELL	YOSEMITE FALLS	DEJESUS PUMP & WELL	PACIFIC COAST
Category	well-supply	well-supply	well-supply	well-supply
Subcategory	domestic	domestic	domestic	irrigation



## LETTER 1: ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT – ZONE 7, ELKE RANK

### Response to Comment 1-1

The comment is an introductory statement. Specific issues raised by the commenter are addressed in the responses below.

### Response to Comment 1-2

The water demand and wastewater generation estimates presented on pages 56 and 57 of Section X, Hydrology and Water Quality, of the IS/MND are consistent with the Conceptual Water-Supply and Wastewater Plan (Hydrology Report) prepared for the proposed project by Balance Hydrologics, Inc in August of 2019 (revised July 21, 2020). The total demands presented by the commenter in the Water Supply Review table of 6,800 gpd and 6,900 to 15,000 are both inaccurate estimations. The revisions made below have been included to specifically address the comments related water demand associated with rain harvesting, and wastewater generation estimates. Such estimates represent the anticipated demands of the proposed project. It should be noted that per Table 1 of the Hydrology Report, the proposed project would result in a total monthly water demand of 6,200 gallons per day (gpd), or 6.94 acre-feet per year (afy), which is a slight reduction from the total demands presented in the Water Supply Review table provided by the commenter from page 12 and 79 of the IS/MND. In addition, the total number of employees that would be staffed on-site has been updated to 23, which is a slight reduction from the previously anticipated 30 employees.

The project description will be revised at Page 11 of the IS/MND as follows to correct the inconsistency noted by the commenter.

#### Staffing

The proposed project's cannabis cultivation facility is anticipated to employ ~~20 to 30~~approximately 23 employees; however, not all of the employees would be on-site concurrently. Employees would only be present during the proposed hours of operation which would be from 8:00 AM to 6:00 PM, daily.

In addition, the project description will be revised at page 12 of the IS/MND as follows to correct the inconsistency noted by the commenter:

The proposed project would install and utilize a wet-wall system. A wet-wall system creates an air inlet into the greenhouse which draws air in such volumes that due to the air speed through the wet-wall, the water is picked up and evaporated in the greenhouse to provide cooling. Systems are installed with fans at one end of the building, and the wet-wall at the other. Water usage for the cooling system would be ~~up to 10,000~~approximately 1,750 gallons per day (gpd) or ~~1,000,000~~0.64 million gallons per year (gpy).<sup>3</sup>

<sup>3</sup> Balance Hydrologics, Inc. *Conceptual Water-Supply and Wastewater Plan, Oasis Venture Livermore Grow Facility, Alameda County, CA, August 2019 (rev. 7-21-20).*



## Utilities

The following is a discussion of the proposed utility sources associated with the proposed project.

### Water-Supply

Water for the proposed project would be supplied by four existing on-site wells. Cumulatively, the four wells would produce ~~seven~~four gallons of water per minute. ~~The new~~ Two of the existing wells would be situated located to the ~~east~~south of the driveway, ~~while two of the wells are located north of the driveway and south of the proposed leach field.~~ Each well would provide water connections to the overall water system. Additionally, the proposed project would include rain harvesting facilities ~~which would be expected to harvest 400,000 gpy.~~ The water from the existing wells and rain harvesting facilities would be routed to a new 500,000-gallon storage tank reservoir, to be located at the south side of the proposed greenhouse and processing building. Water in the water storage tank would be routed to a proposed reverse osmosis (RO) treatment system for project uses. Return water from cannabis irrigation and project grey water would be reclaimed on-site by the reclamation system. It should be noted that the proposed project would not combine any water from the rainwater harvesting facilities with the existing potable water supply for the on-site residences. The potable water supply for the existing residences would be kept separate from the proposed project water-supply system.

As discussed in the Conceptual Water-Supply and Wastewater Plan (Balance Hydrologics, 2019 [revised July 21, 2020]), the total anticipated water demand, including the on-site residences, is approximately 6,200 gpd. The rain harvesting system would be expected to supply approximately 860 gpd and the existing groundwater wells would supply approximately 5,800 gpd, for a total of 6,660 gpd. Refer to the Conceptual Water-Supply and Wastewater Plan (Balance Hydrologics, 2019 [revised July 21, 2020]) for project water demand and supply estimates. The proposed project is anticipated to use 2,800 gpd of water for cannabis irrigation, as well as up to 10,000 gpd for a cooling system and approximately 1,000 gpd for sanitary and processing uses. The proposed project would include a 500,000-gallon storage tank reservoir.

In addition, previous estimates of well yield appearing in earlier documents, including the referenced seven gallons per minute (gpm) in the IS/MND, were at best based on the driller's "air-lift" estimate following completion of the well or brief pumping following pump installation, and are largely regarded as a gross estimate of yield. These preliminary estimates of well yield are superseded by the results presented in the Conceptual Water-Supply and Wastewater Plan. As such, page 79 of the IS/MND is hereby revised to update the estimated production levels of the wells and to be consistent with the Hydrology Report. The IS/MND is updated as follows:

### Water

The proposed project includes use of four existing wells, which would provide water to the project site. ~~Construction of the wells would adhere to Chapter 6.88 of the County Code of Ordinances.~~ Based on the latest flow tests performed on the project site, the wells would produce water at ~~seven~~four gpm. Additionally, the project site would harvest rain water through underground vaults which would connect to the water system. Rain harvesting would be anticipated to harvest 314,000 gallons per year (gpy). Water storage would be



provided by a 500,000-gallon storage reservoir. From the water storage tank, the water would be routed to the proposed RO treatment system. In addition, water for cannabis irrigation would undergo RO treatment. Following treatment, the water once used for cannabis irrigation would be blended with a portion of the already reclaimed water from the reclamation system. It should be noted that the proposed project would not combine any of the rainwater that falls on the site with the existing potable water supply for the on-site residences. The potable water supply for the existing residences would be kept separate from the project water and the new water storage tank.

According to the Conceptual Water-Supply and Wastewater Plan, the anticipated water demand for the project is approximately 3,000 gpd for pre-irrigation RO treatment, 1,750 gpd for a cooling system, 550 gpd for sanitary uses, 700 gpd for the existing on-site residences, and 200 gpd for landscaping uses, for a total demand of 6,200 gpd.<sup>4</sup> The rain harvesting system would be expected to supply approximately 860 gpd and the existing groundwater wells would supply approximately 5,800 gpd, for a total of 6,660 gpd. As such, the project site would be expected to generate and store enough water to supply the 2,8006,200 gallons per day necessary for the proposed project cannabis irrigation, as well as other associated uses, including cooling systems, sanitary use, fire emergencies, and processing and cleaning operations.

The above revisions are to ensure consistency between the IS/MND and the Hydrology Report prepared for the proposed project by Balance Hydrologics, Inc. and will be incorporated into the recirculated IS/MND.

### **Response to Comment 1-3**

The conditions identified by the commenter will be required by the County as Conditions of Approval on the Conditional Use Permit prior to approval of the proposed project. However, inclusion of such conditions in the IS/MND is not required per the CEQA Guidelines. Thus, the comment does not address the adequacy of the IS/MND.

### **Response to Comment 1-4**

According to the Hydrology Report, Balance Hydrologics conducted a 24-hour constant-rate pumping and recovery test at each of the four project wells, which is a Federal and State agency accepted standard of practice for assessing the yield of a water well.<sup>5</sup> Results of the tests are presented in the August 23, 2019 Hydrology Report. These results are the most reliable estimates of yield for the project wells to date. Previous estimates of well yield appearing in earlier documents, including the referenced seven gallons per minute (gpm) in the IS/MND as noted in Response to Comment 1-2, were at best based on the driller's "air-lift" estimate following completion of the well or brief pumping following pump installation, and are largely regarded as a gross estimate of yield. These preliminary estimates of well yield are superseded by the results presented in the Conceptual Water-Supply and Wastewater Plan. As such, revisions to the Project Description and Utilities and Services Sections of the IS/MND were made as shown under Response to Comment 1-2.

<sup>4</sup> Balance Hydrologics, Inc. *Conceptual Water-Supply and Wastewater Plan, Oasis Venture Livermore Grow Facility Alameda County, CA.* August 2019 (rev. 7-21-20).

<sup>5</sup> Balance Hydrologics, Inc. *Subject: Response Comments on CUP-MND for Oasis Fund Livermore Grow Facility Project.* June 10, 2020.



Pumps for wells are sized based on various factors including well yield, well diameter, depth to water, friction losses, above ground head pressure, and cost. Independent of Balance's well-yield testing, the wells were previously setup each with a submersible pump (the make and model unknown). The pumps installed in Wells #1, #2, and #4 were incorrectly sized too large for the test and could not be throttled down low enough to maintain a constant rate for 24 hours, which is the primary reason for originally estimating a well yield of seven gpm rather than four gpm. The pump saver thus triggered short-term pump shut-offs during the test. Nevertheless, according to Balance Hydrologics, Inc., the estimates of 24-hour yield for each of the wells are credible.<sup>6</sup> The Hydrology Report estimated the radius of influence of the proposed wells based on a maximum daily demand of four gpm sustained for 24 hours and an average dry-season demand of four gpm for 184 days. The analysis for both cases did not indicate drawdown effects at the nearest neighbor's well. Overall, the four wells on the project site would supply sufficient water for operations and maintenance of the project without decreasing groundwater supplies or interfering with groundwater recharge. The rain water harvesting and reclamation system would reduce water use directly from the wells.

In addition to providing an estimate of well yield, the results of a constant-rate pumping and recovery test provide estimates of aquifer characteristics (parameters) which can be used to refine estimates of well capture area and potential drawdown impacts. It is an acceptable practice as a first-level assessment of impacts to use the assessed aquifer characteristics to extrapolate drawdown through the dry season when there is effectively no recharge from rain, after which drawdown would be limited by the effects of recharge during the wet season. The analysis of 184 days of pumping at 4 gallons per minute represents a maximum dry-season impact (May through October) for the average demand of the proposed project. The Technical Memorandum concludes that careful management of the wells is required and that the long-term viability of pumping the wells would be best evaluated with use across a cycle of years of major recharge and of drought years.

Other independent lines of reasoning were integrated in the Hydrology Report, including an analysis of groundwater recharge, water quality, geologic framework, and soils, in addition to the drawdown calculations. As discussed in Response to Comment 1-2, results of these analyses supersede previously reported values including the values reported in the IS/MND and are generally taken in whole to develop a Monitoring and Action Plan. However, the water demand and wastewater generation estimates presented in Section X, Hydrology and Water Quality, of the IS/MND are consistent with the Hydrology Report prepared for the proposed project by Balance Hydrologics, Inc. Nonetheless, revisions have been made to the Project Description, Section IX, Hydrology and Water Quality, and Section XIX, Utilities and Service Systems of the IS/MND to ensure consistency with Table 1 of the Hydrology Report and will be incorporated into the recirculated IS/MND.

As noted in Response to Comment 1-2, the water demands and wastewater generation estimates presented on page 56 and 57 of Section X of the IS/MND are consistent with the estimates presented in Table 1 of the Hydrology Report. In addition, the data and analysis presented in the IS/MND relied on assumptions that are standard in the cannabis industry. For example, as discussed on Page 56 of the IS/MND, the proposed project would adhere to all State and local requirements regarding waste discharge requirements. Specifically, all commercial cannabis cultivators must enroll and obtain coverage under the Cannabis General Order Waste Discharge

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<sup>6</sup> Balance Hydrologics, Inc. Subject: Response Comments on CUP-MND for Oasis Fund Livermore Grow Facility Project. June 10, 2020.



Requirements (WDR) program, as well as obtain verification of the project water source by the SWRCB. The proposed project would include construction of a berm that would wrap around the northern, western, and eastern boundaries of the greenhouse. The berm would serve to route runoff that originates upslope around the outside of the project site, into the existing ditch and eventually into Cayetano Creek. Thus, the analysis presented within Section X of the IS/MND remains valid and the proposed project does not require preparation of an EIR.

As noted on page 56 of the IS/MND and Table 1 of the Hydrology Report, the four existing on-site wells are capable of producing a total of four gpm, or an average of 5,800 gpd.<sup>7</sup> As demonstrated in Table 1 of the Hydrology Report, such average demands account for periods of reduced pumping during certain months. In addition, the proposed rain harvesting system would provide an average of 860 gpd, resulting in a total water supply of 6,660 gpd. The proposed project, combined with the existing residences, would result in a total water demand of 6,200 gpd; thus, sufficient water supplies would be available. It should be noted that the proposed project would not combine any of the rainwater that falls on the site with the existing potable water supply for the on-site residences. The potable water supply for the existing residences would be kept separate from the project water and the new water storage tank.

Furthermore, as stated on page 57 of the IS/MND, based on the Hydrology Report, the groundwater recharge on the project site would be sufficient to replenish the anticipated use on the site. The Hydrology Report concluded that the groundwater pumping associated with proposed project would not substantially interfere with any nearby existing wells.

The County has determined that adequate evidence exists and is included in the Recirculated IS/MND to support the conclusion that all potential impacts of the proposed project have been reduced to a less-than-significant level. Therefore, the preparation of an EIR for the proposed project is not warranted.

### **Response to Comment 1-5**

See Response to Comment 1-2 and 1-4, above.

### **Response to Comment 1-6**

See Response to Comment 1-4. As discussed in the IS/MND, sufficient water supplies would be available to meet the project's anticipated demands. Thus, import of water by means of trucking would not be required.

### **Response to Comment 1-7**

The project as proposed would be consistent with the Alternative Groundwater Sustainability Plan (GSP). As discussed on page 57 of the IS/MND, the Hydrology Report estimated the radius of influence of the proposed wells based on a maximum daily demand of four gpm sustained for 24 hours and an average dry-season demand of four gpm for 184 days. Overall, the four wells on the project site would supply sufficient water for operations and maintenance of the project without decreasing groundwater supplies or interfering with groundwater recharge. Additionally, the groundwater recharge on the project site would be sufficient to replenish the use on the site. The Hydrology Report also determined that the wells would not impact the groundwater table or nearby wells in the vicinity of the project site. Furthermore, any new impervious surfaces

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<sup>7</sup> Balance Hydrologics, Inc. *Conceptual Water-Supply and Wastewater Plan, Oasis Venture Livermore Grow Facility, Alameda County, CA* [Page 8]. August 2019 (rev. 7-21-20).



associated with the proposed project would not interfere substantially with groundwater recharge within the Livermore Valley Groundwater Basin. The stormwater facilities would allow stormwater to infiltrate on-site soils and potentially contribute to groundwater recharge within the landscaped areas. Stormwater that does not infiltrate soils would be directed from the bioretention area in to the existing ditch and eventually discharged into Cayetano Creek, which also contributes to groundwater recharge in the area. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that a net deficit in aquifer volume or lowering of the local groundwater table level would occur. Thus, because the Hydrology Report has concluded that the proposed project would not substantially deplete groundwater supplies or interfere with groundwater recharge within the Livermore Valley Groundwater Basin, the project would not conflict with the Alternative GSP.

In addition, as discussed on page 57 of the IS/MND, the proposed project would be required to adhere to the “Water Wells Ordinance” in the County Code of Ordinances. Furthermore, the proposed project would incorporate the County’s Community Climate Action Plan which includes Water Conservation Strategy 3 that encourages water reuse and recycling. Thus, the proposed project would not conflict with Zone 7’s Sustainable Groundwater Management Ordinance, the State’s Water Recycling Policy, or the County’s Water Wells Ordinance.

### **Response to Comment 1-8**

Prior to Balance’s August 23, 2019 Hydrology Report, very little information useful for planning was available for the four project wells on site. The four wells tested and reported in the Hydrology Report were the only wells found on the project property. The Hydrology Report used 24-hour pumping and recovery tests to predict seasonal drawdown and concluded that “If carefully managed, the four existing water wells would be suited to contribute sustainably as a groundwater source to the Project. The long-term viability of pumping the wells for the Project would be best evaluated with use across a cycle of years of major recharge and of drought years – for example, from years of peak recharge, through drought years, and then completing the cycle with a return to a peak recharge.” This conclusion requires a monitoring and action plan for implementation in order to comply with Chapter 6.88, Water Wells, of the County Code of Ordinances. Based on such, Mitigation Measure IX-1 has been revised to require the water levels of the water supply wells and monitoring wells be submitted to the Zone 7 Water Agency every month. In addition, the Zone 7 Water Agency shall be notified if the pumping volumes in the on-site wells exceed the volumes evaluated in the Hydrology Report.

Zone 7 provided comments on the Hydrology Report in an October 2, 2019 letter to Ms. Sonia Urzua, Alameda County Planning Department. Zone 7 believes that the Hydrology Report “made a reasonable case for the project’s anticipated groundwater impact to be less than significant with “careful management” of the four existing supply wells”, but recommended that “measurable objectives (operating ranges) and minimal thresholds should be set for water levels measured in a monitoring well, and an action plan should be developed for the case of the groundwater level dropping below the minimum threshold.” Details are identified in the letter. The recirculated IS/MND will require implementation of the recommendations laid out in Zone 7’s October 2, 2019 comment letter. As called for in the letter, Zone 7 will therefore “cancel the outstanding well permit requirement for Oasis Venture to destroy (seal) one existing onsite well.”

In response to the commenter’s concerns, pages 57 and 58 of the IS/MND is hereby revised as follows:



It should be noted that per Zone 7 Water Agency requirements, the proposed project would be required to include installation of monitoring wells between the existing on-site wells and the downgradient parcel and/or the nearest off-site well. The proposed project would be required to adhere to the “Water Wells Ordinance” in the County Code of Ordinances, as well as to standards for construction of water wells as set forth in Chapter II of the Department of Water Resources Bulletin No. 74-81, “Water Well Standards: State of California.” Any new monitoring wells must be permitted by Zone 7 before commencement of work.

Overall, the four wells on the project site would supply sufficient water for operations and maintenance of the project without decreasing groundwater supplies or interfering with groundwater recharge. The rain water harvesting and reclamation system would reduce water use directly from the wells. Additionally, based on the Conceptual Water-Supply and Wastewater Plan, the groundwater recharge on the project site would be sufficient to replenish the use on the site. The Plan also determined that the wells would not impact the groundwater table or nearby wells in the vicinity of the project site. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that a net deficit in aquifer volume or lowering of the local groundwater table level would occur. Because the proposed project would include development of a new monitoring wells, the proper permitting would be required by the Zone 7 Water Agency. Thus, with mitigation requiring permitting, the project would result in a *less-than-significant* impact.

#### Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

*IX-1      Prior to Building permit issuance, final project improvement plans shall demonstrate that the project will include installation of monitoring wells between the existing on-site wells and the downgradient parcel and/or the nearest off-site well. Consistent with the requirements of the Zone 7 Water Agency, each of the project water supply wells shall include flow meters that provide daily totals of the volume extracted. Monthly reports of the water levels in each of the pumping wells, as well as the monitoring wells, shall be submitted to the Zone 7 Water Agency. The project operator shall notify the Zone 7 Water Agency if the pumping volumes in the on-site wells exceed the volumes evaluated in the Conceptual Water-Supply and Wastewater Plan prepared for the proposed project by Balance Hydrologics, Inc. (2019).*

*~~Prior to commencement of construction of any new monitoring wells, the applicant shall apply for and receive a permit as provided in Section 6.88.045 of the County Code of Ordinances, giving permission to proceed. The applicant shall complete a written application and provide all applicable fees at the time of submittal, to be reviewed by the Board of Supervisors of Zone 7 Water Agency.~~*

*~~The permittee shall begin the work authorized by a permit issued pursuant to Chapter 6.88 of the County Code of Ordinances within 90 days from the~~*



~~date of issuance unless stated otherwise in the permit. The permittee shall notify the administering agency five working days in advance of beginning the permitted work of the date of said beginning work. A permit shall be valid for a term of one year from date of issuance. All construction, reconstruction, or destruction work on wells shall be performed by a person who possesses an active C 57 Water Well Drilling Contractor's License.~~

### **Response to Comment 1-9**

In response to the commenter's concerns, page 79 of the IS/MND is hereby revised as follows:

#### Stormwater

The proposed project includes stormwater improvements to the existing project area, including construction of an underground vault for rain harvesting, as well as construction of a new bioretention. The bioretention area would be properly sized to treat and mitigate the flow volumes for water quality, hydromodification, and flood control requirements. Outflow from the bioretention area would be routed into the drainage ditch along the driveway through a flow spreader in order to join the off-site flows and discharge in to Cayetano Creek, and, thus, would not involve expansion of the County's existing stormwater drainage facilities. Furthermore, the proposed project would be subject to required payment of the Development Impact Fee for Flood Protection and Storm Water Drainage, which is collected by the Zone 7 Water Agency.

### **Response to Comment 1-10**

Page 7 of the IS/MND states the following regarding landscaping:

New landscaping would be installed around the project perimeter of the site to provide aesthetic enhancements to the project and to provide visual screening of the facilities. The landscape screening elements are meant to blend into the natural hillside using endemic oaks from the surrounding hillsides. Native blue oak clusters are mixed with native live oaks along with other California native and drought tolerant plants. The landscaping would be water conscious and are considered low water use. Additionally, the proposed landscaping ~~conforms~~ will conform to the County's Water Efficiency Landscape Ordinance (WELO) and the Trivalley Waterwise program.

### **Response to Comment 1-11**

The comment does not address the adequacy of the IS/MND.

### **Response to Comment 1-12**

The comment does not address the adequacy of the IS/MND.



Letter 2

Urzua, Sonia, CDA

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**From:** Katen, Matt <matt@zone7water.com>  
**Sent:** Tuesday, December 31, 2019 11:36 AM  
**To:** Urzua, Sonia, CDA  
**Cc:** Mahoney, Carol; Lopez, Albert, CDA  
**Subject:** RE: PLN 2018-00258 Oasis Cultivation CUP

**Categories:** Green Category

2-1

Sonia,  
It looks like none of the recommendations I sent you in my review of the water supply report was used in the IS/MND. And the information about Zone 7's Urban Water Management plan and groundwater management is being used out of context in Section X-Hydrology and Water Quality. And the whole Balance Hydrologics water supply report is missing from the attachments. What happened?

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**From:** Urzua, Sonia, CDA [mailto:sonia.urzua@acgov.org]  
**Sent:** Friday, December 27, 2019 5:15 PM  
**To:** Roe, Dilan, Env. Health; Katen, Matt; Rogers, John; Terra, Bonnie, ACFD; Tam, Alan, PWA; Nusinovich, Yan@Waterboards  
**Subject:** PLN 2018-00258 Oasis Cultivation CUP

Hello.  
Attached please find the Notice of Intent and the Notice of Availability of the Mitigated Negative Declaration for the proposed Oasis Cannabis Cultivation CUP application. The document is available for review online here: <http://www.acgov.org/cda/planning/landuseprojects/currentprojects.htm> If you need a hard copy, please let me know and I can have one sent to you.

Regards,

Sonia Urzua, AICP  
Senior Planner  
Alameda County Planning Department

**\*\* This email was sent from an external source. If you do not know the sender, do not click on links or attachments. \*\***



**LETTER 2: ALAMEDA COUNTY FLOOD CONTROL AND WATER  
CONSERVATION DISTRICT - ZONE 7, MATT KATEN**

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**Response to Comment 2-1**

In response to the commenter's concerns, page 56 of the IS/MND is hereby revised as follows:

Water supplies to the project site are serviced by Zone 7 of the Alameda County Flood Control and Water Conservation District, known as the Zone 7 Water Agency (Zone 7). Water resources for Zone 7 include surface water and groundwater. Groundwater is supplied primarily by the Livermore Valley Groundwater Basin. ~~Per the Agency's 2015 Urban Water Management Plan (UWMP), groundwater levels are routinely monitored within the Basin. Zone 7 groundwater recharge supplies 3,900 acre feet of raw water to customers and retailers. The UWMP expects groundwater recharge and artificial recharge to meet the projected demands through 2035.~~

The foregoing revision does not affect the conclusions presented in Section X, Hydrology and Water Quality, of the IS/MND.

As noted on page 3 of the IS/MND, the Hydrology Report prepared for the proposed project is available upon request at the Alameda County Community Development Agency, located at 224 West Winton Avenue Suite 111, Hayward, CA 94544.

See also Responses to Comments 1-2 through 1-9.



Letter 3

Urzua, Sonia, CDA

**From:** Mahoney, Carol <carol@zone7water.com>  
**Sent:** Wednesday, January 15, 2020 2:30 PM  
**To:** Urzua, Sonia, CDA; Lopez, Albert, CDA  
**Cc:** Katen, Matt, Zone 7  
**Subject:** Zone 7 Agenda Item  
  
**Categories:** Green Category

Albert/Sonia,

I just wanted you to be aware that the Zone 7 Board will be receiving an update on information tonight on the Oasis Ventures OWTS permit that they approved back in September. There has been quite a bit of public interest. We are reminding the Board of the approval requirements that they approved back in September and also giving them a preview of our comments on the MND – which largely center on consistency with what the Board approved and was presented in the Hydrometrics report. The link below should take you directly to the item.

<https://zone7.docsonthecloud.com/WebLink/DocView.aspx?id=14395&dbid=0&repo=Zone7>

3-1

We also provided a general update on cannabis regulations and BOS approved modifications to the ordinance as a written staff report, but we don't anticipate any discussion on this item. You can find that here:

<https://zone7.docsonthecloud.com/WebLink/DocView.aspx?id=14403&dbid=0&repo=Zone7>

You can view our meeting live, on-line at <http://www.tri-valleytv.org/>. I think our meeting will be on TV29 tonight at 7:00. Otherwise, it might be TV30, but the links are all there I just don't know which link is streaming the meeting yet.

Carol

Carol Mahoney  
Manager of Integrated Water Resources  
Zone 7 Water Agency  
100 N. Canyons Pkwy  
Livermore, Ca 94551  
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**LETTER 3: ALAMEDA COUNTY FLOOD CONTROL AND WATER  
CONSERVATION DISTRICT - ZONE 7, CAROL MAHONEY**

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**Response to Comment 3-1**

See Responses to Comments 1-2 through 1-9.



Letter 4



January 16, 2020

Rodrigo Orduña, Assistant Planning Director  
Alameda County Planning Department  
224 West Winton Avenue, Suite 111  
Hayward, CA 94544

**Subject:** Initial Study/Mitigated Negative Declaration (SCH#2019129080) for Oasis Fund Livermore Grow Facility Project

Dear Mr. Orduña:

Thank you for providing the California Department of Food and Agriculture (CDFA) CalCannabis Cultivation Licensing Division (CalCannabis) the opportunity to comment on the Initial Study/Mitigated Negative Declaration (IS/MND) (SCH#2019119059) prepared by the County of Alameda for the proposed Oasis Fund Livermore Grow Facility Project (Proposed Project).

4-1

CDFA has jurisdiction over the issuance of licenses to cultivate, propagate and process commercial cannabis in California. CDFA issues licenses to outdoor, indoor, and mixed-light cannabis cultivators, cannabis nurseries and cannabis processor facilities, where the local jurisdiction authorizes these activities. (Bus. & Prof. Code, §26012(a)(2).) All commercial cannabis cultivation within California requires a cultivation license from CDFA. For a complete list of all license requirements, including CalCannabis Licensing Program regulations, please visit: [https://static.cdfa.ca.gov/MCCP/document/CDFA%20Final%20Regulation%20Text\\_01162019\\_Clean.pdf](https://static.cdfa.ca.gov/MCCP/document/CDFA%20Final%20Regulation%20Text_01162019_Clean.pdf).

4-2

CDFA expects to be a Responsible Agency for this project because the project will need to obtain an annual cultivation license from CDFA. In order to ensure that the IS/MND is sufficient for CDFA's needs at that time, CDFA requests that a copy of the IS/MND, revised to respond to the comments provided in this letter, and a signed Notice of Determination be provided to the applicant, so the applicant can include them with the application package it submits to CDFA. This should apply not only to this Proposed Project, but to all future CEQA documents related to cannabis cultivation applications in the County of Alameda.

CDFA offers the following comments concerning the IS/MND.

CalCannabis Cultivation Licensing Division • 1220 N Street, Suite 400 • Sacramento, CA 95814  
Phone: 1.833.225.4769 • Web: [calcannabis.cdfa.ca.gov](http://calcannabis.cdfa.ca.gov) • Email: [calcannabislicensing@cdfa.ca.gov](mailto:calcannabislicensing@cdfa.ca.gov)

State of California  
Gavin Newsom, Governor



**General Comment (GC)**

**GC 1: Acknowledgement of CDFA Regulations**

The IS/MND acknowledges that CDFA is responsible for the licensing of cannabis cultivation and is responsible for the regulation of cannabis cultivation and enforcement, as defined in the Medicinal and Adult Use Cannabis Regulation and Safety Act (MAUCRSA) and CDFA regulations related to cannabis cultivation (Bus. & Prof. Code, § 26103(a)). The IS/MND's analysis would also benefit from discussion of the protections for environmental resources provided by CDFA's regulations (Cal. Code Regs. tit.3, § 8000 et seq.). In particular, the impact analysis would be further supported by a discussion of the effects of state regulations on reducing the severity of impacts on the following resource topics:

4-3

- Aesthetics (See 3 California Code of Regulations § 8304(c); § 8304(g).)
- Air Quality and Greenhouse Gas Emissions (See § 8102(s); § 8304(e); § 8305; § 8306.)
- Biological Resources (See § 8102(w); § 8102(dd); § 8216; § 8304(a-c); § 8304(g).)
- Cultural Resources (See § 8304(d).)
- Hazards and Hazardous Materials (See § 8102(q); § 8106(a)(3); § 8304(f); § 8307.)
- Hydrology and Water Quality (See § 8102(p); § 8102(v); § 8102(w); § 8102(dd); § 8107(b); § 8216; § 8304(a and b); § 8307.)
- Noise (See § 8304(e); § 8306.)
- Utilities and Service Systems (See § 8102(s); § 8108; § 8308.)
- Energy (See § 8102(s); § 8305; § 8306.)
- Cumulative Impacts (related to the above topics).

**Specific Comments and Recommendations**

In addition to the general comment provide above, CDFA provides the following specific comments regarding the analysis in the IS/MND.



**Letter 4  
Cont'd**

	<b>Comment No.</b>	<b>Page No(s).</b>	<b>Resource Topic</b>	<b>IS/MND Text</b>	<b>CDFA Comments and Recommendations</b>
<b>4-4</b>	1	2	Background	Required Approvals from Other Public Agencies	The IS/MND would be more informative if it listed all agencies requiring approval of the Proposed Project, including CDFW, the San Francisco Bay RWQCB, the State Water Resources Control Board (SWRCB), the County Public Works Agency, and the Zone 7 Water Agency, as applicable. The IS/MND would also be more informative if the permit or approval required from each agency was listed.
<b>4-5</b>	2	10	Project Description	Figure 3 Project Site Plan	The quality of Figure 3 is such that details cannot be discerned. Figure 3 appears to delineate various aspects of the site using a numeric system; however, numerals are difficult to discern and a legend has not been provided. The IS/MND could be more informative if it included a site plan that clearly indicates existing structures to be used for cannabis cultivation, as well as a proposed site layout that indicates the footprint of all proposed new structures.
<b>4-6</b>	3	12	Project Description	Water for the proposed project would be supplied by four existing on-site wells. Cumulatively, the four wells would produce seven gallons of water	There is some contradiction in the text regarding whether the Proposed Project will utilize only existing groundwater supply wells or whether new additional wells will be constructed. The IS/MND would be improved if it provided



**Letter 4  
Cont'd**

4-6  
Cont'd

Comment No.	Page No(s).	Resource Topic	IS/MND Text	CDFA Comments and Recommendations
			per minute. The new wells would be situated to the east of the driveway and south of the proposed leach field.	<p>clarification as to whether water for the Proposed Project will be provided only by the four existing wells described, or whether additional new wells will be constructed and used to supply water for Proposed Project operations.</p> <p>If new wells will be constructed, CDFA requests that the IS/MND include information about whether the water study considered pumping estimates projected for new well(s) at new well location(s), and/or how potentially significant impacts would be reduced at these locations. If this detail is included in a separate source, such as the Conceptual Water Study and Wastewater Plan prepared for the Proposed Project, that document may be attached to the IS/MND for reference.</p>
4	13	Project Description	<p>The proposed project would require the following discretionary actions by Alameda County:</p> <ul style="list-style-type: none"> <li>• Adoption of the IS/MND;</li> <li>• Approval of a Mitigation Monitoring and Reporting Program;</li> </ul>	<p>The IS/MND indicates that Alameda County would need to make a discretionary approval of a CalCannabis permit in order to approve the Proposed Project. CalCannabis will not issue a state cultivation license if cultivation activity is not permitted by the local jurisdiction. (See <i>generally</i> Bus. &amp; Prof. Code § 26055.) Therefore, CalCannabis typically will not</p>

4-7



**Letter 4  
Cont'd**

**4-7  
Cont'd**

<b>Comment No.</b>	<b>Page No(s).</b>	<b>Resource Topic</b>	<b>IS/MND Text</b>	<b>CDFA Comments and Recommendations</b>
			<ul style="list-style-type: none"> <li>• Approval of a CalCannabis Permit; and</li> <li>• Approval of a Conditional Use Permit.</li> </ul>	issue a state license until the local approval process is complete. CDFA recommends the County complete its approval process and provide applicants evidence of the County's authorization prior to state licensure so that applicants may submit County authorization to CalCannabis as part of their annual license application.
5	18	Aesthetics	N/A (General Resource Comment)	The IS/MND would be improved if it referenced CDFA's requirements that lights used in mixed-light cultivation activities must be fully shielded from sunset to sunrise to avoid nighttime glare and that all outdoor lighting used for security purposes shall be shielded and downward facing (Cal. Code Regs., tit. 3 §§ 8304(c) and (g)).
6	22	Air Quality	Operation of the proposed project would include installation of two emergency generators within the project site.	The document would be improved if it provided a citation to CDFA's regulatory requirements for generator use and an analysis of whether the Proposed Project would be in compliance with those regulations. (See Cal. Code Regs., tit. 3, § 8306.)

**4-8**

**4-9**



**Letter 4  
Cont'd**

	<b>Comment No.</b>	<b>Page No(s).</b>	<b>Resource Topic</b>	<b>IS/MND Text</b>	<b>CDFA Comments and Recommendations</b>
<b>4-10</b>	7	56	Hydrology and Water Quality	Water storage would be provided by a 500,000-gallon storage reservoir.	The document would be improved if it provided additional detail regarding the water storage reservoir. Specifically, the document could describe whether the reservoir is existing or whether it will be constructed at the project site. If the reservoir will be newly installed or constructed, the document should describe its dimensions, composition, and installation or construction process.
<b>4-11</b>	8	76	Tribal Cultural Resources	N/A (General Resource Comment)	The IS/MND would be more informative by providing details pertaining to tribal consultations that have occurred for the Proposed Project, as required by Assembly Bill 52. While a list of tribes contacted is provided on page 3 of the IS/MND, the document could also include the dates the tribes were contacted, any responses received, and a summary of any consultations requested and held.
<b>4-12</b>	9	82	Mandatory Findings of Significance	N/A (General Resource Comment)	The IS/MND could be more informative if it identified whether any other cannabis growing operations exist or have been proposed in the vicinity of the Proposed Project, and whether the Proposed Project could make a considerable contribution to any cumulative impacts from these other
	<b>Comment No.</b>	<b>Page No(s).</b>	<b>Resource Topic</b>	<b>IS/MND Text</b>	<b>CDFA Comments and Recommendations</b>
					projects. Specifically, the IS/MND might address potential cumulative impacts related to groundwater supplies, groundwater recharge, and sustainable groundwater management from permit issuance to multiple cannabis cultivation projects projected for the County.



**Conclusion**

CDFA appreciates the opportunity to provide comments on the IS/MND for the Proposed Project. If you have any questions about our comments or wish to discuss them, please contact Kevin Ponce, Senior Environmental Scientist Supervisor, at (916) 576-6407 or via e-mail at [kevin.ponce@cdfa.ca.gov](mailto:kevin.ponce@cdfa.ca.gov).

4-13

Sincerely,



Lindsay Rains  
Licensing Program Manager



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## LETTER 4: CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE, LINDSAY RAINS

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### Response to Comment 4-1

The comment is an introductory statement, and does not address the adequacy of the IS/MND.

### Response to Comment 4-2

The comment does not address the adequacy of the IS/MND. However, the commenter's request has been forwarded to the decision-makers for their consideration.

### Response to Comment 4-3

The analysis presented within the IS/MND is consistent with the requirements established in the CEQA Guidelines. A discussion of the project's consistency with the State regulations listed are included below. It should be noted that cumulative impacts associated with the proposed project have been addressed throughout the IS/MND and in this document where necessary.

In response to the commenter, page 18 of the IS/MND is hereby revised as follows:

Pursuant to Section 6.106.080 of the Alameda County Ordinance Code, the proposed project would install safety lighting around the outside perimeter of the building, creating a new source of light glare where none currently exists. The objective of the lighting system is to illuminate dark areas within the project site. In addition, the proposed project would comply with the California Code of Regulations (CCR) Sections 8304(c) and 8304(g), in that all outdoor lighting for security purposes would be shielded and downward facing to reduce light spilling onto neighboring properties. The lighting system would only be triggered by motion detectors, which would limit the amount of time when such systems are activated. Lights used for cultivation would be shielded in order to reduce nighttime glare. Due to the setback from the nearest public roadway and residences, as well as existing vegetation sheltering the structure from view of the public roadway, the proposed project would not create a substantial light source that would affect the day or nighttime views, and a *less-than-significant* impact would occur.

In response to the commenter, page 43 of the IS/MND is hereby revised as follows:

The proposed project would be subject to all relevant provisions of the most recent update of the CBSC, including the Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed structure would consume energy efficiently through the incorporation of such features as door and window interlocks, direct digital controls for HVAC systems, and high efficiency outdoor lighting. Required compliance with the CBSC would ensure that the building energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary. In addition, CCR Section 8102(s) requires the identification of all power sources for cultivation activities. As discussed above, energy use associated with operation of the proposed project would be typical of grow facility uses, requiring electricity and natural gas for interior and exterior building lighting, HVAC, electronic equipment, appliances, security systems, and more.



~~In addition~~ Furthermore, electricity supplied to the project by PG&E would comply with the State's Renewable Portfolio Standard (RPS), which requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 60 percent by 2030. Thus, a portion of the energy consumed during project operations would originate from renewable sources.

In response to the commenter, page 27 of the IS/MND is hereby revised as follows:

Project operations would include installation of two emergency back-up generators within the project site. Although the project applicant has not finalized the fuel type to be used for the two emergency back-up generators, for the purposes of this environmental analysis, both generators have been assumed to be diesel-fueled, as diesel-fueled generators would emit DPM. The two generators would only be used to provide back-up power to the proposed facilities and during required testing. Thus, the generators would only operate intermittently or in emergency situations. Although finalized locations for the generators have not been determined, the generators would likely be placed in close proximity to the proposed structures that would be provided power by the generators. Consequently, both proposed generators would likely be over 200 ft away from the nearest existing residences. DPM is a highly dispersive gas; thus, during the limited occasions when the generators are used, any DPM emitted by the generators would disperse prior to reaching the existing residences. The proposed project would be required to comply with CCR Sections 8304(e), 8305, and 8306 related to the use of generators. Specifically, the generators shall meet the one of the following characteristics: the emergency definition for portable engines; operate eighty hours or less in a calendar year; meet Tier 3 engine specifications with level 3 diesel particulate filter requirements; or meet Tier 4 engine specifications. In addition, installation, maintenance, and operation of the generator would be regulated by BAAQMD through Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants. Rule 5 would require that the generator meets health risk limits and requirements for Toxics Best Available Control Technology. Considering the distance of the proposed generators to the nearest sensitive receptors, the limited use of the generator, and the existing BAAQMD regulations for such generators, the potential future generators would not be anticipated to generate substantial amounts of TACs that could affect existing sensitive receptors near the project site.

In response to the commenter, page 38 of the IS/MND is hereby revised as follows:

Because the project would not disturb the Creek, mitigation at this time is not necessary. However, if any work were to occur within the Creek, including improvements to the culvert bridge, then the project would comply with all State and federal regulations related to construction work that would impact riparian habitats. The applicant may be required to obtain a Section 404 Clean Water Act permit, a Section 401 Water Quality Certification from the RWQCB, or a Section 1600 Streambed Alteration Agreement from the CDFW Whether or not the proposed project would require a Streambed Alteration Agreement, written verification from the CDFW would be required in accordance with CCR Section 8102(w). In addition, CCR Sections 8102(dd) and 8216 which requires the project applicant to notify the State Water Resources Control Board or CDFW in writing if cannabis cultivation would cause significant adverse impacts on the environment in a watershed or other geographic area. As discussed throughout this IS/MND impacts on the environment would be mitigated to a less-than-significant level and would not conflict with



CCR Sections 8102(dd) and 8216. Furthermore, the project applicant would be required to comply with CCR Sections 8304(a) and 8304(b), which require coordination with the CDFW, SWRCB, and RWQCB. Thus, because the proposed project would not have a substantial adverse effect on a riparian habitat or other sensitive natural community or on federally protected wetlands through direct removal or filling, a *less-than-significant* impact would occur.

In response to the commenter, page 39 of the IS/MND is hereby revised as follows:

Cultural resources have not been discovered in or adjacent to the proposed project area. An evaluation of the environmental setting and features associated with known sites was performed by the Northwest Information Center (NWIC).<sup>8</sup> The results determined that Native American resources, including archaeological resources, in the project vicinity have been found in Holocene alluvial deposits, at the foothill to valley floor interface, and near intermittent or perennial watercourses. The project area contains Holocene alluvial fan deposits and is situated adjacent to Cayetano Creek. Given the similarity of the environmental factors, a possibility exists for unrecorded archaeological resources, including human remains, to appear in the project area. Furthermore, the proposed project would be required to implement Mitigation Measures V-1 and V-2 in the event that unrecorded archaeological resources, including human remains, are discovered in the project area and would comply with CCR Section 8304(d). Therefore, the proposed project could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guidelines Section 15064.5 and/or disturb human remains, including those interred outside of formal cemeteries. However, with implementation of mitigation, a *less-than-significant* impact would occur.

CCR Section 8102(q) requires evidence that the applicant has conducted a hazardous materials record search of the EnviroStor database for the project site. As discussed on page 53, the results of the search indicated that the project site is not included on a list of hazardous materials sites nor is the project located near any sites listed on the EnviroStor database. In addition, Section 8106(a)(3) requires preparation of a pest management plan, while Section 8304(f) requires compliance with pesticide laws and regulations. As discussed on page 52 of the IS/MND, the proposed project would not employ the use of pesticides and would minimize the use of fertilizer to the extent possible. As such, the proposed project would not be subject to compliance with CCR Sections 8106(a)(3) or 8304(f). In addition, CCR Section 8307 is related to rental agreements and grievance procedure which does not require analysis under CEQA.

CCR Section 8102(p) requires the project applicant to obtain evidence of enrollment in an order or waiver of waste discharge requirements with the State Water Resources Control Board or the appropriate Regional Water Quality Control Board. CCR Section 8102(v) requires identification of a retail water supplier, a groundwater well, a rainwater catchment system, a diversion from a surface waterbody or an underground stream flowing a known and definite channel.

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<sup>8</sup> *Ibid.*



#### **Response to Comment 4-4**

In response to the commenter's concerns, page 2 of the IS/MND is hereby revised as follows:

8. Required Approvals from Other Public Agencies: California Department of Food and Agriculture CalCannabis License  
California Department of Fish and Wildlife (Pursuant to CCR Section 8102[w])  
San Francisco Bay Regional Water Quality Control Board (Pursuant to CCR Section 8102[p])  
State Water Resources Control Board (CCR Section 8102[p])  
Zone 7 Water Agency (Onsite Wastewater Treatment System Permit)  
Alameda County Department of Environmental Health (CCR Section 8308)

The foregoing revisions are for clarification purposes and do not affect the analysis or conclusions presented within the IS/MND.

#### **Response to Comment 4-5**

Page 10 of the IS/MND includes Figure 3, which has been modified for better readability and is included on the following page. It should be noted that the proposed project would not involve the use of any existing structures for cannabis cultivation; all proposed operations would be conducted in facilities to be constructed as part of the proposed project.

#### **Response to Comment 4-6**

See the revisions discussed above under Response to Comment 1-2. The proposed project would not include the construction of new water supply wells. However, consistent with the requirements of the Zone 7 Water Agency, the project would include the construction of new monitoring wells as part of Mitigation Measure IX-1.

#### **Response to Comment 4-7**

Page 13 of the IS/MND is hereby revised as follows:

##### **Discretionary Actions**

The proposed project would require the following discretionary actions by Alameda County:

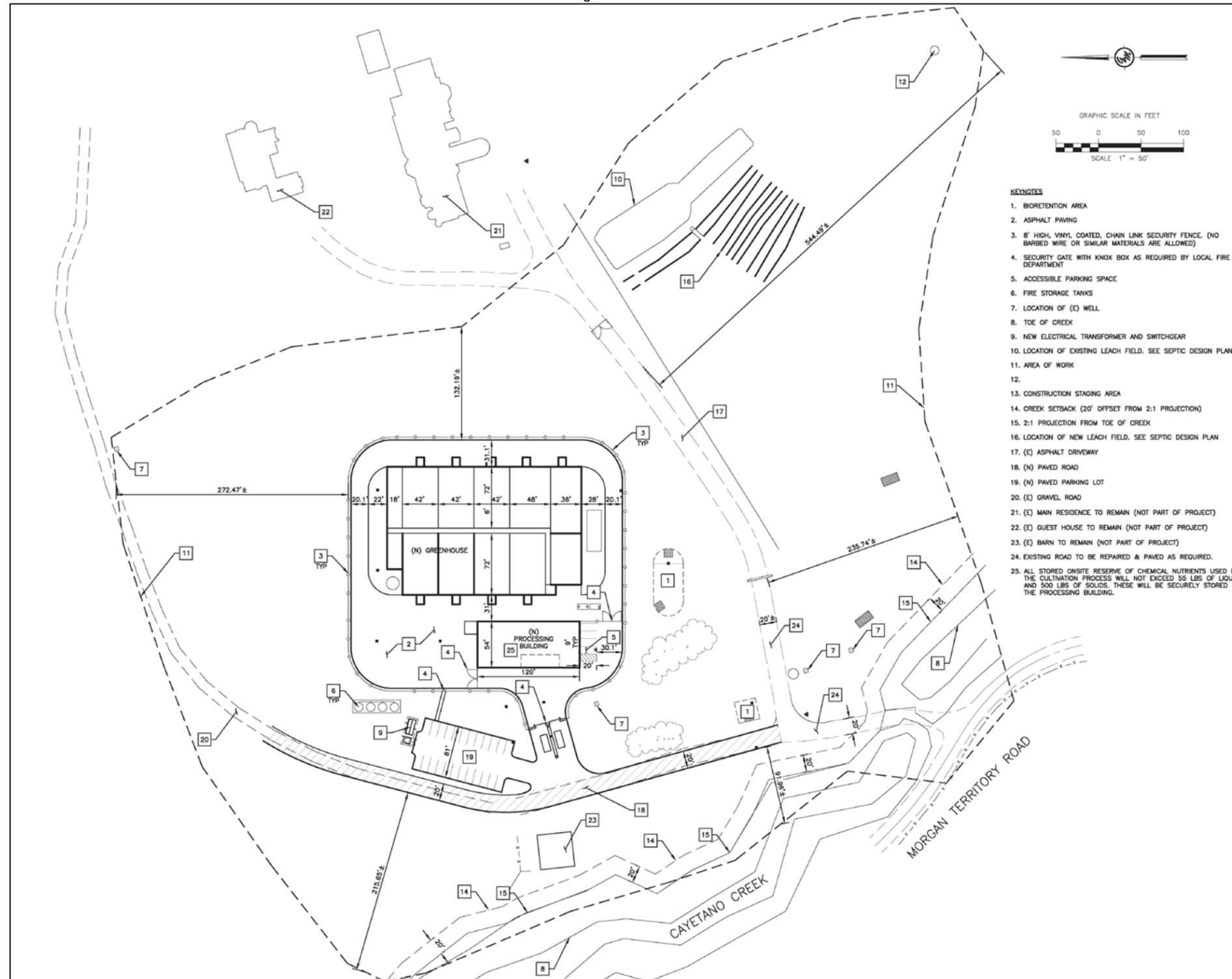
- Adoption of the IS/MND;
- Approval of a Mitigation Monitoring and Reporting Program;
- ~~Approval of a CalCannabis Permit;~~ and
- Approval of a Conditional Use Permit.

Subsequent to completion of the aforementioned actions, the proposed project would require approval of a CalCannabis Permit by the California Department of Food and Agriculture.

The foregoing revision is for clarification purposes only and does not affect the analysis or conclusions presented in the IS/MND.



**Figure 3**  
**Project Site Plan**



**Response to Comment 4-8**

See Response to Comment 4-3.

**Response to Comment 4-9**

See Response to Comment 4-3.

**Response to Comment 4-10**

In response to the comment, page 12 of the IS/MND is hereby revised as follows, in addition to the revisions discussed above under Response to Comment 1-2.:

Water for the proposed project would be supplied by four existing on-site wells. Cumulatively, the four wells would produce ~~seven~~four gallons of water per minute. The ~~new~~ wells would be situated to the east of the driveway and south of the proposed leach field. Each well would provide water connections to the overall water system. Additionally, the proposed project would include rain harvesting facilities which would be expected to harvest ~~400,000~~314,000 gpy. The proposed project is anticipated to use ~~2,800~~3,600 gpd of water for cannabis irrigation, as well as ~~up to 10,000~~approximately 1,750 gpd for a cooling system and approximately ~~1,000~~550 gpd for sanitary ~~and processing~~ uses. Water for cannabis irrigation would undergo reverse osmosis (RO) treatment (2,400 gpd) and would be blended with reclaimed water (1,200 gpd). The water demand for pre-irrigation reverse osmosis treatment would be approximately 3,000 gpd. The proposed project would include a new 500,000-gallon storage tank reservoir, to be located at the south side of the proposed greenhouse and processing building.

The foregoing revision is for clarification purposes only and does not affect the analysis or conclusions presented in the IS/MND.

**Response to Comment 4-11**

In response to the comment, page 3 of the IS/MND is revised as follows:

11. Status of Native American Consultation Pursuant to Public Resources Code Section 21080.3.1.

In compliance with Assembly Bill (AB) 52 (Public Resources Code Section 21080.3.1), notification letters were distributed to the Amah Mutsun Tribal Band, the Amah Mutsun Tribal Band of Mission San Juan Bautista, the Costanoan Rumsen Carmel Tribe, the Indian Canyon Mutsun Band of Costanoan, the Muwekma Ohlone Indian Tribe of the SF Bay Area, the North Valley Yokuts Tribe, and the Ohlone Indian Tribe. Requests to initiate formal consultation were not received.

The foregoing revision is for clarification purposes only and does not affect the analysis or conclusions presented in the IS/MND.

**Response to Comment 4-12**

Page 82 of the IS/MND states the following regarding cumulative impacts:

- b,c. The proposed project involves the development of a greenhouse and processing building for the purposes of cannabis cultivation. The proposed project would



develop the site in a manner consistent with existing land use and zoning designations. As discussed throughout this IS/MND, substantial adverse effects on human beings are not anticipated with implementation of the proposed project. As discussed in Section III, Air Quality, of this IS/MND, impacts related to air quality would be mitigated to a level which would not create any adverse effects on the surrounding area. The proposed project would not include the placement of housing and would not result in any adverse effects to nearby sensitive receptors. Because all potential impacts would be mitigated to less-than-significant levels with implementation of the mitigation measures required within this IS/MND, the proposed project is not expected to have individually or cumulatively significant impacts. Therefore, impacts related to environmental effects that could cause adverse effects on human beings or that would be individually limited, but cumulatively significant would be *less than significant*.

In addition, other cannabis operations are not proposed and do not exist within the vicinity of the project site. Thus, impacts related to cumulative water use associated with the proposed project would be less than cumulatively considerable. Based on the above, the IS/MND the proposed project would not result in a cumulatively considerable contribution to any cumulative impacts.

**Response to Comment 4-13**

The comment is a conclusory statement and does not address the adequacy of the IS/MND.



Letter 5



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Bay Delta Region  
2825 Cordelia Road, Suite 100  
Fairfield, CA 94534  
(707) 428-2002  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

GAVIN NEWSOM, Governor  
CHARLTON H. BONHAM, Director



February 4, 2020

Ms. Sonia Urzua, Planner  
Alameda County Community Development Department  
224 West Winton, Room 111  
Hayward, CA 94544  
[sonia.urzua@acgov.org](mailto:sonia.urzua@acgov.org)

Subject: Oasis Fund Livermore Grow Facility, SCH #2019129080, Mitigated Negative Declaration, Alameda County

Dear Ms. Urzua:

5-1

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt a Mitigated Negative Declaration from Alameda County (County) for the Oasis Fund Livermore Grow Facility Project (Project) pursuant to the California Environmental Quality Act (CEQA). The public review period was from December 23, 2019 to January 21, 2020; however, the County indicated in a telephone conversation dated January 29, 2020 that that the comment period was extended until February 7, 2020.

CDFW is therefore submitting comments on the Initial Study/Mitigated Negative Declaration (IS/MND) to inform the County, as the Lead Agency, of our concerns regarding potentially significant impacts to sensitive resources associated with the proposed Project. CDFW is providing these comments and recommendations regarding those activities involved in the Project that are within CDFW's area of expertise and relevant to its statutory responsibilities (Fish and Game Code, § 1802), and/or which are required to be approved by CDFW (CEQA Guidelines, §§ 15086, 15096 and 15204).

5-2

**CDFW ROLE**

CDFW is a Trustee Agency with responsibility under the California Environmental Quality Act (CEQA; Pub. Resources Code, § 21000 et seq.) pursuant to CEQA Guidelines section 15386 for commenting on projects that could impact fish, plant, and wildlife resources. CDFW is also considered a Responsible Agency if a project would require discretionary approval, such as permits issued under the California Endangered Species Act (CESA), the Lake and Streambed Alteration (LSA) Program, and other provisions of the Fish and Game Code that afford protection to the State's fish and wildlife trust resources.

5-3

**REGULATORY REQUIREMENTS**

*California Endangered Species Act*

Please be advised that a CESA Permit must be obtained if the Project has the potential to result in "take" of plants or animals listed under CESA, either during construction or over the life of the Project. Issuance of a CESA Permit is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program.

*Conserving California's Wildlife Since 1870*



**Letter 5  
Cont'd**

Ms. Sonia Urzua  
Alameda County Community Development Department  
February 4, 2020  
Page 2

**5-3  
Cont'd**

If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species. (Pub. Resources Code, §§ 21001, subd. (c), 21083; CEQA Guidelines, §§ 15380, 15064, and 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code section 2080.

**5-4**

*Lake and Streambed Alteration*

Pursuant to Business and Professions Code 26060 1(b)(3) every license for cultivation issued by the California Department of Food and Agriculture (CDFA) must comply with Section 1602 of the Fish and Game Code or receive written verification from CDFW that an LSA Agreement is not required. Therefore, for any such activities, (including construction for the purpose of cannabis cultivation), the Project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 et seq. of the Fish and Game Code. CDFW has authority over activities in streams and/or lakes that will divert or obstruct the natural flow; change the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream; or use or deposit material from a streambed. Based on this notification and other information, CDFW determines whether an LSA Agreement with the applicant is required prior to conducting the proposed activities. The notification process for cannabis cultivation projects is described on CDFW's website at <https://wildlife.ca.gov/Conservation/Cannabis>.

**5-5**

**PROJECT DESCRIPTION SUMMARY**

**Proponent:** Felix Kukushkin, Oasis Venture LLC

**Description and Location:** The Project consists of the development of a 32,000-square-foot (sf) greenhouse building containing approximately 22,000 sf of a cannabis canopy, as well as a 5,040-sf processing building and 26 paved parking stalls. The processing building would house product processing facilities such as dry rooms, trim room, storage room, office, maintenance and the employee areas within the 98.11-acre property (Project Area) located at 7033 Morgan Territory Road in Alameda County. The proposed Project includes the installation of landscaping around the perimeter of the Project site, installation of a leach field, bio-retention basin, and use of either new or existing wells.

The Project Area consists of mowed annual grassland and one residential housing unit. Mixed riparian woodland exists along Cayetano Creek on the western boundary of the area

**5-6**

**COMMENTS AND RECOMMENDATIONS**

CDFW offers the below comments and recommendations to assist the County in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.



Ms. Sonia Urzua  
Alameda County Community Development Department  
February 4, 2020  
Page 3

5-7

East Alameda County Conservation Strategy

The IS/MND provides no mention of the East Alameda County Conservation Strategy (EACCS). The EACCS (2010) provides a baseline inventory of biological resources and conservation priorities to be utilized by local agencies and resource agencies during project-level planning and environmental permitting. It was designed to convey project-level permitting and environmental compliance of the federal and state endangered species acts, CEQA, the National Environmental Policy Act, and other applicable laws for all projects within the study area with impacts on biological resources. The EACCS was a joint effort including, but not limited to, the cities of Pleasanton, Dublin, and Livermore; Zone 7, Alameda County, East Bay Regional Park District, U.S. Fish and Wildlife Service (USFWS) and CDFW. The EACCS is intended support and streamline the permitting process. EACCS does not create new regulations or change the process by which a project applicant obtains permits for authorization to impact biological resources, but it has, in fact, been accepted as a guidance document by several agencies including USFWS and CDFW.

5-8

Several of the species potentially impacted by this Project are included as focal species in the EACCS, such as California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), western burrowing owl (*Athene cunicularia*), and American badger (*Taxidea taxus*). None of the biological mitigation measures in the IS/MND require mitigation in the form of habitat conservation despite acknowledging there are several special-status species that may be present in the Project Area. The EACCS mitigation guidance sections (Chapter 3), for grassland, California tiger salamander, western burrowing owl, California red-legged frog, and American badger all include mitigation in the form of habitat conservation, for the loss of species habitat when it cannot be avoided. To be consistent with the EACCS and to offset permanent habitat loss or conversion, the IS/MND should include permanent habitat conservation as an enforceable mitigation measure.

5-9

Migratory Birds and Nesting Raptors

The IS/MND, p. 32 acknowledges there is habitat for migratory birds and nesting raptors. The IS/MND, p. 33 states no trees will be removed as part of the Project yet Mitigation Measure IV-3(a) recommends tree removal occur outside of the nesting season. Please clarify whether tree removal is part of the Project. If trees are proposed to be removed, the County should require additional mitigation, such as replacement planting with monitoring and success criteria.

5-10

Nesting Birds

Avoidance and minimization measure IV-3(a), p. 36, specifies a 250-foot construction buffer for nesting birds and raptors. Depending on the species, nest stage, and site conditions, these distances may not be sufficient to prevent disturbance-related nest failure and subsequent take. The Project proponent is responsible for ensuring that the Project does not result in any violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes. If work will occur during nesting bird season (February 1 through August 31) no more than fourteen (14) days prior to work commencing, including staging, clearing and grubbing, a qualified biologist should survey a sufficient area around the Project site to identify any nests that are present and determine their status and an appropriate buffer. Once construction work begins, the survey effort should continue to identify any nest starts established after the work commences. 'Sufficient' in this context means any nest within an area that could potentially be affected by the Project. In addition to direct impacts, such as nest destruction, nesting birds might be affected



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by noise, vibration, odors, lighting, and movement of workers or equipment. Identified active nests should be surveyed for the first 24 hours prior to any construction-related activities to establish a behavioral baseline of the adults and any nestlings. Once work commences, all active nests should continue to be monitored by the qualified biologist to detect any signs of disturbance and behavioral changes as a result of the Project. If signs of disturbance and behavioral changes are observed, the biologist should reassess the appropriate buffer to prevent disturbance-related nest failure and subsequent take.

5-11

Raptor Nests.

A qualified biologist, experienced in raptor behavior, should be assigned to monitor the behavior of any raptors nesting within disturbance distance of Project activities. Even within species, disturbance distances can vary according to time of year or geographical location. The qualified biologist should have authority to order the cessation of all Project activities within disturbance distance of any raptor nest if the birds exhibit abnormal nesting behavior which may cause reproductive failure (nest abandonment and loss of eggs and/or young). Abnormal nesting behaviors which may cause reproductive harm include, but are not limited to: defensive flights/vocalizations directed towards project personnel, standing up from a brooding position, interrupted feeding patterns, and flying away from the nest. Project activities within line of sight of the nest should not resume until the qualified biologist has consulted with CDFW and both the qualified biologist and CDFW confirm that the bird's behavior has normalized or the young have left the nest.

5-12

Western Burrowing Owl

The IS/MND p. 36 and Appendix B p. 28 acknowledges burrowing owls could be present on-site or in the surrounding area, and construction activities could cause loss of habitat or abandonment of active nests. The IS/MND recommends pre-construction surveys no more than 14 days prior to construction and 250-foot buffers if burrowing owls are found in the Project area. Please be advised that pre-construction surveys alone are inadequate to determine impacts to western burrowing owl and their habitat.

5-13

Based on our records, burrowing owls have been documented approximately one mile from the Project site. Burrowing owls may also use unnatural features such as debris piles, culverts and pipes for nesting, roosting or cover. Since suitable burrowing owl habitat is present, CDFW recommends that surveys be conducted following the methodology described in Appendix D: Breeding and Non-breeding Season Surveys of the CDFW Staff Report on Burrowing Owl Mitigation (Staff Report), which is available at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843>.

Burrowing owl surveys should be conducted by a qualified CDFW-approved biologist. In accordance with the Staff Report, a minimum of four survey visits should be conducted within 500 feet of the Project Area during the owl breeding season which is typically between February 1 and August 31. A minimum of three survey visits, at least three weeks apart, should be conducted during the peak nesting period, which is between April 15 and July 15, with at least one visit after June 15. Pre-construction surveys should be conducted no-less-than 14 days prior to the start of construction activities with a final survey conducted within 24 hours prior to ground disturbance.



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5-14 Please be advised that CDFW does not consider exclusion of burrowing owls or "passive relocation" as a "take" avoidance, minimization or mitigation method, and considers exclusion as a significant impact. The long-term demographic consequences of exclusion techniques have not been thoroughly evaluated, and the survival rate of evicted or excluded owls is unknown. All possible avoidance and minimization measures should be considered before temporary or permanent exclusion and closure of burrows is implemented in order to avoid "take".

5-15 The CEQA document for the Project should also include measures to avoid or minimize loss of burrowing owl foraging habitat, and mitigation for loss of habitat that cannot be fully avoided. The EACCS Mitigation Guidance (p.3-66) for burrowing owl recommends mitigating the loss of habitat by protecting habitat in accordance with the mitigation guidelines outlined in Table 3-10 (BUOW-3) through acquiring parcels, through fee title purchase or conservation easement, where known nesting sites occur or where nesting sites have occurred in the previous three nesting seasons (BUOW-1 and BUOW-2). Additionally, the Project applicant could work with the Implementation Committee to fund the implementation of an annual monitoring program in coordination with local conservation groups on all burrowing owl nest colonies on protected lands using monitoring protocols established by the California Burrowing Owl Consortium (1993). The results of these surveys would be submitted to the California Natural Diversity Database (CNDDDB) and the Conservation Strategy database (BUOW-4 and BUOW-5). This would allow for informed avoidance of impacts in the future.

5-16 Rodenticides  
Use of rodenticides at the construction site and cannabis facility should be prohibited. Use of pesticides or rodenticides is also not recommended in areas where raptors are foraging, breeding, or nesting. Second-generation rodenticides such as brodifacoum are used widely in the United States to kill rats and other rodents. Unfortunately, they also kill many raptors, which are attracted to the poisoned rodents as they are in their final stages of death.

5-17 Amphibians and Reptiles  
The IS/MND Mitigation Measure IV-2, p. 35, requires pre-construction surveys for the presence of special-status amphibians and as well as western pond turtle and Alameda whipsnake. The measure requires relocation if any special-status species are found. The second paragraph requires silt fencing to be erected and maintained around the construction zone and trapping and relocation, by a qualified biologist possessing a "valid permit or approved under an active biological opinion" of any amphibians found inside the fenced area. The fourth paragraph states no mitigation is required if no species are found.

5-18 California Tiger Salamander  
Although not mentioned in the IS/MND, the Project site is located within dispersal distance of at least four known and/or potential California tiger salamander breeding ponds. A known California tiger salamander occurrence (CDFW 2020) is less than 0.5 miles to the north along Morgan Territory Road near a stock pond. California tiger salamander are known to be able to travel 1.3 miles from upland habitat to breeding ponds. Given the historical and extant California tiger salamander detections within 1.3 miles of the Project site, and without evidence such as protocol-level presence/negative finding surveys, the IS/MND should assume presence.



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**5-19** California tiger salamanders spend a majority of their lives underground in burrows created by fossorial mammals. Some salamanders migrate to and from breeding ponds on rainy nights during the winter and spring. Based on their life history, it is highly unlikely a salamander would be found during pre-construction surveys unless the surveys included actions such as, burrow excavation, pitfall traps and drift fencing, as authorized under CESA.

**5-20** Mitigation Measure IV-2 also recommends installing silt fencing (exclusion fence) during construction. Please be advised that installing fencing around the Project site could be a form of "take" if California tiger salamander or other listed species are present. Any action that could cause take of California tiger salamander (such as trapping within an exclusion fence or relocation out of harm's way) must be authorized under appropriate federal and state permits.

The IS/MND as written, does not reduce the impacts to less-than significant levels as required by CEQA. Mitigation measures should include actions such as, preserving off-site habitat through either purchasing California tiger salamander habitat credits at a CDFW-approved conservation bank (see <https://www.wildlife.ca.gov/Conservation/Planning/Banking/Approved-Banks>), or by placing a conservation easement over lands providing habitat, including funding an endowment for managing the lands for the benefit of California tiger salamander in perpetuity, and preparation and implementation of a long-term management plan.

**5-21** CDFW advises that the Project proponent obtain a CESA Permit (pursuant to Fish and Game Code Section 2080 et seq.) in advance of Project implementation. Issuance of a CESA Permit is subject to CEQA documentation; therefore, the CEQA document should specify impacts; mitigation, and should fully describe a mitigation, monitoring and reporting program. As mentioned above, if the proposed Project will impact any CESA-listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit. More information on the CESA permitting process and protocol survey procedures can be found on the CDFW website at <https://www.wildlife.ca.gov/Conservation/CESA> or <https://www.wildlife.ca.gov/Conservation/Survey-Protocols>.

**5-22** California red-legged frog  
California red-legged frogs can also spend prolonged time in small mammal burrows (D'Amore 2007; Tatarian 2008). USFWS (2010) designates an upper protective buffer limit of one mile. Minimum distances around aquatic habitat should be determined by local known dispersal distances. Activities that will decrease ground squirrel populations, impede movement, or cause take of California red-legged frogs in uplands are advised to also be avoided. CDFW also recommends a qualified biological monitor experienced in the identification and life history of California red-legged frogs be on-site during any removal of existing structures or containers currently in the Project Area. Unless USFWS authorizes relocation, any frogs found on-site must be allowed to leave the area on their own.

**5-23** Foothill yellow-legged frog  
The IS/MND p. 32 and the Appendix B identify the Project Area as having suitable habitat for foothill yellow-legged frog (*Rana boylei*). Both documents also identify foothill yellow-legged frog as a Species of Special Concern. CDFW is aware of only two extant populations of foothill yellow-legged frog in Alameda County, located in Alameda Creek and Arroyo Mocho. Foothill



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↑ yellow-legged frogs may be extirpated from Contra Costa County; eight of the nine CNDDDB records from the county are museum specimens collected between 1891 and 1953 (CDFW 2019). However, CDFW recommends the IS/MND require a qualified biologist conduct foothill yellow-legged frog surveys using a method approved by CDFW. Survey methodology should target all life stages and should include wet and dry stream surveys. Surveys within the Project Area should include searching cavities under rocks, within vegetation such as sedges and other clumped vegetation, and under undercut banks. Surveys should be conducted at different times of day and under variable weather conditions if possible.

CDFW advises that the Fish and Game Commission has determined that listing of the foothill yellow-legged frog is warranted under CESA as endangered in the West/Central Coast Clade including Alameda County. Presence of foothill yellow legged frogs may require a CESA Permit before Project activities may commence if those activities could cause take.

Water

5-24

Water Use Inconsistencies

Language in the IS/MND regarding water use is inconsistent. Page 12 states that water will be supplied by four existing wells, and page 57 states that there will be development of a new well. Additionally, page 12 states that the four existing wells cumulatively produce 7 gallons per minute, while page 56 states that the cumulative production is 4 gallons per minute. Page 12 states "The proposed Project is expected to use 2,800 gpd of water for cannabis irrigation, as well as 10,000 gpd for a cooling system and approximately 1,000 gpd for sanitary and processing uses". Page 56 states "Irrigation for cannabis is estimated to require 3,600 gpd year-round... The water demand for pre-irrigation reverse osmosis treatment is 3,000 gpd. Water demand for sanitary uses would be approximately 550 gpd." CDFW recommends using consistent language regarding water use for the cultivation Project.

5-25

Water Use and Cumulative Impacts

Cannabis cultivation is often associated with a significant water demand. Cannabis cultivation requires an average of one gallon of water per day per pound of cannabis produced or six gallons per plant per day (Bauer et al., 2015). Given the large water demand for warehouse grows, CDFW is concerned the Project may result in the continued decline of groundwater and the resulting further decline of biological resources that depend on groundwater availability.

5-26

↓ Discussion of cumulative impacts is required by CEQA Guidelines section 15130, which also includes "past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency..." Increased water use may lower the groundwater table, which could eliminate flows or flow duration in streams, such as the nearby Cayetano Creek, and the occurrence and persistence of wetlands. Lowering of the water table can also take water beyond the root zone for riparian vegetative communities resulting in mortality and decline of vegetation and reductions in wildlife populations. In addition, increased water use may result in diminishing the biological diversity in watersheds. Increased water diversions and alterations to rivers' hydrogeomorphology could affect the riparian corridor, and change sedimentation, nutrient loading, water quality, and water availability. The Project could also substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local



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↑ groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). Therefore, CDFW is concerned cumulative impacts from this and future projects in the county on biological resources similar to the proposed Project may be considerable, as defined in CEQA Guidelines section 15065(a)(3) and 15064(h)(1).

5-27

CDFW recommends that the IS/MND reveal the locations of the existing and proposed wells, and describe groundwater extraction and recharge measures that will ensure that the Project's use of groundwater will not further result in subsidence of the groundwater table or impacts to riparian vegetation or surface water flow in nearby streams. Additionally, CDFW recommends the IS/MND analyze cumulative impacts to water sources (i.e., local groundwater) based on this, past, and future projects, and that the County require the Project to monitor and report water usage.

5-28

*Bioretention Basin*

The Project proposes to install a storm drainage system consisting of inlets, an underground vault, and a bioretention basin. Bioretention basins can create an attractive nuisance for both California tiger salamanders and California red-legged frogs. California tiger salamanders and California red-legged frogs have been documented to breed or, attempt to breed, in these basins. This can result in amphibians becoming trapped in the basin or cause desiccation of eggs, larvae or adults. Conversely, the basin could become suitable breeding habitat in an environment where the upland area no longer supports enough suitable habitat to maintain a viable population. The IS/MND should be revised to require that bioretention basins be designed to prevent amphibians from accessing the basin.

5-29

*Light Pollution*

The Project would generate sources of light near sensitive natural vegetation communities and in an area without significant existing artificial light. The IS/MND does not discuss the type or color of lighting that will be used outdoor, i.e. bright security lighting along the perimeter, white light, blue light, etc.

5-30

Sensitive species, wildlife, and their habitats may be adversely affected by increased and artificial night lighting. Light plays a vital role in ecosystems by functioning as both an energy and an information source (Gaston et al. 2012, 2013). The addition of artificial light into a landscape disrupts this role, altering the natural circadian, lunar, and seasonal cycles under which species have evolved. Artificial lights result in direct illumination, altering the natural patterns of light and dark, and sky glow (i.e., scattered light in the atmosphere), which can extend the ecological impacts of light far beyond the light source (Longcore and Rich 2004). On cloudy nights in urban areas, for example, the sky glow effect can be of an equivalent or greater magnitude than high-elevation summer moonlight (Kyba et al. 2013). The addition of artificial light into a landscape can impact a broad range of system processes, including:

- Activity patterns
  - Availability and detectability of food resources
  - Movement, navigation and migration
  - The timing of phenological events
- ↓



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- Physiological functions
- Foraging behavior and predator-prey interactions
- Phototaxis (attraction and movement towards light)
- Circadian rhythms (both physiological and behavioral)
- Causing disorientation, entrapment, and temporary blindness

Further, the lighting materials used in cannabis cultivation can have environmental risks if not disposed of properly as they contain mercury and other toxins (O'Hare et al. 2013). CDFW recommends further discussion of the types of lighting that may be used at the site, and how this lighting may impact local species and the nearby sensitive natural vegetation communities.

5-31

To mitigate the potentially negative impacts of artificial light, light structures can be shielded and downward facing so that trespass of light is minimized. In addition, lights can be motion-activated, or turned off or dimmed during critical times of the year (e.g., migration) or during times of night that have the most significant impact on wildlife (i.e. dawn and dusk) (Gaston et al., 2012, 2013). Lights with wildlife-friendly spectral composition (i.e., minimize light avoidance/attraction) can also be used (Sweeney et al. 2011; Gaston et al. 2012, 2013). LED lights are well suited for operating at variable brightness and being switched off or dimmed during certain times of the year or during times of low demand, as they operate at full efficiency and have no "warm-up" time (Gaston et al., 2012, 2013). Vegetation may also be used to shield sensitive areas against light, and light-absorbent surfaces can be used in place of reflective surfaces (Gaston et al., 2012, 2013). In addition, all lights should be disposed of properly, as many contain mercury and other toxins.

5-32

*Fencing Hazards*

The Project may result in the use of open pipes used as fence posts, property line stakes, signs, etc. CDFW recommends that all hollow posts and pipes be capped to prevent wildlife entrapment and mortality because these structures mimic the natural cavities preferred by various bird species and other wildlife for shelter, nesting, and roosting. Raptor's talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality. Metal fence stakes used on the Project site should be plugged with bolts or other plugging materials to avoid this hazard. Further information on this subject may be found at:

<https://ca.audubon.org/conservation/protect-birds-danger-open-pipes>

5-33

**ENVIRONMENTAL DATA**

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDDB. The CNDDDB field survey form can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data#44524420-pdf-field-survey-form>. The completed form can be mailed electronically to CNDDDB at the following email address: [CNDDDB@wildlife.ca.gov](mailto:CNDDDB@wildlife.ca.gov). The types of information reported to CNDDDB can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.



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**FILING FEES**

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs., tit. 14, § 753.5; Fish and Game Code, § 711.4; Pub. Resources Code, § 21089).

**5-35**

**CONCLUSION**

CDFW appreciates the opportunity to comment on the IS/MND to assist the County in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Ms. Marcia Grefsrud, Environmental Scientist, at (707) 644-2812 or [Marcia.Grefsrud@wildlife.ca.gov](mailto:Marcia.Grefsrud@wildlife.ca.gov); or Ms. Brenda Blinn, Senior Environmental Scientist (Supervisory), at (707) 944-5541. Questions and coordination specific to cannabis cultivation should be directed to Ms. Stephanie Holstege, Environmental Scientist, at (707) 210-5104 or [Stephanie.Holstege@wildlife.ca.gov](mailto:Stephanie.Holstege@wildlife.ca.gov); or Ms. Randi Adair, Senior Environmental Scientist (Supervisory), at (707) 576-2786.

Sincerely,



Gregg Erickson  
Regional Manager  
Bay Delta Region

cc: Office of Planning and Research, State Clearinghouse, SCH #2018092012  
Ryan Olah, U.S. Fish and Wildlife Service – [ryan\\_olah@fws.gov](mailto:ryan_olah@fws.gov)

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## **LETTER 5: DEPARTMENT OF FISH AND WILDLIFE, GREGG ERICKSON**

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### **Response to Comment 5-1**

The comment is an introductory statement and does not address the adequacy of the IS/MND.

### **Response to Comment 5-2**

The comment summarizes CDFW role as a Trustee Agency and does not address the adequacy of the IS/MND.

### **Response to Comment 5-3**

The comment summarizes the regulatory requirements and does not address the adequacy of the IS/MND.

### **Response to Comment 5-4**

The comment summarizes the regulatory requirements and does not address the adequacy of the IS/MND.

### **Response to Comment 5-5**

The comment summarizes the project description and does not address the adequacy of the IS/MND.

### **Response to Comment 5-6**

The comment is an introductory statement and does not address the adequacy of the IS/MND. Specific issues raised by the commenter are addressed in the responses below.

### **Response to Comment 5-7**

The East Alameda County Conservation Strategy (EACCS) is discussed on page 38 of the IS/MND, as follows:

- f. The project site is located within the Livermore Watershed of Conservation Zone 4 of the East Alameda County Conservation Strategy (EACCS). The EACCS identifies the Foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, golden eagle, western burrowing owl, American badger, and San Joaquin kit fox as focal species that are protected under federal and state laws. Mitigation Measures IV-1 through IV-6 follow the guidelines of the EACCS in order to adequately mitigate impacts related to the foregoing species, as well as any other special-status species with potential to occur on-site. The mitigation measures identified in this IS/MND help achieve the goals and objectives defined in Section 3.5 and Tables 3-2 and 3-3 of the EACCS. Therefore, upon implementation of mitigation, the proposed project would not conflict with the provisions of the adopted EACCS, or other approved local, regional, or State habitat conservation plan, and a *less-than-significant* impact would occur.

It should be noted that while conservation strategies are provided by the EACCS, the document is used as guidance and is not considered an adopted Habitat Conservation Plan or Natural Conservation Community Plan.



### **Response to Comment 5-8**

See Response to Comment 5-7 above. The IS/MND discussed the EACCS on page 38, Section IV, Biological Resources. As noted on page 38 of the IS/MND, the EACCS identified the Foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, golden eagle, western burrowing owl, American badger, and San Joaquin kit fox as focal species that are protected under federal and state laws. Mitigation Measures IV-1 through IV-6 as modified in Response to Comments 5-9, 5-12, 5-18, and 5-32 below, follow the guidelines of the EACCS in order to adequately mitigate impacts related to the foregoing species, as well as any other special-status species with potential to occur on-site.<sup>9</sup> Additionally, the IS/MND also references the Biological Evaluation (BE), included as Appendix B, which adequately assessed the project's impacts, including the EACCS and incorporated mitigation measures in the EACCS into the report. Furthermore, the project applicant would adhere to the specified compensation ratio to account for the loss of habitat for the species listed below. For informational purposes, below is list of the locations of where the discussions can be found in the attached BE.

- a. The EACCS is discussed in Section 2.2 of the BE "Movement Corridors".
- b. An overview of the EACCS is given in Section 3.2.7.1 "East Alameda County Conservation Strategy" which is under Section 3.2.7 "Local Ordinances, Policies, and Habitat Conservation Plans".
- c. Section 3.3.1 of the BE "Loss of Habitat for Special Status Plants" discusses the absence of focal plant species of EACCS.
- d. Section 3.3.3 of the BE "Impacts to Foothill Yellow-Legged Frogs" quotes specific Avoidance and Minimization Measures for the foothill yellow-legged frog reported in Table 3-3 of the EACCS and includes the compensation mitigation ratio (3:1) for the foothill yellow-legged frog, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the foothill yellow-legged frog.
- e. Section 3.3.4 of the BE "Impacts to California Red-Legged Frogs" quotes specific Avoidance and Minimization Measures for the California red-legged frog reported in Table 3-3 of the EACCS and includes the compensation mitigation ratio (3:1) for the California red-legged frog, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the California red-legged frog.
- f. Section 3.3.6 of the BE "Impacts to Alameda Whipsnake" quotes specific Avoidance and Minimization Measures for the Alameda whipsnake reported in Table 3-3 of the EACCS as well as additional goals and conservation actions and includes the compensation mitigation ratio (2.5:1 to 3:1 depending on where the mitigation area is) for the Alameda whipsnake, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the Alameda whipsnake.
- g. Section 3.3.8 of the BE "Impacts to Burrowing Owls" quotes specific Avoidance and Minimization Measures for the Burrowing Owl reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the compensation mitigation ratio (3:1) for the burrowing owl, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the burrowing owl.

<sup>9</sup> Live Oak Associates, Inc. *SUBJECT: Response to Comments for the proposed Oasis Fund Grow Facility Project at 7033 Morgan Territory Road in Livermore, Alameda County, California. (PN 2305-01).* May 11, 2020.



- h. Section 3.3.9 of the BE “Impacts to Golden Eagle” quotes specific Avoidance and Minimization Measures for the golden eagle reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the compensation mitigation ratio (3:1) for the golden eagle, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the golden eagle.
- i. Section 3.3.10 of the BE “Impacts to American Badgers” quotes specific Avoidance and Minimization Measures for the American badgers reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the compensation mitigation ratio (3:1) for the American badger, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the American badger.
- j. Section 3.3.13 of the BE “Impacts to San Joaquin Kit Fox” quotes specific Avoidance and Minimization Measures for the San Joaquin kit fox reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the compensation mitigation ratio (3:1) for the San Joaquin kit fox, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the San Joaquin kit fox.
- k. Section 3.3.14 of the BE “Disturbance to Waters of the United States or Riparian Habitats” states that the mitigation measures “...would also be consistent with the EACCS and its objectives and goals for conservation of riparian forest and scrub habitats (Section 3.5.2.5 of the EACCS)”.
- l. Section 3.3.19 of the BE “Local Ordinances, Conservation Strategies, or Habitat Conservation Plans” states: “...the project is within the Livermore Watershed of Conservation Zone 4 of the East Alameda County Conservation Strategy for which a Programmatic Biological Opinion has been prepared (USFWS 2012) in which the project must follow guidelines for the Foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, golden eagle, western burrowing owl, American badger, and San Joaquin kit fox, as these species have the potential to occur onsite. Guidelines for these species have been included in the avoidance and minimization measures of the sections above. This project will follow mitigation measures identified in this document to help to achieve goals and objectives defined in Section 3.5 and Tables 3-2 and 3-3 of the Conservation Strategy (ICF 2010). The project will follow these measures as well as the additional measures in the Biological Opinion (USFWS 2012) which are attached as Appendix E.”

### **Response to Comment 5-9**

The commenter’s assertion that the project would not require tree removal is correct. However, as discussed in the IS/MND, construction work that interrupts nesting activities could result in a potentially significant impact to nesting raptors and migratory birds. Therefore, mitigation would be required to determine the presence of any active nests within the site and require a buffer zone around any nests. In addition, as revised below, Mitigation Measure IV-3(a) includes maintaining the nesting golden eagle population in the study area at a level that allows for long-term viability without human intervention. In response to the comment, page 36 of the IS/MND is hereby revised as follows:

IV-3(a)                      ~~To the maximum extent practicable, trees planned for removal shall be removed during the non-breeding season (September 1 through January~~



~~31). If avoidance is not possible~~No more than 14 days prior to the initiation of ground-disturbing activities, a qualified biologist shall conduct a pre-construction survey for tree-nesting raptors and special-status bats~~migratory birds. The survey shall be conducted no more than 14 days prior to the initiation of demolition and~~submitted to the Planning Department. If nesting raptors or migratory birds are detected on-site during the survey, a suitable construction buffer of ~~250~~500 feet shall remain in place for the duration of the breeding season or until a biologist gives confirmation that all chicks have fledged.

Monitoring for nesting raptors and migratory birds shall continue throughout the duration of project construction activities. Should any active nests be discovered in or near~~within~~250~~500~~500 feet of the construction zone during project construction activities, the qualified biologist shall establish a suitable construction-free buffer around the nest. The buffer shall be identified on the ground with flagging or fencing and shall remain in place until the biologist has determined the young have fledged. Additional measures shall be implemented for golden eagle and include, but not be limited to, the following:

- Enhance suitable burrowing owl habitat on public and private lands in the study area through implementation of specific measures in management plans, including, implementing a standard mitigation ratio of 3:1 for golden to compensate for loss of habitat.
- Maintain the nesting golden eagle population in the study area at a level that allows for long-term viability without human intervention.
- Enhance suitable golden eagle habitat on public and private lands in the study area through implementation of species-specific measures in management plans.
- The use of rodenticides shall be prohibited in protected areas, and when possible, outside of protected areas. When rodent management is needed to protect the integrity of structures such as levees and stock ponds dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use integrated pest management (IPM) principles.

~~If tree removal is not required or special status bats and migratory birds are not present based on the survey, additional mitigation is not required.~~

The foregoing revision does not affect the analysis or conclusions presented in the IS/MND.

### **Response to Comment 5-10**

See Response to Comment 5-9. In addition, Section 3.3.7 of the BE includes surveys for nesting migratory birds and raptors within 500 feet of the project site where accessible; this is a sufficient distance for all bird species known to be within the vicinity of the project site, as 500 feet is a maximum buffer expected for species known or expected to be in the vicinity of the project site. The only species for which the BE found a 250-foot survey area to be insufficient for is the



Swainson's hawk; Section 3.3.7 of the BE includes surveys for Swainson's hawks to be conducted within a half-mile of the project site. In addition, as required by Mitigation Measure IV-3(a), a qualified biologist would continue monitoring nesting raptors and migratory birds for the entirety of construction activities. Furthermore, Mitigation Measure IV-3(a) requires the construction buffer remain in place for the duration of the breeding season or until a biologist gives confirmation that all chicks have left the nest.

The foregoing revision does not affect the analysis or conclusions presented in the IS/MND.

### **Response to Comment 5-11**

See Response to Comment 5-10 above.

### **Response to Comment 5-12**

In response to the comment, pages 36 and 37 of the IS/MND are hereby revised as follows:

*IV-4(a)*

*A qualified biologist shall conduct a pre-construction survey for burrowing owls within the construction zone and within ~~250~~500 feet of the zone no more than 14 days prior to the onset of ground disturbance, and submit the results to the Planning Department. Survey methodology shall be consistent with Appendix D: Breeding and Non-breeding Season Surveys and Reports of the CDFW Staff Report on Burrowing Owl Mitigation (2012). If ground-disturbing activities cease for two weeks or more after starting, an additional take avoidance survey shall be conducted within 24 hours prior to ground disturbance.*

*If burrowing owls are present in the work zone, a no-activity zone shall be established by a CDFW-approved qualified biologist to be large enough to avoid nest abandonment and be a minimum of ~~250~~500 feet from the nest. If an effective no-activity zone cannot be established in either case, an experienced burrowing owl biologist will develop a site-specific plan (i.e., a plan that considers the type and extent of the proposed activity, the duration and timing of the activity, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls.*

*If burrowing owl is not found ~~as part of the survey conducted~~ within 500 feet of the proposed construction zone, additional mitigation is not required. Additional measures to avoid burrowing owl shall include, but not be limited to, the following:*

- *Enhance suitable burrowing owl habitat on public and private lands in the study area through implementation of specific measures in management plans, including, implementing a standard mitigation ratio of 3:1 for burrowing owls to compensate for loss of habitat.*
- *Purchase easements on and surrounding burrowing owl nest colonies or potential nest sites to ensure that the parcel will remain in types of grazing land, irrigate pasture, or dryland*



agriculture that provide foraging habitat for nesting burrowing owls.

- The use of rodenticides shall be prohibited in protected areas, and when possible, outside of protected areas. When rodent management is needed to protect the integrity of structures such as levees and stock ponds dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use integrated pest management (IPM) principles.

IV-4(b)

Prior to the issuance of building permits, the applicant shall mitigate the loss of burrowing owl nesting habitat (suitable habitat within 0.5 mile of documented nest occurrence during previous 3 years), by protecting habitat in accordance with the mitigation guidelines outlined in Table 3-10 of the EACCS. The above requirement shall be included via notation on any grading plans approved for the project to the satisfaction of the Alameda County Planning Department.

The foregoing revision does not affect the analysis or conclusions presented in the IS/MND.

### **Response to Comment 5-13**

See Response to Comment 5-12 above.

### **Response to Comment 5-14**

Mitigation Measure IV-4 in the IS/MND does not include passive relocation of burrowing owls or exclusion techniques as a means as a take avoidance measure.

### **Response to Comment 5-15**

See Response to Comment 5-7 and 5-12 above.

### **Response to Comment 5-16**

As noted on page 52 of the IS/MND, the proposed project would not employ the use of pesticides, including rodenticides.

### **Response to Comment 5-17**

Mitigation Measures IV-1 through IV-6 as modified in Response to Comments 5-9, 5-12, 5-18, and 5-32, follow the guidelines of the EACCS in order to adequately mitigate impacts related to the foregoing species, as well as any other special-status species with potential to occur on-site.<sup>10</sup> As discussed in the IS/MND, the project would be required to adhere to the measures within the EACCS, which include a compensation mitigation ratio for the loss of special-status species habitat. Furthermore, the EACCS recommended measures include the use of silt fencing for special-status amphibians.

### **Response to Comment 5-18**

At the time of the Biological Evaluation was prepared (October 2018), CNDDDB records for California tiger salamander did not exist within a three-mile radius from the site. The locations were added to the CNDDDB after the report was written; however, the BE did identify potential

<sup>10</sup> Live Oak Associates, Inc. SUBJECT: Response to Comments for the proposed Oasis Fund Grow Facility Project at 7033 Morgan Territory Road in Livermore, Alameda County, California. (PN 2305-01). May 11, 2020.



estivation habitat for California tiger salamander on the project site. Although Critical Habitat for California tiger salamander is within a half-mile of the site (shown on Figure 3b of the Biological Evaluation prepared for the proposed project), the presence of Critical Habitat does not mean California tiger salamanders are known to exist within the designated area. The Critical Habitat designation implies that suitable habitat may exist within the designated area, and where habitat exists, species have the potential to occur.

In response to the commenter's concerns regarding relocation of California tiger salamander individuals, page 35 of the IS/MND is hereby revised as follows:

*Special-Status Amphibians: Foothill yellow-legged frog, California red-legged frog, western pond turtle, ~~and~~ Alameda whipsnake, and California Tiger Salamander.*

*IV-2(a) Prior to the start of construction, a pre-construction survey shall be performed by a qualified biologist to determine presence of special-status amphibians, including foothill yellow-legged frog, California red-legged frog, western pond turtle, ~~and~~ Alameda whipsnake, and California Tiger Salamander and submitted to the Planning Department. ~~If any special-status amphibians are present, they shall be relocated by a qualified biologist.~~ If special-status amphibians are identified on-site, all ground-disturbing activities shall cease until the individuals leave the site on their own accord.*

*All construction personnel shall be trained on identification of special-status amphibians and required practices. The construction zone shall be cleared and silt fencing shall be erected and maintained around the construction zone. ~~A qualified biologist possessing a valid permit or approved under an active biological opinion shall be contracted to trap and move amphibians to nearby suitable habitat if amphibians are found inside fenced area.~~*

*A qualified biologist shall be on-site during initial ground disturbance in portions of the project area that contain suitable habitat for special-status amphibians.*

*If special-status amphibians are not found on site during the survey or construction, additional mitigation would not be necessary.*

*IV-2(b) If aquatic habitat is present, a qualified biologist shall stake and flag an exclusion zone prior to activities. The exclusion zone shall be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone shall encompass the maximum practicable distance from the work site and at least 500 feet from the aquatic feature wet or dry. Additional measures to avoid California tiger salamander shall include, but not be limited to, the following:*

- If the work site is within the typical dispersal distance (contact USFWS/CDFG for latest research on this distance for species of*



interest) of potential breeding habitat, barrier fencing shall be constructed around the worksite to prevent amphibians from entering the work area. Barrier fencing will be removed within 72 hours of completion of work.

- Monofilament plastic shall not be used for erosion control.
- Construction personnel shall inspect open trenches in the morning and evening for trapped amphibians.
- A qualified biologist possessing a valid ESA Section 10(a)(1)(A) permit or Service approved under an active biological opinion, shall be contracted to trap and to move amphibians to nearby suitable habitat if amphibians are found inside fenced area.
- Work shall be avoided within suitable habitat from October 15 (or the first measurable fall rain of one-inch or greater) to May 1.
- Standard mitigation ratio of 3:1 for amphibians shall be included as compensation for loss of upland habitat.

A Mitigation and Monitoring Plan shall be prepared for the explicit purpose of managing the site. The plan shall be submitted to the County for review and approval. At a minimum the plan shall:

- Identify the approaches to be used and provide evidence that sufficient water budget exists for any proposed enhancement;
- Identify a suitable planting regime for restoring or enhancing riparian habitats;
- Identify success criteria for monitoring both the upland and riparian habitats that are consistent with similar habitats regionally;
- Monitor restored or enhanced riparian habitats for 5 years;
- Define and identify maintenance and management activities to manage the habitats to meet the stated goals of support habitat characteristics suitable for the CTS. This may include suitable fencing so as to control access, limited cattle grazing or other procedures to manage grass height and forage production at levels that benefit the CTS, removal of trash.
- Define and provide for a financial mechanism such as a non-wasting endowment or an assessment district that funds the management of the open space into perpetuity.

The foregoing revision does not affect the analysis or conclusions presented in the IS/MND.

### **Response to Comment 5-19**

See Response to Comment 5-18. In acknowledgement of the concerns noted by the commenter, Mitigation Measure IV-2 includes installation of exclusionary fencing around the construction zone to prevent special-status amphibians from entering the construction zone during ground-disturbing activities.

### **Response to Comment 5-20**

See Response to Comment 5-8 and 5-17.



### **Response to Comment 5-21**

The proposed project is not anticipated to result in take of any species covered by the California Endangered Species Act (CESA); thus, a CESA Permit is not required at this time. If CESA-protected species are identified on-site, including during pre-construction surveys, the project applicant will initiate further consultation with CDFW, as necessary, to ensure that the proposed project does not result in unpermitted take or other substantial adverse effects to the species. As noted previously, the project site includes potential estivation habitat for California tiger salamander. Although the site includes potential estivation habitat, a permit is not always necessary as the probability of the species varies on a site-by-site basis. Obtaining an "Incidental Take Permit" from CDFW would be required if the proposed project would result in take of CESA listed species, such as the California tiger salamander. While the proposed project would not result in the violation of CESA if California tiger salamander are not detected during pre-construction surveys or construction monitoring, the applicant could violate CESA if a California tiger salamander is encountered on-site prior to or during construction and proceeded to impact the species. If the species does not move out of the construction zone voluntarily, construction would be halted until the applicant could obtain the required approvals from CDFW to continue (as noted in Response to Comment 5-18).

### **Response to Comment 5-22**

See Response to Comment 5-18 above, Mitigation Measure IV-2 requires a qualified biologist to be on site monitoring during construction.

### **Response to Comment 5-23**

See Response to Comment 5-18. The pre-construction amphibian surveys required per Mitigation Measure IV-2, as revised herein, would be sufficient to ensure that unpermitted take of Foothill yellow-legged frogs would not occur.

### **Response to Comment 5-24**

See Response to Comment 1-2 above.

### **Response to Comment 5-25**

See Response to Comment 1-4 above.

### **Response to Comment 5-26**

With regard to cumulative impacts to groundwater, see Response to Comment 1-4 above. As discussed on page 82 of the IS/MND, because the proposed project is consistent with the site's current General Plan land use and zoning designations, potential impacts to biological resources and other issue areas associated with development of the site have been anticipated per the General Plan EIR. Because all potential impacts would be mitigated to less-than-significant levels with implementation of the mitigation measures required within this IS/MND, the proposed project is not expected to result in a cumulatively considerable contribution to any of the cumulative impacts identified in the General Plan EIR.

### **Response to Comment 5-27**

The well information requested by the commenter is provided in the Hydrology Report prepared for the project, available upon request at the Alameda County Community Development Agency, located at 224 West Winton Avenue Suite 111, Hayward, CA 94544. Mitigation Measure IX-1, as revised per Response to Comment 1-8 above, would require each of the project water supply



wells to include flow meters that provide daily totals of the volume extracted. Monthly reports of the water levels in each of the pumping wells, as well as monitoring wells, would be submitted to the Zone 7 Water Agency, as required by Mitigation Measure IX-1 on page 58 of the IS/MND.

**Response to Comment 5-28**

See Response to Comment 5-18. As revised therein, the project applicant would be required to implement barrier fencing to prevent amphibians from entering the work area.

**Response to Comment 5-29**

The color of lighting to be used for the proposed outdoor security lighting has not been determined at this time. However, the final lighting design will be subject to required compliance with Section 6.106.070 of the Alameda County Code of Ordinances. In addition, Section 6.106.070 and CCR Sections 8304(c) and 8304(g) require downward facing lights and shielded lights. As noted on page 18 of the IS/MND, the outdoor lighting system would only be triggered by motion detectors, which would limit the amount of time when such systems are activated. In addition, none of the lighting systems associated with cannabis cultivation would be visible from the exterior of the proposed structures, including the riparian areas.

**Response to Comment 5-30**

See Response to Comment 5-29. All lightbulbs requiring future disposal would be disposed of in accordance with applicable local, State, and federal regulations.

**Response to Comment 5-31**

See Responses to Comments 5-29 and 5-30.

**Response to Comment 5-32**

In response to the commenter's concerns regarding fencing hazards, page 37 of the IS/MND is hereby revised as follows:

*IV-5(a) Prior to ground-disturbing activity, a pre-construction survey shall be conducted to determine the presence or absence of badgers and San Joaquin kit foxes and the results submitted to the Planning Department.*

*If an active badger or San Joaquin kit fox den is identified during a pre-construction survey, a construction buffer of up to 300 feet shall be established around the den. If potential dens cannot be avoided during construction, a qualified biologist shall determine if the dens are occupied. If unoccupied, the qualified biologist shall collapse the dens by hand in accordance with USFWS procedures. If occupied, a qualified biologist shall create an exclusion zone with a radius of 50-100 feet.*

*If active dens are not found during the pre-construction survey, additional mitigation is not required.*

*IV-5(b) Prior to issuance of building permits, additional measures shall be implemented to increase the American badger population while protecting and enhancing suitable habitat and important regional linkages in the study area. Additional measures shall include, but not be limited to, the following:*



- Mitigate the loss of suitable American badger habitat by protecting habitat in accordance with mitigation guidelines outline in Table 3-10 of the EACCS, including implementing a standard mitigation ratio of 3:1 for American badger habitat to compensate for loss of habitat.
- Acquire parcels within documented American badger populations in the study area that meet the conservation goals and objectives of this strategy through fee title purchase and/ or conservation easement and using funding that comes from non-mitigation sources (e.g., grant funding, local fundraising efforts)
- Acquire parcels and manage vegetation in areas that protect linkages across I-580 and I-680 through fee title purchase, conservation easement, or agricultural easement.
- Allow the expansion of California ground squirrel colonies on all protected lands except when needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands.
- The use of rodenticides in protected areas and, when possible, outside protected areas shall be prohibited. When rodent management is needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use IPM principles.

IV-5(c)

Prior to issuance of building permits, additional measures shall be implemented to increase the San Joaquin kit fox population while protecting and enhancing suitable habitat and important regional linkages in the study area. Additional measures shall include, but not be limited to, the following:

- Mitigate the loss of suitable San Joaquin kit fox habitat by protecting habitat in accordance with mitigation guidelines outline in Table 3-11 of the EACCS, including implementing a standard mitigation ratio of 3:1 for San Joaquin kit fox habitat to compensate for loss of habitat.
- Acquire parcels with documented San Joaquin kit fox den sites in the study area that meet the conservation goals and objectives of this strategy through fee title purchase and/ or conservation easement and using funding that comes from non-mitigation sources (e.g., grant funding, local fundraising efforts)
- Conduct targeted presence/absence surveys, including scat scent surveys with dogs, on private and public lands on both sides of I-580 and along the California Aqueduct to identify linkages between and across these barriers.
- Acquire parcels and manage vegetation in areas that protect linkages across infrastructure barriers and that meet the conservation goals and objectives of this strategy through fee title purchase or conservation easement.



- Create new passages (undercrossings or overcrossings) across I-580 between Livermore and the Alameda/San Joaquin County Line and overcrossings at key locations along the California Aqueduct that are large enough to accommodate movement of terrestrial mammals, including San Joaquin kit fox.
- Create an incentive program that will encourage private landowners to manage ground squirrels on their property using IPM principles and work toward a balance between species needs and the requirements of a working landscape.
- Allow the expansion of California ground squirrel colonies on all protected lands except when needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands.
- The use of rodenticides in protected areas and, when possible, outside protected areas shall be prohibited. When rodent management is needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use IPM principles.

*San Francisco dusky-footed woodrats and Ringtails*

IV-6 *Prior to ground-disturbing activities, a qualified biologist shall conduct a preconstruction survey for San Francisco dusky-footed woodrats and ringtail. The survey shall be submitted to the Planning Department. If ringtails are located in the project area, construction shall halt until they leave the area on their own. Should a woodrat nest be located, and found in a development area, a qualified biologist shall dismantle the woodrat nest, while providing temporary shelter in the meantime. If ringtails or San Francisco dusky-footed woodrats are not present, additional mitigation is not required.*

All Special Status Wildlife Species

IV-7 During construction activities, all pipes used for fencing or other purposes shall be capped and trenching shall contain exit ramps to avoid direct morality while construction areas are active. The above requirement shall be included via notation on any grading plans approved for the project to the satisfaction of the Alameda County Planning Department.

**Response to Comment 5-33**

The results of all biological surveys conducted in conjunction with the proposed project would be submitted to the California Natural Diversity Database (CNDDDB).

**Response to Comment 5-34**

The comment does not address the adequacy of the IS/MND. The proposed project would include payment of applicable filing fees, in accordance with State law.



**Response to Comment 5-35**

The comment is a concluding statement, and does not address the adequacy of the IS/MND.



Letter 6



San Francisco Bay Regional Water Quality Control Board

January 20, 2020

Sent via electronic mail: No hardcopy to follow

Alameda County Planning Department  
224 West Winton Ave., Suite 111  
Hayward, CA 94544

ATTN: Rodrigo Orduña (rodrigo.orduna@acgov.org)

**Subject:** San Francisco Bay Regional Water Quality Control Board Comments on the *Initial Study and Mitigated Negative Declaration for Oasis Fund Livermore Grow Facility Project, Alameda County, California*  
**SCH No. 2019129080**

Dear Mr. Orduña:

6-1

San Francisco Bay Regional Water Quality Control Board (Water Board) staff appreciates the opportunity to review the *Initial Study and Mitigated Negative Declaration for the Oasis Fund Livermore Grow Facility Project, Alameda County, California* (ISMND). The ISMND evaluates the potential environmental impacts associated with constructing and operating the Oasis Fund Grow Facility at 7033 Morgan Territory Road, Livermore, California (Project). The Project purpose is to establish an indoor cannabis cultivation facility. The Project includes development of a 32,000-square foot (sf) greenhouse building, as well as a 5,040-sf processing building, and 26 parking stalls. The Project will be developed within a 98.11-acre property. A private residence currently exists on the property. With the exception of rural, single-family residences to the north, west, and east, the Project site is surrounded by predominately undeveloped land.

6-2

**Summary**

As is discussed below, the ISMND does not accurately describe the extent of Water Board jurisdiction or provide sufficient information to document the Project's compliance with the requirements of the State Water Resources Control Board's Cannabis Policy and Cannabis General Order.

JIM McGRATH, CHAIR | MICHAEL MONTGOMERY, EXECUTIVE OFFICER

1515 Clay St., Suite 1400, Oakland, CA 94612 | [www.waterboards.ca.gov/sanfranciscobay](http://www.waterboards.ca.gov/sanfranciscobay)



6-3

**Comment 1.**

**The information presented in the ISMND is currently insufficient to demonstrate full compliance with the requirements of the Cannabis General Order.**

The Project proponent has submitted a Notice of Intent (NOI) to the Water Board for coverage under the State Water Resources Control Board's Cannabis Policy and Cannabis General Order (Order WQ 2019-0001-DWQ), and has been issued a Notice of Applicability (NOA) for enrollment under the Cannabis General Order. Based on the information presented in the ISMND, it is not clear if the Project is in full compliance with the requirements of the Cannabis General Order with respect to the requirements for greenhouse construction and the treatment of cannabis-related wastewaters (See Comment 3, below).

The Cannabis Policy and Cannabis General Order have strict definitions and requirements for facilities that are regulated as indoor growing facilities. A cultivation site is classified as an indoor facility if the greenhouse is a permanent structure with a permanent roof and an impervious floor (e.g., concrete, asphalt, etc.). Please revise the ISMND to provide sufficient detail with respect to greenhouse construction to confirm that the greenhouse will meet the requirements of the Cannabis Policy and Cannabis General Order for an indoor grow facility.

6-4

**Comment 2.**

**Section IV, Biological Resources of the ISMND is based on a Biological Evaluation that does not accurately describe Water Board and California Department of Fish and Wildlife (CDFW) jurisdiction.**

The *Discussion* subheading in Section IV states that, "The following discussion is based on a Biological Evaluation performed by the ecological consulting firm Live Oak Associates, Inc. for the proposed project (See Appendix B)." Appendix B consists of *Oasis Grow Facility Property, Biological Evaluation, Alameda County, California* (Live Oak Associates, Inc., October 24, 2018). Section 2.4 of this Evaluation includes the following text:

The limit of USACE<sup>1</sup> jurisdiction, as well as that of the RWQCB, over Cayetano Creek determined to be jurisdictional tributary waters is the ordinary high water mark. This creek would also be subject to the jurisdiction of the CDFW which regulates the bed-and-bank of streams, creeks or channels."

The Water Board has regulatory authority over wetlands and waterways under both the federal Clean Water Act (CWA) and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the Water Board has regulatory authority over actions in waters of the United States, through the issuance of water quality certifications (certifications) under Section 401 of the CWA, which are issued in combination with permits issued by the U.S. Army Corps of Engineers (USACE), under Section 404 of the CWA. When the Water Board issues Section 401 certifications, it simultaneously issues general Waste Discharge

<sup>1</sup> USACE = U.S. Army Corps of Engineers.



6-4  
Cont'd

Requirements (WDRs) for the project, under the Porter-Cologne Water Quality Control Act. Activities in areas that are outside of the jurisdiction of the USACE (e.g., isolated wetlands, vernal pools, or stream banks above the ordinary high water mark) are regulated by the Water Board, under the authority of the Porter-Cologne Water Quality Control Act. Activities that lie outside of USACE jurisdiction may require the issuance of either individual or general WDRs from the Water Board. In addition, CDFW jurisdiction extends beyond the top of bank to the outer drip line of riparian vegetation present along the top of bank. Please revise the Biological Evaluation to correctly state the extent of Water Board and CDFW jurisdiction.

Under the authority of the Porter-Cologne Water Quality Act, the Water Board has developed, and implements, the *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan), which defines the Beneficial Uses of waters of the State within the San Francisco Bay Region. The Project site includes a reach of Cayetano Creek, which has been assigned the following existing and potential Beneficial Uses in the Basin Plan: the preservation of rare and endangered species, warm freshwater habitat, wildlife habitat, contact water recreation, and non-contact water recreation. Any permit action taken by the Water Board must be consistent with maintaining Beneficial Uses of waters of the State. Therefore, any Project activities that may impact aquatic habitat for foothill yellow-legged frog, California red-legged frog, or western pond turtle may be subject to Water Board jurisdiction. Please revise the Biological Resources discussion in the ISMND to acknowledge that the Water Board has regulatory jurisdiction over impacts to rare and endangered species in Cayetano Creek.

**Comment 3.**

**Section XIX, Utilities and Service Systems, of the ISMND does not provide sufficient information to verify compliance with the requirements of the Cannabis General Order for cannabis-related wastewater.**

Text in Section XIX states:

6-5

Wastewater treatment for the proposed project would be provided by construction of an on-site septic tank and leach field. The septic system would serve the processing building for use by employees only. According to Chapter 15.18 of the County Code of Ordinances, if the amount of wastewater received by an OWTS exceeds 10,000 gpd, the method of treatment must be submitted for review and approval by the San Francisco RWQCB. Wastewater produced by the project would not exceed 700 gpd, and thus, would not require review by the San Francisco RWQCB.

The proposed project includes construction of a leach field, which would remove contaminants and impurities from the liquid that emerges after anaerobic digestion in a septic tank. The septic system would be subject to the Alameda County Septic System Ordinance per the ACEHD, and would require review by the department prior to approval of the permit. Wastewater would be directed to a leach field, which would filter and purify water. Any additional sludge would be kept in a 5,000-gallon sludge tank which would be hauled off-site every 10 days.



Alameda County Planning Department  
SCH No. 2019129080

- 4 -

ISMND for Oasis Fund Grow Facility

6-5  
Cont'd

The ISMND discusses generation of domestic wastewater, but does not provide a discussion of the volumes of cannabis-related wastewater that may be generated. Cannabis-related wastewater includes, but is not limited to, tailwater, reverse osmosis reject water, and cleaning wastewater. Per the requirements of the Cannabis Policy and Cannabis General Order, onsite septic systems can only be used for domestic wastewater and cannot be used to treat cannabis-related wastewater. Any cannabis-related wastewater must be hauled off site at this time. Please revise the ISMND to describe management of cannabis-related wastewater in conformance with the requirements of the Cannabis General Order.

**Conclusion**

6-6

The ISMND should be revised to correctly describe Water Board jurisdiction at the Project site and to describe the measures to be used to maintain conformance with the requirements of the Cannabis General Order for indoor grow facilities and for the management of cannabis-related wastewater.

If you have any questions, please contact me at (510) 622-5680, or via e-mail at [brian.wines@waterboards.ca.gov](mailto:brian.wines@waterboards.ca.gov).

Sincerely,

Brian Wines

Digitally signed by Brian  
Wines  
Date: 2020.01.21 12:35:01  
-08'00'

Brian Wines  
Water Resources Control Engineer  
South and East Bay Watershed Section

cc: State Clearinghouse ([state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov))  
CDFW, Marcia Grefsrud ([marcia.grefsrud@wildlife.ca.gov](mailto:marcia.grefsrud@wildlife.ca.gov))



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## LETTER 6: SAN FRANCISCO REGIONAL WATER QUALITY CONTROL BOARD, BRIAN WINES

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### **Response to Comment 6-1**

The comment is an introductory statement and does not address the adequacy of the IS/MND.

### **Response to Comment 6-2**

The comment is an introductory statement. Specific issues raised by the commenter are addressed in the responses below.

### **Response to Comment 6-3**

With regard to wastewater treatment, see Response to Comment 6-5 below. The proposed cultivation facility would be constructed as a permanent structure with an impervious floor. Thus, the proposed green house would be considered an indoor growing facility, and, thus, the project applicant would be required to comply with the regulations set forth in the State Water Board Cannabis Policy and Cannabis General Order.

For clarification purposes, Page 6 of the IS/MND has been revised as follows:

#### **Cannabis Cultivation**

In 1996, the voters of the State of California approved Proposition 215, titled “Compassionate Use Act of 1996,” and permitted the growth and cultivation of cannabis for medical purposes. On November 8, 2016, the voters of the State of California approved Proposition 65, which decriminalized the adult-use of cannabis for non-medical purposes and established a regulatory scheme at a state level. The Alameda County Ordinance Code was updated in 2018 to allow permitted cannabis cultivation operations in the unincorporated area of Alameda County to grow both medical and adult use cannabis. Cannabis cultivation, as defined by Chapter 6.106 of the Alameda County General Ordinance Code, means any activity involving the planting, growing, harvesting, drying, curing, grading, or trimming of cannabis.<sup>11</sup> The California Department of Food and Agriculture (CDFA) has jurisdiction over the issuance of licenses to cultivate, propagate, and process commercial cannabis in California. The CDFA issues licenses to outdoor, indoor, and mixed-light cannabis cultivators, cannabis nurseries, and cannabis processor facilities, where the local jurisdiction authorizes cannabis activities. All commercial cannabis cultivation activities within California require a cultivation license from the CDFA. Based on such, the project applicant would be required to demonstrate compliance with the Chapter 6.106 of the County’s General Ordinance Code, as well as CDFA regulations in order to obtain a cultivation license.

### **Response to Comment 6-4**

As discussed on page 38 of the IS/MND, the proposed project would not include disturbance or modification of Cayetano Creek within the project vicinity, including riparian habitat associated with the creek. Thus, the project would not conflict with applicable regulations of the U.S. Army Corp of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), or the CDFW. Furthermore, page 37 of the IS/MND states the following:

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<sup>11</sup> Alameda County Community Development Agency. *Alameda County General Ordinance Code*. August 7, 2018.



[...] Should the project require the placement of fill within the bed and bank of Cayetano Creek or result in the removal of woody riparian vegetation, then the project would be subject to the regulatory authority of the USACE, RWQCB, and CDFW.

Based on the above, in the event that any future work is required within Cayetano Creek, including improvements to the culvert bridge, then the project would be required to comply with all State and federal regulations related to construction work that would impact riparian habitats. The applicant may be required to obtain a Section 404 Clean Water Act permit, a Section 401 Water Quality Certification from the RWQCB, and/or a Section 1600 Streambed Alteration Agreement from the CDFW.

Page 52 of the IS/MND is hereby revised as follows:

According to the Biological Evaluation, wetlands were not observed on the project site during the October 2018 survey. Potentially jurisdictional waters are present in the project area in the form of Cayetano Creek. The Creek is regulated by the U.S. Army Corp of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the CDFW. However, the proposed project would be constructed on the project site, which is dominated by California annual grassland and would not disturb or alter the creek. Should the project require the placement of fill within the bed and bank of Cayetano Creek or result in the removal of woody riparian vegetation, then the project would be subject to the regulatory authority of the USACE, RWQCB, and CDFW. It should also be noted that the State Water Board has regulatory jurisdiction over impacts to rare and endangered species in Cayetano Creek. Thus, any project activities that could impact the aquatic species discussed above could be subject to the State Water Board jurisdiction.

### **Response to Comment 6-5**

Page 52 of the IS/MND is hereby revised as follows:

The proposed project consists of construction of a greenhouse for cannabis cultivation. Cultivation activities would not involve routine transport, use, or disposal of hazardous waste. Cannabis plants and byproducts are organic waste and not hazardous, as defined in Section 42649.8(c) of the Public Resources Code. The proposed project would handle cannabis waste according to California Code of Regulations §8308, Cannabis Waste Management. In accordance with State disposal requirements, ~~the proposed project would compost some organic waste on site, and any remaining all cannabis~~ waste would be hauled to a facility that recycles organic material. In transport of any cannabis product, the track and trace system would be used, so as to account for all cannabis product leaving the site.

In addition, page 78 of the IS/MND is hereby revised as follows:

Wastewater treatment for the proposed project would be provided by construction of an on-site septic tank and leach field. The septic system would serve restrooms within the processing building for use by employees only. The septic system would not receive any wastewater associated with cannabis irrigation. According to Chapter 15.18 of the County Code of Ordinances, if the amount of wastewater received by an OWTS exceeds 10,000 gpd, the method of treatment must be submitted for review and approval by the San



Francisco RWQCB. Wastewater produced by the project would not exceed 700 gpd, and thus, would not require review by the San Francisco RWQCB.

The foregoing revisions demonstrate that the project would be consistent with the requirements of the General Cannabis Order.

**Response to Comment 6-6**

As noted in Response to Comment 6-4 above, the IS/MND adequately describes the RWQCB jurisdiction at the project site. With regard to consistency with the Cannabis General Order, see Response to Comment 6-5. The IS/MND will be recirculated with the revisions included in this document.



Letter 7

**Urzua, Sonia, CDA**

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**From:** chuk@oasislivermore.com  
**Sent:** Friday, January 31, 2020 10:40 AM  
**To:** Urzua, Sonia, CDA  
**Cc:** Lopez, Albert, CDA  
**Subject:** Update request

**Importance:** High

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

**Categories:** Green Category

Hi Sonia,

As I understand it we have a number of comments on the Oasis CEQA document. Some of the problem is the CEQA document doesn't reflect the latest known information with regard to water and waste water. This has created some degree of confusion.

I believe you have comments from private citizens as well as from public agencies including Zone 7, CA Ag Board, CA Water Board, Fish and Wildlife. Is this correct? Are there others?

The public comment period ends a week from today. As we agreed, responses to the input would not be left to draft until the end of the comment period. How is progress with the responses you have in hand? Am I entitled to see anything before the end of the comment period? Since it too goes in the public record may I have copies of what you have already, please?

Will you be at the Cannabis Stakeholders meeting on Thursday the 6<sup>th</sup>? May we meet before that meeting to discuss things, please? Will you be providing an update to the Stakeholders group about the Oasis? I would like to schedule a meeting for the week of February 10<sup>th</sup> to review input in detail. Does Tuesday the 11<sup>th</sup> work for you? What time?

7-1

Thank you for your help and guidance. Getting our CEQA updated to be consistent with the latest known information will hopefully address a significant part of the comments. We are committed to facilitating getting any other information necessary to address other comments as well. It is our goal to move the process forward quickly and efficiently. Thank you for supporting us with this.

Sorry we haven't been able to connect at all this week – not for lack of trying. I look forward to your response. Have a great weekend....

Chuk Campos  
Founder

THE OASIS

a venture dedicated to  
Agriculture, Water, Energy, and Food



**LETTER 7: OASIS FUND LIVERMORE GROW FACILITY PROJECT,  
CHUCK CAMPOS**

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**Response to Comment 7-1**

See Response to Comment 1-2 regarding changes to the water demand estimates.



Letter 8  
Cont'd



**San Francisco Bay Chapter**

Serving Alameda, Contra Costa, Marin and San Francisco counties  
2530 San Pablo Avenue, Suite I  
Berkeley, CA 94702

Mr. Rodrigo Orduña  
Alameda County Planning Department  
224 W. Winton Avenue, Suite 111  
Hayward, CA 94544

February 7, 2020

Re.: **Oasis Fund Livermore Grow Facility, Initial Study/Mitigated Negative Declaration**  
**PLN: 2018-00258**

Dear Rodrigo:

8-1

The Sierra Club submits the following comment on the Initial Study/Mitigated Negative Declaration (IS/MND) for the Oasis Fund Livermore Grow Facility to be located at 7033 Morgan Territory Road, Livermore, CA 94551.

The proposed facility is located in the Resource Management land use designation. Resource Management provides, inter alia: "Apart from infrastructure under Policy 13, all buildings shall be located on a contiguous development envelope not to exceed 2 acres, except they may be located outside the envelope if necessary for security reasons or, if structures for agricultural use, necessary for agricultural use." The purpose of a limited development envelope is to keep all buildings on a parcel as close together as reasonably possible in order to preserve the remaining land as open space.

8-2

It is unclear whether this provision has been met. Figure 2: Project Vicinity Map shows the Proposed Project Site and the Single-Family Residence on the parcel, but it does not delineate a 2-acre development envelope. Similarly, Figure 3: Project Site Plan does not show a 2-acre development envelope or the proximity of the residence in relation to the project site. Neither figure contains a scale by which to judge whether a contiguous 2-acre development envelope may exist for all buildings on the parcel.

While the proposed facility is an agricultural use and could be located outside the development envelope under the land use designation, the IS/MND does not explain why it is necessary for agricultural use that it be located outside the development envelope. In short, this subject is not analyzed at all in the IS/MND. As such, the IS/MND is deficient and must be addressed before it can be approved.

Thank you the opportunity to comment on this project.

Sincerely,

Dick Schneider, Chair Tri-Valley Regional Group



## **LETTER 8: SIERRA CLUB, DICK SCHNEIDER**

---

### **Response to Comment 8-1**

The comment is an introductory statement and does not address the adequacy of the IS/MND.

### **Response to Comment 8-2**

The commenter's concern is a planning consideration that will be addressed in the staff reports and by the decision-makers. The IS/MND analyzed all impacts associated with the proposed site plan. In addition, as discussed in Section XI, Land Use and Planning, of the IS/MND, the project site is zoned Agricultural and designated Resource Management. The site is also located in an area outside of the urban growth boundary as established by Measure D. Measure D restricts areas outside of the urban growth boundary to agricultural, natural resource, and rural uses, and prevents the construction of infrastructure to support any urban development. The Alameda County Zoning Ordinance states that cultivation of cannabis may be an appropriate conditionally permitted use in the agricultural districts and outside of the urban growth boundary established by Measure D. Additionally, the project would adhere to Policy 79 of the ECAP, which requires areas designated Resource Management do not require the extension of public sewer or water, detract from agricultural production in the area, or create a concentration of commercial uses in the area. Therefore, the proposed project would be consistent with the Resources Management designation.



**Letter 9**

**Urzua, Sonia, CDA**

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**From:** Larry Altman <laltman32@gmail.com>  
**Sent:** Wednesday, January 8, 2020 1:31 PM  
**To:** Urzua, Sonia, CDA  
**Subject:** Oasis Livermore marijuana farm

**Categories:** Green Category

Ms. Urzua:

I am a reporter writing an article for the Independent in Livermore on the Oasis marijuana farm project, notably the recently released environmental impact report.

**9-1**

Is it correct as the Pleasanton Weekly has reported, that members of the public interested in commenting should send comments to you at 224 W. Winton Ave., Hayward, or email you at this address?

Thanks.

Larry Altman  
Freelance reporter  
310-210-0985

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**LETTER 9: ALTMAN, LARRY**

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**Response to Comment 9-1**

The comment is related to the submission of public comments on the IS/MND. The comment does not specifically address the adequacy of the IS/MND, but the comment has been forwarded to the decision-makers for their consideration.



**Letter 10**

**Urzua, Sonia, CDA**

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**From:** ROBERT AUGELLO <marilyn.augello@comcast.net>  
**Sent:** Tuesday, January 28, 2020 10:25 AM  
**To:** Urzua, Sonia, CDA  
**Subject:** Marijuana farm

**Categories:** Green Category

10-1

Recently learned of plans for a marijuana farm being planned on Morgan Territory Rd. (?)  
I'm a retired Livermore resident and my husband & I are very much against this in our community.  
Respectfully,  
Marilyn Augello

Sent from XFINITY Connect App

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**LETTER 10: AUGELLO, MARILYN**

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**Response to Comment 10-1**

The comment does not specifically address the adequacy of the IS/MND, but the comment has been forwarded to the decision-makers for their consideration.



**Letter 11**

**Urzua, Sonia, CDA**

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**From:** Chris Bernardi <cbgoal90@icloud.com>  
**Sent:** Tuesday, January 7, 2020 9:08 AM  
**To:** Urzua, Sonia, CDA  
**Subject:** A matter of Time. Allow cannabis growth here please

**Categories:** Green Category

11-1

Please allow this to happen as the area needs it. It's already focused on better irrigation systems than wineries due from the beginning. Having cannabis illegal is completely wrong if you look up the medical uses and effects comparing to alcohol. It makes no sense. Times have changed and our generation has found a proper use for Cannabis. We would like to have it legal and growing here with us. Farms are harmless. Please do not discriminate against marijuana as it is harmless.

Thanks,

-Chris

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**LETTER 11: BERNARDI, CHRIS**

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**Response to Comment 11-1**

The comment does not specifically address the adequacy of the IS/MND, but the comment has been forwarded to the decision-makers for their consideration.



Letter 12

**Urzua, Sonia, CDA**

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**From:** Kris Blakely <krisblakely1@gmail.com>  
**Sent:** Wednesday, January 22, 2020 8:08 AM  
**To:** Urzua, Sonia, CDA  
**Subject:** Livermore Pot Farm

**Categories:** Green Category

- 12-1 Dear Ms. Urzua,  
I'm writing to say that I think the idea of promoting and tolerating a pot farm in Livermore is appalling.  
To begin with, it has no intrinsic value to the community, but more to the point, it's a wasteful and harmful money-making scheme backed by deeply questionable elements, i.e., Kukushkin and friends.
- 12-2 In addition, the unconscionable and unjustifiable use of millions of gallons of water just to run the thing each year, is environmentally hazardous and damaging in the extreme. Isn't anyone paying attention to the fact that we are in the midst of catastrophic climate change, and the water supply is threatened for even our most basic needs (food, for example)?
- 12-3 But aside from this, I'm appalled at the County and the cities involved for tolerating this pot farm scheme and the negative, undermining influence it will have on the young, and on our society. Pot farms do not help us develop a morally strong younger generation, and in the very near future, they are going to be running this country. Marijuana contributes only to the further degradation of a society that is failing to evolve to something higher and finer. In this world, individuals, counties, states, and nations have two choices: either evolve or devolve. Pot farms help ensure the latter, a fact over which which I'm sure our enemies rejoice.  
Please use your position to do what you can to stop this amoral venture.  
Sincerely,  
Kris Blakely

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## **LETTER 12: BLAKELY, KRIS**

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### **Response to Comment 12-1**

The comment does not address the adequacy of the IS/MND, but the comment has been forwarded to the decision-makers for their consideration.

### **Response to Comment 12-2**

With regard to the Hydrology Report and the IS/MND, see Response to Comment 1-2.

### **Response to Comment 12-3**

The comment does not address the adequacy of the IS/MND, but the comment has been forwarded to the decision-makers for their consideration.



Letter 13

**Urzua, Sonia, CDA**

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**From:** Lauren de Vore <ldv9600@gmail.com>  
**Sent:** Friday, January 24, 2020 1:51 PM  
**To:** Urzua, Sonia, CDA  
**Subject:** Opposition to Morgan Territory Road, Livermore, marijuana farm

**Categories:** Green Category

**13-1** I am writing to express my strong (strenuous, extreme, adamant) opposition to the marijuana farm proposed for Morgan Territory Road in Livermore. Such an enterprise is totally at odds with the long-standing and current character of the region.

**13-2** Marijuana cultivation is environmentally damaging, requiring far too much water for a drought-prone region (a region likely to be more drought-prone in the near future). The water usage projected for the enterprise is far beyond that available through rainfall, and extracting that much underground water will deplete the water source that nearby residents and ranchers rely upon, which is unacceptable.

**13-3** Marijuana "grows" in California have clearly shown their harmful impact on the environment. The extensive use of herbicides and pesticides will very likely result in contamination of land and water. As marijuana is not legal federally, the EPA has no mechanisms in place for ensuring cultivation does not cause environmental damage and county and state systems are too new to have demonstrated their effectiveness.

**13-4** The combined water demand and chemical usage will harm both residents and local wildlife. Among the local wildlife are a number of threatened and/or endangered species which local residents, the county and the state have worked hard to prot. Marijuana plants also have an extremely unpleasant odor, whether growing or being processed, posing yet another detrimental environmental impact.

**13-5** In addition, marijuana cultivation, whether legal or illegal, attracts criminal elements seeking to steal the crop. The violence of such criminal activity will threaten nearby neighbors and the entire Morgan Territory community. Indeed, we have already had experience with shootings and other violence associated with marijuana cultivated further up the road.

**13-6** The "final straw" with this proposed operation is the involvement of persons currently under indictment for federal crimes. Individuals who have demonstrated a disregard for U.S. laws are not the sort of people who should be welcomed to do business in our community.

**13-7** It is glaringly clear that the marijuana farm proposed for Morgan Territory Road should be promptly and firmly vetoed.  
Sincerely,  
Lauren de Vore  
30+ year resident of Morgan Territory Road

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## **LETTER 13: DE VORE, LAUREN**

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### **Response to Comment 13-1**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.

### **Response to Comment 13-2**

Please see Responses to Comments 1-2 and 1-4 regarding water demand and usage associated with the proposed project.

### **Response to Comment 13-3**

Pages 52 and 53 of the IS/MND state the following regarding pesticide and herbicide use:

The proposed project would not employ the use of pesticides and would minimize the use of fertilizer to the extent possible. Additionally, the proposed project would adhere to the County Ordinance Code Chapter 6.106 regulations on handling of pesticides and fertilizers. Because cannabis waste and associated fertilizer products are not considered hazardous, the project would not create a significant hazard to the public through the routine transport, use, or disposal of hazardous materials and a *less-than-significant* impact would occur.

Based on the above, use or storage of pesticides would not occur as part of the proposed project, and any fertilizer use would comply with Chapter 6.106 of the County Code of Ordinances. While typical commercial cleaning agents may be used in limited quantities, such chemicals would be handled in accordance with label instructions and applicable local, State, and federal regulations.

### **Response to Comment 13-4**

As discussed in Section IV, Biological Resources, of the IS/MND, pre-construction surveys to determine the presence of special-status plant and wildlife species within the site would be required prior to initiation of construction activities per Mitigation Measures IV-2, IV-3, IV-4, IV-5, and IV-6. Furthermore, page 29 of the IS/MND states the following regarding odor complaints:

It should be noted that BAAQMD also regulates objectionable odors through BAAQMD Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain effective until such time that citizen complaints have not been received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. Thus, if odor complaints are made after the proposed project is developed, the BAAQMD would ensure that such odors are addressed and any potential odor effects are reduced.

In addition, Chapter 6.106, Cannabis Cultivation, of the Alameda County Code of Ordinances, requires new projects to be designed with sufficient odor absorbing ventilation and exhaust systems so that any odor generated on the premises is not detected outside the lot on which it operates. In order to comply with Chapter 6.106 an Odor Control Plan was prepared by the project applicant which demonstrates the type of odor control devices that would be used during



operations of the proposed project. Based on the above, mitigation for odor impacts is not necessary.

**Response to Comment 13-5**

The proposed security plan is consistent with the requirements of Section 6.106.080 of the County Code of Ordinances, and has been deemed adequate for the proposed uses. Furthermore, crime is a law enforcement issue and is not within the purview of CEQA. The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.

**Response to Comment 13-6**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.

**Response to Comment 13-7**

The comment is a concluding statement and does address the adequacy of the IS/MND.



**Urzua, Sonia, CDA**

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**From:** Susie Dial <dial6@pacbell.net>  
**Sent:** Tuesday, January 7, 2020 7:30 AM  
**To:** Urzua, Sonia, CDA  
**Subject:** No pot farm in Livermore

**Categories:** Green Category

14-1

I've gone through addiction with 2 of my sons. What can be done to stop this thought or growing drugs in my city?

Susie

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**LETTER 14: DIAL, SUSIE**

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**Response to Comment 14-1**

The comment does not address the adequacy of the IS/MND, but the comment has been forwarded to the decision-makers for their consideration.



Letter 15

**Urzua, Sonia, CDA**

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**From:** Ted Galustian <tgalustian@comcast.net>  
**Sent:** Saturday, January 18, 2020 9:50 AM  
**To:** Urzua, Sonia, CDA  
**Cc:** tgalustian@comcast.net  
**Subject:** Livermore Marijuana Farm Comments

**Categories:** Green Category

- 15-1** As a resident of Livermore Saddleback community, within 4.7miles of the proposed site, I vehemently oppose the Marijuana farm. Reason are listed below:
- 15-2** >Smell from site (big problem in Oregon with similar sites). The community already struggles with garbage odor from the dump off Vasco Rd just north 2.2miles. Added odor will only make outdoor experiences even worst.
- 15-3** >Cash business and crime implications
- 15-4** >Biking distance from Christiansen Middle School and messaging to kids
- 15-5** >Negative impact to home values/no one wants to live near this Close to
- 15-6** >commute artery with Brentwood traffic (Vasco to Dalton and North Livermore) and crime implications: similar to exponentially high retail theft near highways.
- 15-7** >Firearms with Livermore gun club within a few miles off proposed site
- 15-8** >Waste water and impact to Cayetano Creek Negative impact to roads with
- 15-9** >traffic and trucks to support the site. North Livermore Rd currently cannot support (rural road/not designed to support) traffic from commuter and farm traffic with notable deaths due to road condition (three I know of/marked by flags/one being a police officer).

- 15-10** Thank you for taking this into consideration and the family is hopeful, for above reasons, this project can be stopped or moved to a remote location.
- Thank You
- Ted Galustian

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## **LETTER 15: GALUSTIAN, TED**

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### **Response to Comment 15-1**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.

### **Response to Comment 15-2**

See Response to Comment 13-4 regarding odor complaints.

### **Response to Comment 15-3**

Crime is a law enforcement issue and is not within the purview of CEQA. Thus, the comment does not address the adequacy of the IS/MND.

### **Response to Comment 15-4**

Although the proposed project could be located near existing schools and residences in the area, as discussed under Response to Comment 13-5, the proposed project would implement a security plan in accordance with Section 6.106.080 of the County Code of Ordinances. The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.

### **Response to Comment 15-5**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.

### **Response to Comment 15-6**

See Response to Comment 13-5. In regard to traffic, as discussed on Page 73, of the IS/MND, the Traffic Impact Analysis (TIA) analyzed the potential impacts on the LOS of nearby intersections and determined that operation of the proposed project would not result in any impacts related to degradation of the LOS of nearby intersections. Therefore, the project would not result in any conflicts with adopted County LOS standards, or plans to maintain such standards.

### **Response to Comment 15-7**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.

### **Response to Comment 15-8**

See Response to Comment 1-2.

### **Response to Comment 15-9**

See Responses to Comments 29-45 through 29-49.

### **Response to Comment 15-10**

The comment is a concluding statement and does address the adequacy of the IS/MND.



Letter 16

**Urzua, Sonia, CDA**

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**From:** Carol Gerich <carolgerich@gmail.com>  
**Sent:** Monday, February 3, 2020 5:37 PM  
**To:** Urzua, Sonia, CDA  
**Cc:** Carol Gerich  
**Subject:** Do NOT approve the Oasis Fund Livermore Now Facility

**Categories:** Green Category

**Alameda County Board of Supervisors:**

**16-1** We, the neighbors of the proposed Oasis Marijuana Farm at 7033 Morgan Territory Road, are fighting these plans vigorously. It is a highly inappropriate place for such an uncertain and untested enterprise. **There are over thirty (30) rural homes—many with children--that are located within one mile of the proposed site on Morgan Territory.**

**16-2** There is definitely a sense of community here among our numerous homeowners, and no large-scale agricultural growing exists. We have invited the County's staff several times to visit our area and see how it is incompatible with a large marijuana cultivation area (32,000 sf greenhouse, a 5000 sf processing building plus 26 parking places). Many of us have written letters as well and spoken at supervisory meetings. As a result of discrepancies found, Zone 7 recently rescinded their septic system approval and ordered a full Environmental Impact Report for this site. As neighbors, we are especially worried about any impact on our aquifer and the amount of available water required for such a large enterprise.

**16-3** This new type of cultivation promises to bring more visitors, some undesirable, to our area. Exterior lights, security guards, tall barbed-wire fencing, and bad odors are likely consequences as well. These changes detract significantly from our community ambiance and friendliness—and future "sale-ability."

**16-4** Morgan Territory Road is primarily a **single-line (no center line) road** from just past the location of the proposed site to the other end of this long, narrow, twisting rural road where it connects to Marsh Creek Road near Concord. As a result, there will be basically **only one entrance and exit** to the proposed marijuana farm. Plus, its current entrance is located on a **blind corner** with very poor visibility, especially to the north.

**16-5** Furthermore, this site at 7033 Morgan Territory Road has been the scene of considerable police activity and emergency vehicles in the past. The very large home (on and off the market for the last few years) has been the site of huge parties involving alcohol and drug use--necessitating calls to the police as well as our local volunteer fire department for medical services. As a very recent article in *The Independent* newspaper pointed out, those currently involved, specifically the Kukushkin investors of San Francisco, face criminal charges with associates of Rudy Giuliani. In these recent dealings, the investors plan to use money from Russians to support politicians who might help them get retail marijuana licenses in the United States. There should be no foreign interference, especially Russian, in a local enterprise in rural Livermore.



**Letter 16  
Cont'd**

**16-6** Finally, we have no process of appeal or help if trouble occurs again on this cultivation site. A process should be established **before** the farms start, not after. There are two sites nearby on Manning Road that are in a more public, more well-traveled and less occupied area. First, try out this new enterprise there where very few neighbors are impacted. Also, check if it is workable. Current news articles document that legal farms are losing money.

**16-7** We are not against marijuana cultivation, which is now legal, but against highly improper siting.

Carol Gerich, 12885 Morgan Territory Road, Livermore, CA 94551

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## **LETTER 16: GERICH, CAROL**

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### **Response to Comment 16-1**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.

### **Response to Comment 16-2**

See Responses to Comments 1-2 and 1-4 for information related to the Hydrology Report prepared for the proposed project.

### **Response to Comment 16-3**

With regard to lighting, security, and the proposed layout, see Responses to Comments 4-3, 5-29, 8-2, and 13-5. With regard to odors, please see Response to Comment 13-4.

### **Response to Comment 16-4**

Potential sight hazards associated with the existing driveway access at Morgan Territory Road are analyzed on page 74 of the IS/MND. As noted therein, the TIA for the proposed project determined that the line of sight between vehicles exiting the driveway and vehicles travelling northbound along Morgan Territory Road is clear and visible. The line of sight of vehicles exiting the driveway and traveling southbound is affected by existing vegetation and a horizontal curve just north of the driveway. Because the foregoing conditions are existing, the TIA recommends to the County that trees in the public right of way be kept trimmed to a minimum of eight feet from the ground and ground cover be kept trimmed to a maximum height of three feet. Additionally, the TIA recommends the installation of a stop sign at the project driveway, as well as blind driveway signs for southbound travelling vehicles.

Given that the proposed project would not modify the existing driveway at Morgan Territory Road and would not substantially increase the volume of traffic travelling to and from the project site through the driveway, the proposed project would not substantially increase hazards due to a geometric feature. Any existing design hazards associated with the driveway are considered part of the CEQA baseline, and would not be substantially exacerbated by the proposed project.

### **Response to Comment 16-5**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.

### **Response to Comment 16-6**

Crime is a law enforcement issue and is not within the purview of CEQA. With regard to development at a different location, the project applicant does not own either of the two properties mentioned. Furthermore, consideration of an off-site alternative is not required under CEQA for preparation of an IS/MND.

### **Response to Comment 16-7**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.



Letter 17

January 22 2020

ATT: Sonia Urzua, planner

Re: Cannabis Grow Facility

17-1 I have so many disbeliefs after reading this report only recently in our local newspaper regarding a proposed marijuana farm on Morgan Territory Rd. Why destroy the natural, beautiful and positively productive northwestern side of Livermore with a proposed marijuana farm. Primarily, cattle ranching, horse, sheep and cultivation of land with wheat, corn and hay have reigned for many years over North Livermore Ave into Morgan Territory road area where beauty has remained. Aproposed Marijuana farm will produce a very different and distractive atmosphere for Livermore and the residents of Morgan Territory Rd who have cared for their homes and property for hundreds of years. This Farm will

17-2 generate more traffic on our one lane Morgan Territory Rd. There is already concerns with traffic safety for all of the residents without adding more vehicles to an already dangerous road. The entrance and exit of this proposed operation are on a blind curve when traveling south on Morgan Territory Rd and this creates an even larger concern if the vehicles will be commercial vehicles needed to support the proposed Marijuana farm.

17-3 Our country already has enough drug abuse and addiction affecting our younger generation. Please help Livermore remain an asset to our state of California and deny the proposal for the Marijuana farm on Morgan Territory Rd, there are many other locations that would be more suitable for a commercial business and less disturbing for residents who have lived their whole lives on this mountain.

17-4 Brenda Morris and her neighbors have written statements that describe perfectly our situation and all of the negative effects of this proposed Cannabis farm. Please deny the building of this Cannabis farm. Please don't let politics and money destroy our lives and our country- so sad.

17-5 I am Carol Hardiman a resident of Morgan Territory Rd where my family has lived and owned land for more than a hundred years. My husband and I raised our 6 children who now have never ending memories of their time on Morgan Territory Rd. Thank you lord for our miraculous time on Morgan Territory Rd. Please continue to keep us safe and secure for new and your families. I am also requesting that a full environmental impact report for the conditional use permit PLN:2018-00258 so we have a complete understanding of the impact of this proposed Cannabis farm.

With great concern,



Carol Hardiman



## **LETTER 17: HARDIMAN, CAROL**

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### **Response to Comment 17-1**

The comment is an introductory statement and does not address the adequacy of the IS/MND.

### **Response to Comment 17-2**

See Response to Comment 16-4.

### **Response to Comment 17-3**

The comment does not address the adequacy of the IS/MND and has been forwarded to the decision-makers for their consideration.

### **Response to Comment 17-4**

See Responses to Comments 29-1 through 29-55.

### **Response to Comment 17-5**

The comment is a conclusion statement, requesting preparation of an EIR. The County has determined that adequate evidence exists and is included in the Recirculated IS/MND to support the conclusion that all potential impacts of the proposed project have been reduced to a less-than-significant level. Therefore, the preparation of an EIR for the proposed project is not warranted.



**Letter 18**

**Urzua, Sonia, CDA**

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**From:** Janet Hartwig <sparkie365@yahoo.com>  
**Sent:** Wednesday, January 15, 2020 12:37 PM  
**To:** Urzua, Sonia, CDA  
**Subject:** Marijuana Growing in Livermore

**Categories:** Green Category

**18-1** This sounds like a TERRIBLE idea that should not be approved but put to voters.

Sent from my iPad

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**LETTER 18: HARTWIG, JANET**

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**Response to Comment 18-1**

The comment does not address the adequacy of the IS/MND, but the comment has been forwarded to the decision-makers for their consideration.



**Letter 19**

**Urzua, Sonia, CDA**

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**From:** Jenny Hydrick <jenhyd72@hotmail.com>  
**Sent:** Tuesday, January 7, 2020 6:20 AM  
**To:** Urzua, Sonia, CDA  
**Subject:** Livermore cannabis farm

**Categories:** Green Category

19-1

This email is to strongly vote AGAINST allowing a cannabis farm to be grown in my hometown of Livermore. Our town is known for its beautiful wineries, quaint downtown area and family community. The addition of a cannabis farm would tarnish this image of our town. I hope that you will vote against allowing this to happen here.

Have a great day!  
Jennifer Hydrick

Sent via the Samsung Galaxy S7 edge, an AT&T 4G LTE smartphone

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**LETTER 19: HYDRICK, JENNIFER**

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**Response to Comment 19-1**

The comment does not address the adequacy of the IS/MND, but the comment has been forwarded to the decision-makers for their consideration.



Letter 20

**Urzua, Sonia, CDA**

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**From:** Layne Jensen <laynejensen@gmail.com>  
**Sent:** Wednesday, February 5, 2020 12:09 PM  
**To:** Urzua, Sonia, CDA; Palmeri, Maria, CDA  
**Cc:** Littlejohn, Heather M., County Counsel; Frank Imhof; Scott Beyer; Derek Eddy; Sandy Figuers; Olivia Sanwong; Gambs, Dennis; Sarah Palmer; Dick Quigley; Angela Ramirez Holmes; Michelle Smith McDonald  
**Subject:** Re: Public Comment Period, Comments on Oasis Fund Grow Facility Initial Study/Mitigated Negative Declaration for #PLN2018-00258  
**Categories:** Green Category

Hello to everyone,

In my comments that I just sent we refer to our concern and fear of the charges against the applicant for PLN2018-00258, as our property borders the applicant's.

These news articles are just from the last 2 days. As neighbors, we have endured camera crews and reporters coming to our homes to question us and find out information on this person. A logical assumption would be that surely a permit couldn't be granted to someone that is wanted for these type of dealings, could it? Please read the below articles in relation to the applicant's submissions.

Much thanks  
Layne Jensen

<https://lawandcrime.com/high-profile/veterans-affairs-dept-planned-to-partner-with-lev-parnass-indicted-business-associate/>

Indicted Parnas associate was set to partner with VA on cannabis research - POLITICO: <https://www.politico.com/news/2020/02/03/andrey-kukushkin-veterans-affairs-cannabis-research-110545>

<https://www.sacbee.com/news/california/california-weed/article239951558.html>

On Wed, Feb 5, 2020 at 10:45 AM Layne Jensen <[laynejensen@gmail.com](mailto:laynejensen@gmail.com)> wrote:

Dear Sonia,

Please find enclosed our public comments on the Oasis Fund Grow Facility Initial Study/Mitigated Negative Declaration, # PLN2018-00258.

Thank you

Erik & Layne Jensen



cc: via Electronic Submittal on 2/5/20 with hard copy to follow to:

- Heather Littlejohn, Alameda County, [heather.littlejohn@acgov.org](mailto:heather.littlejohn@acgov.org)
- Maria Palmeri, Alameda County, [maria.palmeri@acgov.org](mailto:maria.palmeri@acgov.org)
- Frank Imhof, Chair, East County Board, Zoning Adjustments– [onetracman@earthlink.net](mailto:onetracman@earthlink.net)
- Scott Beyer, Member, East County Board, Zoning Adjustments - [Scott.Beyer@wentevineyards.com](mailto:Scott.Beyer@wentevineyards.com)
- Derek Eddy, Member, East County Board, Zoning Adjustments – [derek@purpleorchid.com](mailto:derek@purpleorchid.com)
- Zone 7 Water Agency Board Members:
  - Sandy Figuers, [sfiguers@zone7water.com](mailto:sfiguers@zone7water.com)
  - Olivia Sanwong, [osanwong@zone7water.com](mailto:osanwong@zone7water.com)
  - Dennis Gambs, [dgambs@zone7water.com](mailto:dgambs@zone7water.com)
  - Sarah Palmer, [spalmer@zone7water.com](mailto:spalmer@zone7water.com)
  - Dick Quigley, [dquigley@zone7water.com](mailto:dquigley@zone7water.com)
  - Angela Ramirez Holmes, [aramirezholmes@zone7water.com](mailto:aramirezholmes@zone7water.com)
  - Michelle Smith McDonald, [msmithmcdonald@zone7water.com](mailto:msmithmcdonald@zone7water.com)

20-2  
Cont'd

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Layne

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Letter 20  
Cont'd

February 5, 2020

Sonia Urzua  
County of Alameda  
Planning Department  
224 W. Winton Avenue, Suite 111  
Hayward, CA 94544  
510-670-5437

Re: Oasis Fund Grow Facility Initial Study/Mitigated Negative Declaration # PLN2018-00258

Dear Sonia,

Please find enclosed our official response to the Oasis Fund Grow Facility Initial Study/Mitigated Negative Declaration, # PLN2018-00258.

Please call me with any questions at (925) 963-1164 or email at [laynejensen@gmail.com](mailto:laynejensen@gmail.com)

Thank you

Erik & Layne Jensen



cc: via Electronic Submittal on 2/5/20 with hard copy to follow to:

- Heather Littlejohn, Alameda County, [heather.littlejohn@acgov.org](mailto:heather.littlejohn@acgov.org)
- Maria Palmeri, Alameda County, [maria.palmeri@acgov.org](mailto:maria.palmeri@acgov.org)
- Frank Imhof, Chair, East County Board, Zoning Adjustments- [onetracman@earthlink.net](mailto:onetracman@earthlink.net)
- Scott Beyer, Member, East County Board, Zoning Adjustments - [Scott.Beyer@wentevineyards.com](mailto:Scott.Beyer@wentevineyards.com)
- Derek Eddy, Member, East County Board, Zoning Adjustments - [derek@purpleorchid.com](mailto:derek@purpleorchid.com)
- Zone 7 Water Agency Board Members:
  - Sandy Figuers, [sfiguers@zone7water.com](mailto:sfiguers@zone7water.com)
  - Olivia Sanwong, [osanwong@zone7water.com](mailto:osanwong@zone7water.com)
  - Dennis Gambs, [dgambs@zone7water.com](mailto:dgambs@zone7water.com)
  - Sarah Palmer, [spalmer@zone7water.com](mailto:spalmer@zone7water.com)
  - Dick Quigley, [dquigley@zone7water.com](mailto:dquigley@zone7water.com)
  - Angela Ramirez Holmes, [aramirezholmes@zone7water.com](mailto:aramirezholmes@zone7water.com)
  - Michelle Smith McDonald, [msmithmcdonald@zone7water.com](mailto:msmithmcdonald@zone7water.com)

20-2  
Cont'd



February 3, 2020

Sonia Urzua  
Planner Alameda County Planning Department  
224 West Winton Avenue, Suite 111  
Hayward, CA 94544  
510-670-5400;  
sonia.urzua@acgov.org

After reviewing the Oasis Fund Livermore Grow Facility Initial Study/Mitigated Negative Declaration PLN: 2018-00258 submitted on 12/23/19 to Alameda County Planning Department, I have discovered many deficiencies, missing supporting reports and insufficient Mitigation Measures throughout.

The Initial Study/Mitigated Negative Declaration is not sufficient and the impacts are more potentially significant than the applicant has portrayed. Therefore, I respectfully request, that a full EIR (Environmental Impact Report) be required for this Conditional Use Permit, PLN:2018-00258. We reserve the right to supplement these comments during public hearings concerning the Project.

20-3

It is important to state for the record, that the Notice for this ISMND was sent 12/23/2019 without the direct link to the supporting documents and missing the deadline information to send responses. A second notice was sent 12/24/2019 which included the date of the deadline and still missing the direct link to the documents. The notices were received during the winter holiday season when County staff and recipients were either on break or spending time with their families. January 7, 2020 was the first day staff returned messages with the correct link. Staff was notified on January 9, 2020 that information was missing from the MND and an extension was requested for the second time along with a request for all public documents for this CUP, PLN:2018-00258. Since we did not have 30 days to review and publicly comment., we made a request to the County to extend the public comment period. The County responded by extending the due date to February 7, 2020.

Please note the most important insufficiencies and missing items are listed below, with references to the page numbers in the submitted Initial Study/Mitigated Negative Declaration PLN2018-00258:

20-4

1. Aesthetics, Scenic Quality (Section I.c, Page 15-18 in the IS/MND)

- a. In item C, mid-way through the paragraph it says that the proposed project would not result in a substantial degradation of the existing visual character of quality of the site as the proposed structures would be partially screened by vegetation and would be limited in size. Furthermore, it says that because the proposed project would not have an adverse effect on a scenic vista and would not damage scenic resources or existing visual character, a *less-than-significant* impact would occur. Both of these statements are insufficient as there is no proposed or existing vegetation for screening of this urban style warehouse facility facing our residence. (Please see picture of the current view from our front door and front of residence looking directly at the proposed site where currently wildflowers and a barn sit)



20-4  
 Cont'd



Therefore, there is a Potentially Significant Impact to our current scenic vista and existing visual character, with potential damage to scenic resources, and wildlife, therefore, we request new mitigation measures must be added or proposed, and we request a full EIR, Environmental Impact Report to address this.

20-5

2. Light pollution due to illumination for necessary security (section I.d, Page 18 in the IS/MND)

a. Item d reads that “....the proposed project will install safety lighting around the outside perimeter of the building, creating a new source of light glare where none currently exists. The lighting system would only be triggered by motion detectors, which would limit the amount of time when such systems are activated.”

20-6

1. This is false, and is a potentially significant impact that needs to be studied. Since the applicant has not resided in our area, they are unaware that many wild animals and cattle from neighboring farms are on our properties all the time. These are coyotes, bobcats, skunks, many deer, raccoons, turkeys, owls, bats, rabbits, and the list goes on. Many of the wild animals are nocturnal and will constantly be triggering the on and off light glare and create light pollution in an utterly country setting that is currently natural and without nighttime light. Our home faces the proposed warehouse and will constantly be assaulted by the light pollution. We cannot have flashing lights suddenly hitting our home as soon as the sun sets and going off all throughout the night, every single night. This is utterly unacceptable.

20-7

Then paragraph d. concludes with this statement: “Due to the setback from the nearest public roadway and residences, as well as existing vegetation sheltering the structure from view of the public roadway, the proposed project would not create a substantial light source that would affect the day or nighttime views, and a *less-than-significant* impact would occur.” This is also a false and insufficient statement as our residence faces the proposed location with no current vegetation or landscape screening at all, so we would be fully impacted with a *Potentially Significant Impact* with currently no viable mitigation measures offered in this document. The applicant suggest slow growing Oak trees, and this will not be sufficient in the least. The Oaks will provide no screening for many years. Therefore, the mitigation measures for



20-7 Cont'd	light impact are fully insufficient and must be reviewed and recirculated, and we request a full EIR, Environmental Impact Report.
20-8	2. There is no mention in the MND of the lighting that will be added to the 30 car parking lot. Nor is the number of parking stalls consistent throughout the many documents for this application. This will be a huge light pollution impact and there is no mention of it and no mitigation offered. This is insufficiently addressed. A full EIR is required to address all of the many impacts.
20-9	b. <b>Safety:</b> When a Conditional Use Permit to grow a crop, near residences requires Security personnel, security lights, security cameras (pointing towards OUR homes, which constitutes a MAJOR invasion of privacy,) this is great cause for concern and impacts. No other crop cultivated requires security due to criminal activity that is associated with it and the criminal activity that it brings with it. This is well known throughout the Cannabis industry, law enforcement and is seen in the news all the time throughout California. This major impact was not studied or mentioned anywhere in detail in the IS/MND, or the CUP, therefore, Safety and Security impacts to surrounding families and residences are potentially significant impacts that need to be reviewed and studied, with mitigation measures offered, and then the report re-circulated. The response time for law enforcement to our rural area is delayed, and this must be studied.
20-10	3. <b>Sound pollution due to climate control in the greenhouse, (section XIII.Noise, page 62 in the IS/MND)</b> a. The impact of sound pollution due to climate control in the greenhouse/warehouse is unknown as there are currently no known warehouses of this size and scope in Alameda County cultivating this use in this manner. Under the section "Project Operational Noise" it refers to ventilation fans and exhaust fans to provide cooling for large volume buildings." This potentially significant impact has not been fully studied nor mitigated at all. There is little to no sound currently in our rural areas, so the likelihood that there would be a potentially significant impact in noise to neighboring families and residences is very high, therefore, the Noise mitigation measures are insufficient and require a full EIR (Environmental Impact Report).
20-11	4. <b>Sound pollution due to 'Diesel Generators', (section XIII.Noise, page 63 in the IS/MND and Section VI. Energy, page 41 in the IS/MND)</b> a. The proposed "occasional use of diesel generators" (on page 27 under TAC emissions of the IS/MND which have not had their location confirmed) on page 42, in the Energy section, and on page 63 under the Noise Section, do not provide essential details giving the location of these generators. In addition, the MND does not address the decibel rating of these large diesel generators. Furthermore, there is no detail on the location of the fuel storage for these generators. Will we have to see these large generators? The MND contains missing supporting information related to this very potentially significant impact. In addition, when PG&E shuts off our power in the rural areas for consecutive days (which happened multiple times last Summer and Fall 2019) then these generators will be running non-stop with NO noise mitigation offered. Diesel Generators are not quiet. Therefore, this section in the MND is insufficient and needs to be reviewed and studied and recirculated for public comment. A full EIR, Environmental Impact report to study this potentially significant impact is required.
20-12	5. <b>Sound pollution and water impact due to water cooling system (Section F, page 11 &amp;12 in the IS/MND)</b> a. This impact is unknown as there are currently no known warehouses of this size and scope in Alameda County with a water cooling system of this size. The Initial Study/Mitigated Negative Declaration does not address the potential sound nor has it been studied for potentially significant impacts. In addition, the requirement of 10,000 gallons per day of well water to cool this system has not been studied. The surrounding homes



20-12 Cont'd	<p>and ranches do not produce this amount of groundwater, and all conserve that have lived here for many generations. Therefore, the assumptions in this IS/MND and mitigation measures are insufficient and require a full EIR (Environmental Impact Report).</p>
20-13	<p>6. <b>Proposed Water impact: Proposed impact/usage of 10,000 gallons per day for cooling system, 2,800 gallons per day for irrigation of the cannabis, and then 1,000 gallons per day for sanitary and processing uses. (Section X., Hydrology and Water Quality, page 55 in the IS/MND)</b></p> <p>a. The numbers given for wells and water usage in the IS/MND do not compute. How can 4 existing wells that produce currently 5,800 gallons of water per day, support the needed, 13,800 gallons per day requirement to operate the proposed warehouse, given in the same paragraph. The wells currently service the two large occupied homes on the property. To our knowledge there has been no study submitted with this IS/MND on the underground water basin supply. 500,000 gallons of storage containers are proposed and no information is provided as to the location and number or size of tanks that will be installed on the property. The water totals given in the CUP and MND could total 5,000,000 gallons per year! This area cannot possibly sustain or produce this amount. Everyone that lives here knows that and conserves at every opportunity.</p>
20-14	<p>b. There was no Hydrology report provided online or in person when requested with Alameda County. It is referenced in the Initial Study/Mitigated Negative Declaration, but the report itself, has not been provided when requested to the public. <u>This report MUST be released to the public and it has not been.</u> We were able on 1/15/20 to get a Balance Hydrologies report from Zone 7 Water Agency, but we aren't even completely sure it is the correct one that is referenced in the MND. Therefore, the IS/MND is incomplete, and the unknown impacts and mitigation measures make this insufficient and this requires a full EIR (Environmental Impact report)</p>
20-15	<p>c. Who supplied the information regarding Hydrology and Water supply? It is referenced that new wells are necessary to construct, yet the IS/MND states that the four existing wells would be adequate. Major conflict of information that does not compute. Again, no hydrology report to support what is referenced even incorrectly. Therefore, the IS/MND is incomplete, insufficient and must be reviewed, corrected and re-circulated for public comment..</p>
20-16	<p>d. At the <b>Zone 7 Board Meeting, January 15, 2020</b>, agenda item #9, a presentation was made outlining the <i>Draft CUP/MND Discrepancies and Omissions</i> provided for the Project Oasis Fund Livermore Grow Facility. Bullet points included; conflicting project water demands, erroneous and inconsistent water supply information, no monitoring or reporting requirements for pumped groundwater volumes or levels, no action threshold or contingency plans for a case of unsustainable groundwater pumping or levels, lone mitigation for potential GW impacts is "Zone 7 permit", potential interference with GW recharge was not evaluated, potential cumulative impacts associated with two onsite residences not considered, no mention of onsite holding tank to keep pollution out of leachfield, reclaimed irrigation not quantified, <i>Balance Hydrologics</i> report was not included as an Appendix, and conditions of Zone 7's approval for OWTS use were not included.</p>
20-17	<p>e. There is insufficient well water flow on the property to service the existing homes and pool; in addition, water trucks have been observed filling the existing 10,000-gallon tank for ten years and most notably in 2017 there was an increase in deliveries of water. There is no plan for monitoring groundwater levels or mitigation if neighboring wells are damaged resulting permitted land uses taken. A full EIR is requested to complete a full analysis on the significant impacts this project will have on the groundwater, neighbor's wells, and adjacent Cayetano creek.</p>



20-18	<p>f. The Report says that the proposed project would “harvest rain water through underground vaults” where are these underground vaults going to go? There is no guarantee of any amount of rain water each year in this area. We have had predominately drought years for the last few decades and only dry farming (cattle) is done in the North Livermore Valley. Everyone who lives here in the area, knows this. There is also great uncertainty of the ability of a rain harvesting system due to climate change and climate shifts. What would the water usage impact be without rainwater harvesting? The IS/MND is incomplete and must have this information added and recirculated for public comment. In addition, the proposed water usage has a VERY potentially significant impact to all the surrounding families and residences, so this must be fully studied in a full EIR (Environmental Impact report). We request a full EIR to study this very serious potentially significant impact.</p>
20-19	<p>g. In addition, the intensive irrigated agriculture has never occurred on this property proposed for the Project or the adjacent land due to the lack of sustainable water. The impact on biological resources is unknown due to the omission of focused surveys for sensitive species that were identified as having potential habitat onsite. The construction of a 32,000 industrial building surrounded by a perimeter security fence, lighting, noise, and offensive odors is not consistent with the current structures, past structures, or physical environment in the area. Therefore, we believe this project will have a significant impact on groundwater, the quality of the environment and the people who live here.</p>
20-20	<p><b>7. Potential impact to plant and animal species due to increased activities onsite and 32,000 SF facility and 5,040 SF processing facility. (Section IV., Biological Resources, page 30 in the IS/MND)</b></p> <p>a. Two special plant species (large flowered fiddleneck and the bent flowered fiddleneck) should be surveyed per Live Oak’s initial findings to confirm presence, or lack thereof, with a focused survey occurring in March – June blooming period. <b>As this survey was not completed, this impact is unknown.</b> Therefore, the MND is insufficient and cannot be approved since the surveys were not completed. These surveys would also require a recirculation of the MND document with surveys included this time and potentially a full EIR (Environmental Impact Report).</p>
20-21	<p>b. Countless special status species have been identified as having potential habitat onsite, including four amphibians and reptiles, seven migratory birds/nesting raptors, burrowing owls, special status bats, and four mammals all have the potential to occur onsite. Focused surveys should be completed to confirm their status prior to any approvals for project. <b>As this survey was not completed, this impact is unknown.</b> Therefore, this IS/MND is insufficient and would require a recirculation with those surveys completed or potentially a full EIR (Environmental Impact Report).</p>
20-22	<p><b>8. Stormwater reference on Page 12 of ISMND – Lacking information</b></p> <p>a. On page 12 in the ISMND, under the first paragraph under Stormwater, it states, “Overland flow and runoff from the project site currently flow into a small drainage ditch located on the north side of the project site and drains into Cayetano Creek.” As our property directly borders the applicant’s property line on the North side, we would like to see the supporting documents showing this drainage ditch. We are unaware of a drainage ditch that currently exists on our property line that goes into the creek.</p>
20-23	<p><b>9. Stormwater treatment for new parking lot - Missing</b></p> <p>a. There was no mention of the impact of installing a 26 car paved parking lot as it relates to Stormwater treatment. As this impact was not reviewed or mitigation measures given, this impact to Cayetano Creek is unknown. Therefore, the missing information in this IS/MND needs to be added or instead require a full EIR (Environmental Impact Report).</p>



20-24	<p><b>10. Odor Mitigation and Air Quality – (Letter F, Page 11 and Section III. Air Quality on page 21 in the IS/MND)</b></p> <p>a. Odors from site cannot be quantified, but are assumed to be negligible even though they cannot be quantified.</p> <p>b. The mitigation is enforcement by County, but this will occur after facility is already up and running? This is unacceptable therefore, this IS/MND is missing information and must be added on this subject and recirculated for comment.</p> <p>c. Can measures be included to control odor up front?</p> <p>d. On page 21 of Section III, Air Quality, the item d is checked as “Less-than-significant-impact” yet there is no way to quantify the odor control system that is conceptual. Therefore, this is insufficient and the mitigation proposed is completely unknown if it will work. This makes it a potentially significant impact, as currently, nothing smells in our clean country air around our homes and residences and land.</p> <p>e. We request that a full EIR must be done to address this impact.</p>
20-25	<p><b>11. Safety Plan &amp; Staffing (Letter F, Page 11 in the IS/MND)</b></p> <p>a. Safety Plan: States that there will be “at least one security guard during all operating hours”.</p> <ol style="list-style-type: none"> <li>1. What type of security and in what form?</li> <li>2. Will the security be armed?</li> <li>3. Exact hours the security will be on the site?</li> </ol>
20-26	<p>b. Safety, Video Surveillance: In the Safety paragraph on page 11, it reads “Additionally, video surveillance would be installed on the exterior of the building in all areas of ingress and egress.” Those areas of ingress and egress will undoubtedly include our private road and driveway, as those intending to commit crime on this site, will try to jump fences and access this dangerous destination on our property. This is a VERY potentially significant impact and invasion of privacy to all of the families that live on that private road. Insufficient information and details in the MND and CUP are not provided on this matter. This impact needs to be reviewed and studied and recirculated for public comment.</p>
20-27	<p>c. Safety Plan: says “All cannabis would be stored in high-security, fire-proof safes. Inventory would be removed from the storage safes only for immediate transport or sale.” Sales? There is not a permit issued nor is SALES allowed on site. This needs to be reviewed, confirmed by Law Enforcement and the County of Alameda, and mitigation measures taken to control NO SALES on site. This is unacceptable to all surrounding families and residences. <b>A full EIR must be required along with additional permits and studies to support County and Federal allowance of SALES allowed on site.</b></p>
20-28	<p>d. It's very unclear what those operating hours will be. At one place under Staffing, it reads “8:00am to 6:00pm, daily”. Is this being proposed to run 7 days a week? Totally unacceptable and no studies or impacts have been reviewed or studied on this. This is not a commercially zoned area that can handle workers and business hours. We live in an Agriculture Preserve, as zoned by the County. This would result in a potentially significant impact to all families and residences surrounding this site.</p> <ol style="list-style-type: none"> <li>1. The CUP permit states 8 a.m. – 6 p.m. working hours but also notes security during the evening hours as well, so this information is incorrect and undefined.</li> <li>2. What type of disruption and impact can our families expect? This was not studied or mentioned anywhere in the IS/MND, therefore it must be included and recirculated for public comment.</li> </ol>
20-29	<p><b>12. Mass grading and construction. (Section XIII.Noise, page 62 in the IS/MND)</b></p> <p>a. At one point in documents, it says that the construction is anticipated to take 23 months;</p> <p>b. In another place in the ISMND it states that construction will take 3 months; this must be clarified and more detail given.</p>



20-30	<p>c. Due to proximity of project to residential homes and families, we would require limiting construction work hours to Monday – Friday 8:00am – 5:00pm. There shall be no construction or grading work to occur on Saturdays or Sundays. This potentially significant impact was not studied and no mitigation measures given, so that must be included and recirculated for public comment.</p>
20-31	<p>13. Cannabis Cultivation is not a permitted use, it requires a use permit. (Section E., Introduction page 6 in the IS/MND)</p> <p>a. Since Cannabis cultivation is not a permitted use, and it requires a use permit, therefore, concessions such as location, light impacts, sound mitigation, safety and hours of operation should be made to allow a non-permitted use on this property. This Initial Study/Mitigated Negative Declaration does not take into account the many impacts to the surrounding families and residences. Throughout the document it says that there is mostly vacant land surrounding the project site. This is not accurate. We respectfully request that location of proposed warehouses be studied and reviewed due to proximity to private road for neighboring families and residences. Please review these potentially significant impacts and include these in the analysis for the Mitigated Negative Declaration and then recirculate for public comments.</p>
20-32	<p>14. Transportation – (Section XVII. Transportation, page 70 in the IS/MND)</p> <p>a. 110 daily trips are anticipated to be added, which is adding about 20% more daily trips to Morgan Territory Road. This is noted as a “small addition of trips” but an additional 20% increase in daily traffic along Morgan Territory Road is notable, not a “small addition of trips” as indicated in the MND. Although the report states that this is “less-than-significant,” we are concerned that the existing driveway and Morgan Territory Road will be greatly impacted by the potential peak-hour queuing to turn into the project driveway, which is a heavily curved corner coming out of it, and approaching from the North. There have been numerous times collisions have almost occurred from drivers leaving residence and entering Morgan Territory Road due to the blind corner where the driveway is located.</p>
20-33	<p>b. <b>Transportation Impact:</b> VMT: Though the Vehicle Miles Traveled (VMT) is not required to be studied until July 1, 2020, most projects at this stage are reviewing both VMT and Average Daily Trips to reflect best practices. Given the lack of local public transportation, we expect most trips and miles will be driven by single occupancy vehicles. We respectfully request that VMT be included in the analysis and then recirculated for public comments.</p>
20-34	<p>15. Hazardous Materials</p> <p>a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials? Marked less than significant impact</p> <p><b>Comment:</b> The project does not include a hazardous materials plan for monitoring stored fertilizers and the possibility of storing pesticides. Cleaning agents have not been identified for use or storage in the facility. A potential list of hazardous materials used on site should be a requirement and mitigations evaluated. Mold and fungus are common problems in cannabis cultivation and treated with pesticides. Cannabis waste is considered organic waste if it is not combined or contains any hazardous or toxic material.<sup>1</sup> A plan to dispose of hazardous or toxic material should be required. <a href="https://www.calrecycle.ca.gov/swfacilities/compostables/cannabis">https://www.calrecycle.ca.gov/swfacilities/compostables/cannabis</a><sup>1</sup></p>
20-35	<p>Natural gas use is mentioned in the MND, but only propane is available in the area. Information is not provided on the quantity of propane that will be stored or the size, location, or monitoring of the propane tank. The impact is unknown.</p>



Letter 20  
Cont'd

20-36

Please note that we were in attendance and spoke at the East County Board of Zoning Adjustments meeting, on March 28, 2019. There was a written request from our Morgan Territory neighbor group submitted to the Board that day as well as read aloud to the Board that day by our neighbor. Our submitted list of questions has not been responded to by County staff since then. We, the Morgan Territory Neighbors, request A Written Response to our list submitted.

20-37

In Conclusion, we feel strongly that this proposed use does not fit the land and water use for the neighborhood and all the families that live along Morgan Territory Road. For many generations our families have all had the privilege of living with nature in a special place called Morgan Territory. With the absence of an adequate water supply and monitoring of the groundwater, this seems to be potentially the most significant impact to the neighboring properties. We all fiercely protect and conserve water in order to live out here in Morgan Territory.

20-38

Now, to have an applicant that has not lived here long, with current criminal charges, being featured in many news articles in the past year, as the lead applicant listed on this application, we fear this risk is too great. To propose 5,000,000 gallons of water a year, pumped out of our shared limited groundwater basin is negligent and inconsiderate to all surrounding neighbors. Of equal concern, is the erratic changing of the applicant's name and LLC entity name on all supporting documents related to the Conditional Use Permit, and the ISMND. In the news articles, erroneous owners are quoted as also being the current owner. Too many red flags cause all of us neighbors to be concerned.

**Due to the missing and insufficient items in the Initial Study/Mitigated Negative Declaration, we request that a full Environmental Impact Report to be done for this proposed conditional use permit PLN2018-00258.**

Respectfully

Erik & Layne Jensen



13151 Morgan Territory Road

Livermore, CA 94551

20-39

cc: via Electronic Submittal to:

- Heather Littlejohn, Alameda County, [heather.littlejohn@acgov.org](mailto:heather.littlejohn@acgov.org)
- Maria Palmeri, Alameda County, [maria.palmeri@acgov.org](mailto:maria.palmeri@acgov.org)
- Frank Imhof, Chair, East County Board, Zoning Adjustments- [onetracman@earthlink.net](mailto:onetracman@earthlink.net)
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## **LETTER 20: JENSEN, LAYNE AND ERIK**

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### **Response to Comment 20-1**

The comment is an introductory statement and does not address the adequacy of the IS/MND.

### **Response to Comment 20-2**

The comment includes a list of the attachments to the letter and does not address the adequacy of the IS/MND.

### **Response to Comment 20-3**

The comment is an introductory statement and does not address the adequacy of the IS/MND.

### **Response to Comment 20-4**

See Response to Comment 4-3. In addition, CEQA (Pub. Resources Code, § 21000 et seq.) case law has established that only public views, not private views, are protected under CEQA. Therefore, implementation of mitigation and an EIR is not necessary.

### **Response to Comment 20-5**

The comment is a summary of the discussion in the IS/MND related to lighting and does not address the adequacy of the IS/MND.

### **Response to Comment 20-6**

See Response to Comment 4-3.

### **Response to Comment 20-7**

See Response to Comment 4-3.

### **Response to Comment 20-8**

See Response to Comment 4-3. In addition, the project description will be revised at page 11 of the IS/MND as follows:

#### Lighting

The proposed project would include installation of security lighting, consistent with Section 6.106.070 of the County Ordinance Code, in order to reduce the potential for criminal activity. The main objectives of the security lighting system would be to illuminate dark areas and detect movement in the protected area. The lighting system would be supplemented with instant-on lighting triggered by motion detectors. The facility and all walkways would be well-illuminated. In addition, all lighting within the parking area would be required to comply with Section 17.52.840 of the County Ordinance Code. Specifically, lighting within the parking area would be required to be designed so that light sources are directed downward and away from any residential areas.

The above revision is for clarification purposes only and will be incorporated into the recirculated IS/MND.



### **Response to Comment 20-9**

As discussed previously, the proposed security plan is consistent with the requirements of Section 6.106.080 of the County Code of Ordinances, and has been deemed adequate for the proposed uses. Furthermore, crime is a law enforcement issue and is not within the purview of CEQA. The comment, however, has been forwarded to the decision-makers for their consideration.

### **Response to Comment 20-10**

Noise associated with the operations of the proposed project is addressed on page 63 of the IS/MND, which states the following:

[...] Typical noise-generating equipment associated with cannabis cultivation would include ventilation fans, truck loading/unloading, and water pumps. The proposed project would implement a wet-wall evaporative cooling system, which uses the natural cooling process of water evaporation in conjunction with exhaust fans to provide cooling for large volume buildings. The use of the wet-wall system would reduce noise typically associated with HVAC systems. The proposed project would use state-of-the-art technology in order to increase the efficiency of a ventilation fan, and reduce operational noise levels.

As discussed in the IS/MND, due to the distance of the project site from the nearest noise-sensitive receptors, the project would not generate a substantial permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance.

### **Response to Comment 20-11**

Page 63 of the IS/MND is hereby revised as follows:

Project operations would include two backup generators on-site. Use of the generators would be limited to occasional testing and emergency situations. While the location of the generators has not yet been determined, they would likely be close to the proposed greenhouse structure, and more than 200 feet from the nearest sensitive receptor. Considering the distance between the proposed generators and nearest sensitive receptors, the noise produced by the generators would not be anticipated to disturb any nearby residents. However, should the generators be located closer than 200 feet, the proposed project could exceed the County's noise standards and a significant impact could occur.

Traffic to the project site would be limited to employees and authorized personnel, as operation is not open to the public. The project is expected to produce at most 110 trips per day, which is well below the current 576 trips along Morgan Territory Road and 2,229 trips along Manning Road. Given the small addition of trips, the proposed project would not result in substantial amounts of additional traffic noise.

### **Conclusion**

Overall, the temporary nature of construction activities on the project site, as well as adherence to the ~~City's General Plan~~ noise standards under the County's General Ordinance Code, would ensure that the project would not generate any substantial temporary increase in ambient noise levels. However, should the use of generators occur within 200-feet, operations of the proposed project could exceed the County's noise standards. Additionally, the distance of the project site to any nearby sensitive receptors, as well as the limited trip generation resulting from project operations, would ensure that



the proposed project would not generate a substantial permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance. Thus, the proposed project would have a ~~less-than-potentially significant~~ impact related to such.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a less-than-significant level.

XIII-1. Prior to issuance of any building permits, the project applicant shall show on the plans via notation that all generators proposed within the site are located at least 200 feet from the nearest residence. The plans shall be submitted to the Planning Department for review and approval.

As such, even in the event of temporary power shutoffs, noise from the proposed generators would not result in a substantial temporary increase in ambient noise levels in excess of the standards established in the General Plan or the County Code of Ordinances. In addition, as discussed on Page 27 of the IS/MND, the finalized locations for the generators has not been determined. The generators would likely be located in close proximity to the proposed structures, and, thus, would be over 200 ft away from the nearest existing residences. Furthermore, the method of fuel storage has also not yet been determined.

**Response to Comment 20-12**

As noted in Response to Comment 1-2, water usage for the proposed cooling system would be approximately 1,750 gpd. Overall, accounting for demands from the cooling system, the irrigation system, and other proposed operations, the project would result in a total annual water demand of 6,200 gpd. As demonstrated in Section X, Hydrology and Water Quality, of the IS/MND, the proposed project would not result in any significant impacts related to groundwater resources, and sufficient water supplies would be available to serve the proposed project, as well as the existing residences on the subject property. The findings presented in the IS/MND are supported by the Hydrology Report prepared for the proposed project by Balance Hydrologics, Inc. The Hydrology Report was not included in the IS/MND but will be included as an attachment with the revised and recirculated document.

**Response to Comment 20-13**

See Response to Comments 1-2 and 1-4.

**Response to Comment 20-14**

See Responses to Comments 1-2 and 1-4.

**Response to Comment 20-15**

See Responses to Comments 1-2 and 1-4.

**Response to Comment 20-16**

See Responses to Comments 1-2 and 1-8.

**Response to Comment 20-17**

See Responses to Comments 1-2 and 1-4.



### **Response to Comment 20-18**

See Responses to Comments 1-2, 1-4, 1-7, 1-8, and 28-3.

### **Response to Comment 20-19**

See Response to Comment 13-4 regarding odors. With regard to stormwater drainage, see Response to Comment 1-9. In addition, Response to Comments 5-1 through 5-35 include discussions of impacts to biological resources, as well as additional mitigation measures for special-status species that are known to occur in the project area.

### **Response to Comment 20-20**

As discussed in Section IV, Biological Resources, of the IS/MND, pre-construction surveys to determine the presence of special-status plant and wildlife species within the site would be required prior to initiation of construction activities per Mitigation Measures IV-2, IV-3, IV-4, IV-5, and IV-6. If the surveys were conducted previously at the time of publication, then species could potentially reenter the project site. By conducting the surveys prior to construction activities commencement, the presence of special-status can be efficiently determined and addressed prior to a potential impact.

### **Response to Comment 20-21**

See Response to Comment 20-20.

### **Response to Comment 20-22**

See Response to Comment 1-9.

### **Response to Comment 20-23**

Page 56 of the IS/MND states the following regarding the proposed stormwater infrastructure:

Stormwater that falls directly on the project site would be managed through stormwater facilities constructed for the project, including a rip rap dissipator and a ten by ten-foot bioretention area which would include a cobble dissipator to properly treat and mitigate the flow volumes for water quality, hydromodification, and flood control requirements. After being properly treated and dispersed, outflow would then flow into Cayetano Creek. Implementation of BMPs under the NPDES permit and enrollment in the WDR program, would ensure that the project would have a *less-than-significant* impact related to water quality standards and waste discharge requirements.

Furthermore, as noted on Page 58 of the IS/MND, new development and redevelopment projects that create or replace 10,000 or more sf of impervious surface area must contain and treat stormwater runoff from the site. Given that the proposed project would create more than 10,000 sf of impervious surfaces, including the parking areas, the project would be required to adhere to the Countywide NPDES C.3 standards. The proposed project would adhere to applicable standards routing runoff to the proposed bioretention area and properly treating the runoff prior to discharge into Cayetano Creek.

Based on the above, the IS/MND adequately stormwater associated with the proposed project.



**Response to Comment 20-24**

See Response to Comment 13-4 regarding odors.

**Response to Comment 20-25**

See Response to Comment 13-5.

**Response to Comment 20-26**

See Response to Comment 13-5.

**Response to Comment 20-27**

In response to the commenter's concerns, page 11 of the IS/MND is hereby revised as follows:

All cannabis would be stored in high-security, fire-proof safes. Inventory would be removed from the storage safes only for immediate transport ~~or sale~~. The storage area would have a volumetric intrusion detection device installed and connected to the facility intrusion detection system.

The foregoing revision does not affect the analysis or conclusions presented in the IS/MND.

**Response to Comment 20-28**

See Response to Comment 13-5. As noted on Page 11 of the IS/MND, hours of operation would be 8:00 AM to 6:00 PM, daily. For clarification purposes, the Page 11 of the IS/MND is hereby revised as follows:

Staffing

The proposed project's cannabis cultivation facility is anticipated to employ ~~20 to 30~~ 23 employees; however, not all of the employees would be on-site concurrently. Employees would only be present during the proposed hours of operation which would be from 8:00 AM to 6:00 PM, ~~daily~~ seven days a week. This IS/MND evaluates potential impacts associated with the proposed hours of operation.

The foregoing revision is for clarification purposes only and does not affect the analysis or conclusions presented in the IS/MND. For example, as discussed in Section XIII, Noise of the IS/MND, the proposed project analyzed potential noise impacts, including potential noise generating sources during hours of operation.

**Response to Comment 20-29**

Page 63 of the IS/MND is hereby revised as follows to correct the inconstancy noted by the commenter:

In addition, construction noise would only occur during the approximately ~~three~~ 23-month construction period. Chapter 6.60 of the Alameda County Code of Ordinances includes various regulations and standards for noise levels and vibration within the County. Section 6.60.070 of the Code exempts all noise sources associated with construction, provided construction activities are restricted to the hours of 7:00 AM to 7:00 PM, Monday through Friday, and 8:00 AM to 5:00 PM on Saturday and Sunday. The proposed construction activities would be limited to such hours in compliance with the County Code.



The foregoing revision does not affect the analysis or conclusions presented in the IS/MND.

### **Response to Comment 20-30**

As discussed on page 62 of the IS/MND, project construction noise at the nearest noise-sensitive receptors has been calculated to be approximately 60 decibels (dB), which is below the applicable 65 dB threshold for residences surrounded by agricultural uses. Furthermore, Section 6.60.070 of the County Code of Ordinances exempts all noise sources associated with construction, provided construction activities are restricted to the hours of 7:00 AM to 7:00 PM, Monday through Friday, and 8:00 AM to 5:00 PM on Saturday and Sunday. The proposed construction activities would be limited to such hours in compliance with the County Code and no mitigation is necessary. The commenters request for additional limitation on hours of construction has been forwarded to the decision-makers for their consideration.

### **Response to Comment 20-31**

As discussed in Section XI, Land Use and Planning, of the IS/MND, the Alameda County Zoning Ordinance states that cultivation of cannabis may be an appropriate conditionally permitted use in the agricultural districts and outside of the urban growth boundary established by Measure D. Given that the site is zoned Agricultural and located outside of the urban growth boundary established by Measure D, the proposed project is characterized as a conditionally permitted use within the project site. In addition, Page 7 of the IS/MND states the following regarding the project site and surrounding area:

With the exception of rural single-family residences to the north, west, and east, the project site and surrounding area is predominately undeveloped and vacant (see Figure 2). Cayetano Creek borders the project site to the west. Land uses in the vicinity consist of agricultural and sparse rural residences. The site is designated Resource Management under the ECAP and zoned Agricultural.

Furthermore, the IS/MND evaluated potential impacts associated with light and noise in Section I, Aesthetics, and Section XIII, Noise, of the IS/MND, including the impacts associated with the proposed hours of operation. It should also be noted that Crime is a law enforcement issue and is not within the purview of CEQA. Therefore, the IS/MND accurately characterizes the project site and the surrounding land uses.

### **Response to Comment 20-32**

The commenter does not provide evidence to support the assertion that the vehicle trip generation estimates presented in the IS/MND are inaccurate. Such trip generation estimates are based on the number of employees anticipated to be working on-site during each shift, and have been validated by the traffic consultant, TJKM. As discussed on page 63 of the IS/MND, the project is expected to produce at most 110 trips per day, which is well below the current 576 trips along Morgan Territory Road and 2,229 trips along Manning Road. In addition, Page 73 of the IS/MND notes that the Alameda County Transportation Commission CMP states that projects that are consistent with an applicable General Plan and would result in fewer than 100 peak hour trips are not subject to review by the Commission. Because the project would generate a maximum of 11 peak hour trips and would be consistent with the site's current General Plan land use and zoning designations, the project would not conflict with the CMP. Furthermore, the IS/MND includes a discussion of the potential impacts on the LOS of nearby intersections. According to the TIA prepared for the project, operation of the proposed project would not result in any impacts related to degradation of the LOS of nearby intersections.



As noted in Response to Comment 16-4, potential sight hazards associated with the existing driveway access at Morgan Territory Road are analyzed on page 74 of the IS/MND. As noted therein, given that the proposed project would not modify the existing driveway at Morgan Territory Road and would not substantially increase the volume of traffic travelling to and from the project site through the driveway, the proposed project would not substantially increase hazards due to a geometric feature.

### **Response to Comment 20-33**

CEQA Guidelines Section 15604.3 when into effect on July, 1, 2020; however, at the time of publication, the provisions of Section 15064.3 only applied prospectively and did not require a determination of impacts based on Vehicle Miles Traveled (VMT). However, because Section 15064.3 now requires an evaluation of VMT, Page 74 of the IS/MND is hereby revised as follows:

Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Pursuant to Section 15064.3, analysis of vehicle miles traveled (VMT) attributable to a project is the most appropriate measure of transportation impacts. Other relevant considerations may include the effects of the project on transit and non-motorized travel. ~~It should be noted that currently, the provisions of Section 15064.3 apply only prospectively; determination of impacts based on VMT is not required Statewide until July 1, 2020. Thus, evaluation of VMT has not been included.~~

Per Section 15064.3(3), a lead agency may analyze a project's VMT qualitatively based on the availability of transit, proximity to destinations, etc. While changes to driving conditions that increase intersection delay are an important consideration for traffic operations and management, LOS methodology does not fully describe environmental effects associated with fuel consumption, emissions, and public health. Section 15064.3(3) changes the focus of transportation impact analysis in CEQA from measuring impact to drivers to measuring the impact of driving.

The Governor's Office of Planning and Research prepared the *Technical Advisory on Evaluating Transportation Impacts in CEQA* in December of 2018. As noted therein, lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing. Many local agencies have developed screening thresholds to indicate when detailed analysis is needed. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant impact. Given that that the proposed project would generate approximately 110 ADT, the proposed project would result in a less-than-significant impact related to VMT.

~~Nonetheless~~Furthermore, the proposed project is consistent with the General Plan land use and would not generate more than 100 peak-hour trips. Thus, the project is consistent with the Alameda County Transportation Commission CMP, which evaluates VMT and has incorporated programs to reduce VMT within the County.

While the incorporation of alternative transportation would not be feasible at the project site, the project is consistent with the County's CMP. Furthermore, because the proposed project would generate approximately 110 ADT, the project would result in a less-than-significant impact related to VMT~~VMT analysis is not yet required~~. Based on the above,



the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and a *less-than-significant* impact would occur.

The foregoing revisions have been made to further evaluate consistency with CEQA Guidelines Section 15064.3 and do not affect the conclusions presented in the IS/MND.

### **Response to Comment 20-34**

See Responses to Comments 6-5 and 13-3.

### **Response to Comment 20-35**

The proposed operations would not include the use of natural gas or propane. Thus, page 43 of the IS/MND is hereby revised as follows:

Following implementation of the proposed project, PG&E would provide electricity ~~and natural gas~~ to the project site. Energy use associated with operation of the proposed project would be typical of grow facility uses, requiring electricity ~~and natural gas~~ for interior and exterior building lighting, heating, ventilation, and air conditioning (HVAC), electronic equipment, appliances, security systems, and more. [...]

In addition, page 49 of the IS/MND is hereby revised as follows:

Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO<sub>2</sub>) and, to a lesser extent, other GHG pollutants, such as methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), associated with area sources, mobile sources or vehicles, utilities (electricity ~~and natural gas~~), water usage, wastewater generation, and the generation of solid waste.

Page 78 of the IS/MND is hereby revised as follows:

Brief discussions of the wastewater, stormwater drainage, water, electrical, ~~natural gas~~, and telecommunications facilities that would serve the proposed project are included below.

Page 79 of the IS/MND is hereby revised as follows:

#### **Electricity, ~~Natural Gas~~, and Telecommunications**

Electricity ~~and natural gas~~ service for the proposed project would be provided by PG&E by way of new electrical ~~and gas~~ infrastructure in the project vicinity. Any upgrades to, or extension of, existing infrastructure would be performed by PG&E. Because the analysis throughout this IS/MND has conservatively included the entire property, any improvements associated with the project have been taken into consideration.

Because the proposed project would grow cannabis using a greenhouse, electricity would not be used on the same scale that indoor operations would. While lighting would be installed in the greenhouse as supplemental, the use would be consistent with what would be expected from an agricultural operation. Thus, impacts to electricity, ~~natural gas~~, and telecommunications infrastructure would be less than significant.

The foregoing revisions do not affect the analysis or conclusions presented in the IS/MND.



**Response to Comment 20-36**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.

**Response to Comment 20-37**

The comment is a conclusion statement, summarizing previous comments addressed above.

**Response to Comment 20-38**

The comment is a conclusion statement, summarizing previous comments addressed above.

**Response to Comment 20-39**

The comment is a conclusion statement, requesting preparation of an EIR. The County has determined that adequate evidence exists and is included in the Recirculated IS/MND to support the conclusion that all potential impacts of the proposed project have been reduced to a less-than-significant level. Therefore, the preparation of an EIR for the proposed project is not warranted.



Letter 21

**Urzua, Sonia, CDA**

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**From:** JEFF AND LINDA JENSEN <jljen@comcast.net>  
**Sent:** Friday, February 7, 2020 9:39 PM  
**To:** Urzua, Sonia, CDA  
**Subject:** Morgan Territeo

**Categories:** Green Category

Planner Alameda County Planning Department

224 West Winton Avenue Suite 111

Hayward CA 94544

[Sonia.urzua@acgov.org](mailto:Sonia.urzua@acgov.org)

Dear Ms. Urzua

21-1

I am not able to speak with the eloquence and information that my wonderful neighbor, Brenda Morris, is capable of doing but I do want to add my voice and concerns to discussion of the Oasis Fund Livermore Grow Facility proposed on Morgan Territory Road. The most pressing concern relates to the impact a project like this would have on the water available to the people living in this area. There is so little water currently that we all conserve water usage, have very little or no landscaping on our property. The road access is very limited and narrow. Any additional traffic would put stress on roads that are prone to erosion. The information given by Oasis has been shown to be inadequate and misinformed. It would be a very bad precedent to allow decisions to be made using inadequate and misleading information.

21-2

Please revisit and reassess the ill-advised location for the Oasis Fund development in this neighborhood.

Thank you for your time.

enjoy today,

Linda Jensen

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**LETTER 21: JENSEN, LINDA**

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**Response to Comment 21-1**

See Response to Comment 1-2. As noted in Response to Comment 1-2, the water demands and wastewater generation estimates presented in Section X of the IS/MND are consistent with the estimates presented in the Hydrology Report. Thus, the analysis presented within Section X of the IS/MND remains valid.

**Response to Comment 21-2**

See Response to Comment 16-4.



Letter 22

**Urzua, Sonia, CDA**

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**From:** Jason King <jk1ng@yahoo.com>  
**Sent:** Tuesday, January 21, 2020 10:24 AM  
**To:** Urzua, Sonia, CDA  
**Cc:** Erika Ribanszky; Ted Galustian  
**Subject:** Opposed to marijuana farm project near Livermore

**Categories:** Green Category

Hello Ms. Urzua,

22-1

I am sure that you get a lot of email and other correspondence about the proposed marijuana farm near Livermore. I suppose that this is probably just one more in a very large pile of comments for or against. However, my wife and two children live in the Saddleback community that is within 5 miles of the proposed project and we feel very strongly that whatever good might come from this project (and whether there is \*any\* good is certainly up for debate), it is far outweighed by the bad. I usually do not want to get involved with telling people how they can or cannot use their property because that is a slippery slope, but unfortunately for the owners of the property for the proposed project, they are not out in the middle of the countryside where the impacts from their activities are not experienced by anybody. Marijuana farms are not low-impact to the surrounding communities for many reasons (of which I am sure you have already been made aware), but my main concerns are:

22-2

- Smell. My parents live in the Oregon Rogue Valley and I can tell you from personal experience that it smells bad even if the farm is several miles from your house. We do not need yet another emitter of foul smelling stuff in our vicinity. We already have the Vasco dump and some lovely neighbors (also in the Count of Alameda) who routinely burn trash on their property. Let's not add another. I do not believe the proposed air filtration system will work, regardless of whether they say it will.

22-3

- Increased crime. I think it is hard to argue that having a marijuana farm as a neighbor will have no impact on crime. There are still heavy incentives for people to steal marijuana or sell it on the black market. We in Livermore need less crime, not more.

22-4

- Setting an example. We need to set an example that marijuana farms won't be permitted in areas near communities such as Livermore. Even though it has been legalized, that doesn't mean that everybody gets to grow it in their backyard. This property is no different.

22-5

In summary, I leave you with the very basic argument that virtually no good comes from approving this project while plenty of bad comes from it. I do not believe that any of the mitigations I have seen the owner propose, from security guards, to fences, to air filtration, to sludge tanks will solve the problems I have outlined. I think they are all just words to try and get it approved. In fact, on the face of it, the fact that you need to even propose all of that is an admission of the very problems I outlined above.

Thank you for your time and consideration,

-Jason

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## **LETTER 22: KING, JASON**

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### **Response to Comment 22-1**

The comment is an introductory statement and does not address the adequacy of the IS/MND.

### **Response to Comment 22-2**

See Response to comment 13-4, regarding odor concerns.

### **Response to Comment 22-3**

See Response to Comment 13-5, regarding the proposed security plan.

### **Response to Comment 22-4**

The comment does not address the adequacy of the IS/MND but has been forwarded to the decision-makers for their consideration.

### **Response to Comment 22-5**

The comment is a conclusion statement that does not address the adequacy of the IS/MND, but the comment has been forwarded to the decision-makers for their consideration.



Letter 23

24 January 2020

Ms. Sonia Urzua  
Planner Alameda County Planning Department  
224 West Winton Avenue, Suite 111  
Hayward, CA 94544  
510-670-5400;  
sonia.urzua@acgov.org

Dear Ms. Urzua,

23-1 As a Morgan Territory Rd. property owner and real estate agent who has lived on Morgan Territory Rd since 1998 it is with great concern and dismay to learn that the Oasis Fund Livermore Grow Facility is still being considered for the rural-residential Morgan Territory Rd area. With all the insufficient and missing items listed below, especially relating to WATER, this facility would drastically and negatively impact the area environment, wildlife, people and property values all along Morgan Territory Rd. Therefore, I respectfully request, that a full EIR (Environmental Impact Report) be required for this Conditional Use Permit, (Initial Study/Mitigated Negative Declaration PLN:2018-00258 submitted on 12/23/19 to Alameda County). Please review the missing and insufficient Mitigation Measures/items noted below for inclusion to the Initial Study/Mitigated Negative Declaration and recirculation for public comment.

Following are the most important insufficiencies and missing items listed below, with references to the page numbers in the submitted Initial Study/Mitigated Negative Declaration PLN2018-00258:

- 23-2 1. **Proposed Water impact: Proposed impact/usage of 10,000 gallons per day for cooling system, 2,800 gallons per day for irrigation of the cannabis, and then 1,000 gallons per day for sanitary and processing uses. (Section X., Hydrology and Water Quality, page 55 in the IS/MND)**
- 23-3 a. The numbers given for wells and water usage in the IS/MND are conflicting.  
b. There is no Hydrology report provided online or in person when requested with Alameda County.  
c. Who supplied the information regarding Hydrology and Water supply? It is referenced that new wells are necessary to construct, yet the IS/MND states that the four existing wells would be adequate. **It has been stated the four existing wells combined provide only 4 gallons per minute total, which is not even enough water for the two residences on the property under the Alameda County Health Report. Since the Cannabis ordinance doesn't allow water to be trucked in how will the huge shortfall be addressed?**
- 23-4 d. The Report says that the proposed project would "harvest rain water through underground vaults" - where are these underground vaults going to go? There is no guarantee of any specific amount of rain water each year in this area. What would the impact be without rainwater harvesting?
- 23-5 e. This land has been used as cattle grazing and dry farming for generations. The American Reasonable Use Rule should prevent additional wells from being installed for this new Cannabis Grow use as it could **interfere with the prior uses of dry farming and cattle grazing as well as household water for families through overdraft of the groundwater table leading to lower groundwater levels beyond the reach of existing wells and possible subsidence on neighboring properties.** The proposed water usage has a VERY potentially significant impact to all the surrounding families and residences, so this must be fully studied in a full EIR (Environmental Impact report).



- 23-6 **2. Sound pollution and water impact due to water cooling system (Section F, page 11 &12 in the IS/MND)**  
a. This impact is unknown as there are currently no known warehouses of this size and scope in Alameda County with a water cooling system of this size. The Initial Study/Mitigated Negative Declaration does not address the potential sound nor has it been studied for potentially significant impacts. In addition, the requirement of 10,000 gallons per day of well water to cool this system has not been studied. Therefore, the assumptions in this IS/MND and mitigation measures are insufficient.
- 23-7 **3. Aesthetics, Scenic Quality (Section Lc, Page 15-18 in the IS/MND)**  
a. Item C, the proposed project will result in a substantial degradation of the existing visual character of quality of the site as the proposed structures will only be partially screened by vegetation and will significantly impact the current scenic vista with potential damage to scenic resources as there is no proposed or existing vegetation for screening of this urban-style warehouse facility, which will be visible from Morgan Territory Rd.
- 23-8 **4. Light pollution due to illumination for necessary security (section Ld, Page 18 in the IS/MND)**  
a. Item D, ...the proposed project will install safety lighting around the outside perimeter of the building, creating a new source of light glare where none currently exists which will affect all the neighboring properties, nocturnal wildlife as well as be visible from Morgan Territory Rd as there is minimal vegetation and landscape screening.
- 23-9 b. A Conditional Use Permit near residences requiring Security personnel, security lights, security cameras (pointing towards homes, which constitutes a MAJOR invasion of privacy, ) is cause for concern as cannabis cultivation requires security due to associated criminal activity. This major impact was not studied or mentioned anywhere in detail in the IS/MND, therefore, Safety and Security impacts to surrounding families and residences needs to be reviewed and studied, with mitigation measures offered, and then the report re-circulated.
- 23-10 **5. Sound pollution due to climate control in the greenhouse, (section XIII.Noise, page 62 in the IS/MND)**  
a. The impact of sound pollution is unknown as there are currently no known warehouses of this size and scope in Alameda County cultivating this use in this manner. The likelihood that there would be a potentially significant impact in noise to neighboring families and residences is great, therefore, the Noise mitigation measures are insufficient and require a full EIR (Environmental Impact Report).
- 23-11 b. The proposed "occasional use of diesel generators" (on page 27 under TAC emissions of the IS/MND which have not had their location confirmed) contains missing supporting information. In addition, when PG&E shuts off our power in the rural areas for days (which happened multiple times last Summer and Fall) then these generators will be running non-stop with NO noise mitigation offered. Diesel Generators are not quiet and noise carries without the normal background city noises to mask the additional new noise.
- 23-12 **6. Potential impact to plant and animal species due to increased activities onsite and 32,000 SF facility and 5,040 SF processing facility. (Section IV., Biological Resources, page 30 in the IS/MND)**



23-12  
 Cont'd

- a. Two special plant species (large flowered fiddleneck and the bent flowered fiddleneck) should be surveyed per Live Oak's initial findings to confirm presence, or lack thereof, with a focused survey occurring in March – June blooming period. As this survey was not completed, this impact is unknown.
- b. Countless special status species have been identified as having potential habitat onsite, including four amphibians and reptiles, seven migratory birds/nesting raptors, burrowing owls, special status bats, and four mammals all have the potential to occur onsite. Focused surveys should be completed to confirm their status prior to any approvals for project. As this survey was not completed, this impact is unknown.

23-13

**7. Stormwater treatment for new parking lot- Missing**

- a. There was no mention of the impact of installing a 26 car paved parking lot as it relates to Stormwater treatment. As this impact was not reviewed or mitigation measures given, this impact to Cayetano Creek is unknown.

23-14

**8. Odor Mitigation – (Letter F, Page 11 in the IS/MND)**

- a. Odors from site cannot be quantified, but are assumed to be negligible even though they cannot be quantified.
- b. The mitigation is enforcement by County, but this will occur after facility is already up and running? This is unacceptable therefore, this IS/MND is missing information and must be added on this subject and recirculated for comment.
- c. Can measures be included to control odor up front?

23-15

**9. Safety Plan & Staffing (Letter F, Page 11 in the IS/MND)**

- a. Safety Plan: States that there will be “at least one security guard during all operating hours”.
  - 1. What type of security and it what form?
  - 2. Will the security be armed?
  - 3. Exact hours the security will be on the site?

23-16

- b. It's very unclear what those operating hours will be. At one place under Staffing, it reads “8:00am to 6:00pm, daily”. Is this being proposed to run 7 days a week? No studies or impacts have been reviewed or studied on this. This would result in a potentially significant impact to all families and residences surrounding this site as well as traffic along Morgan Territory Rd.
  - 1. The CUP permit states 8 a.m. – 6 p.m. working hours but also notes security during the evening hours as well, so this information is incorrect and undefined.
  - 2. What type of disruption and impact can our families expect?

23-17

**10. Mass grading and construction. (Section XIII.Noise, page 62 in the IS/MND)**

- a. The construction is anticipated to take 23 months
- b. Due to proximity of project to residential homes, families, and traffic along Morgan Territory Rd., construction work hours should be limited to Monday – Friday 8:00am – 5:00pm. This impact was not studied and no mitigation measures given, so that must be included and recirculated for public comment.

23-18

**11. Cannabis is not a permitted use, it requires a use permit. (Section E., Introduction page 6 in the IS/MND)**



Letter 23  
Cont'd

23-18  
Cont'd

- a. Cannabis is not a permitted use, and it requires a conditional use permit; therefore, concessions such as location, light impacts, sound mitigation, safety and hours of operation should be made to allow a non-permitted use on this property. This Initial Study/Mitigated Negative Declaration does not take into account the many impacts to the surrounding families and residences as well as the many Morgan Territory Rd residents and commuters who will have to pass this area daily. The document inaccurately states that there is mostly vacant land surrounding the project site. We respectfully request that location of proposed warehouses be studied and reviewed due to close proximity to private road for all surrounding families and residences as well as Morgan Territory Rd.

23-19

12. Transportation – (Section XVII. Transportation, page 70 in the IS/MND)

- a. 110 daily trips are anticipated to be added, which is adding about 20% more daily trips to Morgan Territory Road. This is not a “small addition of trips” as indicated in the MND. Although the report states that this is “less-than-significant,” we are concerned that the existing driveway and Morgan Territory Road will be greatly impacted by the potential peak-hour queuing to turn into the project driveway, which is a heavily curved corner coming out of it, and approaching from the North. There have been numerous times collisions have almost occurred from drivers leaving residence and entering Morgan Territory Road due to the blind corner where the driveway is located.

23-20

- b. Transportation Impact: VMT: Though the Vehicle Miles Traveled (VMT) is not required to be studied until July 1, 2020, most projects at this stage are reviewing both VMT and Average Daily Trips to reflect best practices. Given the lack of local public transportation, we expect most trips and miles will be driven by single occupancy vehicles. We respectfully request that VMT be included in the analysis and then recirculated for public comments.

23-21

In conclusion, the Oasis Fund Livermore Grow Facility does not belong in a rural-residential area as it would drastically and negatively impact the area environment, wildlife, people and property values all along Morgan Territory Rd. Just the water requirements alone make this project unfeasible. If new water resources are developed to provide more water, then it would maximize the water resource for the Oasis Fund Livermore Grow Facility with little responsibility for the depleting aquifer and impact on the surrounding property owners. The reason for California’s **Sustainable Groundwater Management Act (SGMA) of 2014** was in part because California farms had planted higher-value crops that require large amounts of water and negatively impacted the groundwater table and sustainability – exactly what could result with this Cannabis grow project if approved. **SB 1168** requires that any use of the groundwater be both reasonable and beneficial. In this case the amount of water required is unreasonable and the undesirable results of the Cannabis Grow project outlined above if approved far outweighs the benefits. Therefore, I respectfully request all missing and insufficient items be added to the Initial Study/Mitigated Negative Declaration PLN:2018-00258 (submitted on 12/23/19 to Alameda County) and have it recirculated for public comment and that a full EIR (Environmental Impact Report) be required for this Conditional Use Permit.

Sincerely,

Marjorie Kosic  
Morgan Territory Rd Property Owner



## **LETTER 23: KOSIC, MAJORIE**

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### **Response to Comment 23-1**

The comment is an introductory statement and does not address the adequacy of the IS/MND.

### **Response to Comment 23-2**

See Responses to Comments 1-2 and 1-4.

### **Response to Comment 23-3**

See Responses to Comments 1-2 and 1-4.

### **Response to Comment 23-4**

See Responses to Comments 1-2, 1-4, 1-7, 1-8, and 28-3.

### **Response to Comment 23-5**

See Responses to Comments 1-2, 1-4, and 1-7.

### **Response to Comment 23-6**

See Response to Comments 20-12.

### **Response to Comment 23-7**

See Response to Comment 4-3. As noted on page 15 of the IS/MND, views of the site from Morgan Territory Road are partially screened by existing trees and other vegetation along the roadway. Figure 8 in the IS/MND provides an example of a representative post-development view of the project site from Morgan Territory Road in the site vicinity. As shown in the figure, views of the proposed structures would be relatively limited. Furthermore, the proposed agricultural uses are consistent with the site's current General Plan land use designation. While the project would represent a change in the visual character of the site, the proposed buildings would be visually compatible with existing agricultural structures in the project region. Thus, as demonstrated in the IS/MND, the project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. In addition, CEQA (Pub. Resources Code, § 21000 et seq.) case law has established that only public views, not private views, are protected under CEQA. Therefore, implementation of mitigation is not necessary.

### **Response to Comment 23-8**

See Responses to Comments 4-3 and 20-9.

### **Response to Comment 23-9**

See Responses to Comments 4-3 and 20-9.

### **Response to Comment 23-10**

See Response to Comment 20-10.

### **Response to Comment 23-11**

See Response to Comment 20-11.



**Response to Comment 23-12**

See Response to Comments 20-20.

**Response to Comment 23-13**

See Response to Comments 20-23.

**Response to Comment 23-14**

See Response to Comment 13-4 regarding odors.

**Response to Comment 23-15**

See Response to Comment 13-5.

**Response to Comment 23-16**

With regard to lighting and security operations, see Responses to Comments 4-3, 5-29, 8-2, and 13-5.

**Response to Comment 23-17**

See Responses to Comments 20-29 and 20-30.

**Response to Comment 23-18**

See Response to Comments 20-31.

**Response to Comment 23-19**

See Response to Comments 20-32.

**Response to Comment 23-20**

See Response to Comments 20-33.

**Response to Comment 23-21**

The comment is a conclusion statement, requesting preparation of an EIR. The County has determined that adequate evidence exists related to water supply and groundwater resources within the site and is included in the Recirculated IS/MND to support the conclusion that all potential impacts of the proposed project have been reduced to a less-than-significant level. Therefore, the preparation of an EIR for the proposed project is not warranted.



**Letter 24**

**Urzua, Sonia, CDA**

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**From:** Nancy M <nblueriver@gmail.com>  
**Sent:** Tuesday, January 7, 2020 4:51 PM  
**To:** Urzua, Sonia, CDA  
**Subject:** I approve of the proposed site at 7031 Morgan Territory Road. How can I support the proposal?  
  
**Categories:** Green Category

I approve of the proposed site to grow marijuana, a 98-acre property six miles from downtown at 7031 Morgan Territory Road, could accommodate a 32,000. If signatures are needed please let me know.

**24-1**

Nancy Martin  
5107568196  
1182 Holmes Court  
Livermore CA 94550

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**LETTER 24: MARTIN, NANCY**

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**Response to Comment 24-1**

The comment does not specifically address the adequacy of the IS/MND, but the comment has been forwarded to the decision-makers for their consideration.



Letter 25

**Urzua, Sonia, CDA**

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**From:** Gabe Meeker <donandgabe@gmail.com>  
**Sent:** Friday, January 24, 2020 2:16 PM  
**To:** Urzua, Sonia, CDA  
**Subject:** marijuana project, north Livermore

**Categories:** Green Category

Dear Ms. Urzua,

25-1

I was stunned last week by an article in our local paper, The Independent, stating that a marijuana growth facility was almost through its permitting process and ready to start construction in north Livermore. I say stunned because not only am I a neighbor, I share a property line with the proposed facility. And despite that, to this day, I have not received any notification from any official organization on the proposed project. I intend to look into the legality of failing to notify affected parties, especially on a project with only destructive effects on the environment and severe loss of property value to those of us in close proximity.

25-2

I am particularly concerned about the three million gallons of water to be drawn from our aquifer. There are more than 20 residences within a mile of the proposed facility, all of which count on wells for their water supply. With our recurring drought situations, permitting such a huge unnecessary draw on an essential resource is a threat to the health and well being of a large number of people. Zoning for a project requiring this much water should be limited to areas with access to surface or commercial water sources. Claiming that a 24 hour draw down showed no effect on the aquifer is ludicrous. Effects of the disastrous pumping in the Central Valley wasn't noted for years. Denying the permit for this location is the sensible and responsible approach. I strongly urge you and your colleagues to reject this project.

Donald J. Meeker

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## **LETTER 25: MEEKER, DONALD**

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### **Response to Comment 25-1**

The comment is related to noticing of the project. Thus, the comment does not address the adequacy of the IS/MND and has been forwarded to the decision-makers for their consideration.

### **Response to Comment 25-2**

As demonstrated on page 56 and 57 of Section X, Hydrology and Water Quality, of the IS/MND, the proposed project would not result in any significant impacts related to groundwater resources. As discussed in Response to Comment 1-4, the Hydrology Report estimated the radius of influence of the proposed wells based on a maximum daily demand of four gpm sustained for 24 hours and an average dry-season demand of four gpm for 184 days. The analysis for both cases did not indicate drawdown effects at the nearest neighbor's well. Overall, the four wells on the project site would supply sufficient water for operations and maintenance of the project without decreasing groundwater supplies or interfering with groundwater recharge.<sup>12</sup> Additionally, the rain water harvesting and reclamation system would reduce water use directly from the wells.

As noted in Response to Comment 1-2, the water demands and wastewater generation estimates presented in Section X of the IS/MND are consistent with the estimates presented in the Hydrology Report. Thus, the analysis presented within Section X of the IS/MND remains valid.



Letter 26

Date: January 31, 2020

Sonia Urzua, Planner  
Alameda County Planning Department  
224 West Winton Avenue, Suite 111  
Hayward, CA 94544  
RE: CANNABIS PROJECT MTR

26-1 To Ms. Urzua, Ms. Palmer and Ms. Littlejohn:  
My name is Emile Meylan and I live with my family at 12520 Morgan Territory Road. I also am a volunteer Fire Fighter for the SRVFD.

26-2 Like most of my neighbors, we all realize water is very important and is critical on MTR. We all are very cautious of how water is being used. I myself and many others do not have gardens any more, no lawns at all and use water minimally for laundry and showering. Yes, most of us are on well water but that does not lend itself to not be cautious because we have run "out of water", especially if there is a drought.

26-2 This project is requesting an amount of water which is ridiculous and does not exist on MTR. Nobody can use such an amount of water without putting neighbors in danger.  
As I mentioned before I am a volunteer fire fighter and this danger is very real with no water. MTR has around 60 houses and all these houses will suffer in general and if a fire does happen.

26-3 And there is one more very important position that needs to be addressed and that is just because the State has made cannabis legal, it does not mean that the potential for a project like this could be potentially bad, especially with violence, guns and monies that bad people see as a motive to get what they want.



**Letter 26  
Cont'd**

**26-3  
Cont'd**

Our neighbors and children DO NOT need this type of potential problem. (There are no police that frequently come by to check on us, we protect ourselves.)

I am sure the Environmental Impact and Water reports will show the county that this is all true.

Thank you in advance for your cooperation and assistance.

**26-4**

Emile and Lisette Meylan and Mariela Meylan

12520 Morgan Territory road

Livermore, CA 94551



## **LETTER 26: MEYLAN, EMILE AND LISETTE AND MEYLAN, MARIELA**

### **Response to Comment 26-1**

The comment is an introductory statement and does not address the adequacy of the IS/MND.

### **Response to Comment 26-2**

See Response to Comment 1-2, 1-7, and 1-8.

### **Response to Comment 26-3**

Crime is a law enforcement issue and is not within the purview of CEQA. Thus, the comment does not address the adequacy of the IS/MND and has been forwarded to the decision-makers for their consideration.

### **Response to Comment 26-4**

The comment is a conclusion statement and does not address the adequacy of the IS/MND.



**Letter 27**

**Urzua, Sonia, CDA**

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**From:** Meredith Sarboraria <ilvinovita@gmail.com>  
**Sent:** Monday, January 6, 2020 10:52 PM  
**To:** Urzua, Sonia, CDA  
**Subject:** Cannabis farm proposal in Livermore

**Categories:** Green Category

27-1

Hello,

I am sending this email to say that I am in favor of this cannabis farm. The land in this area was protected for agricultural use. I understand cannabis is still somewhat controversial even though it is legal in California, but I believe in equality for all types of agriculture.

Grazie mille,  
Meredith Sarboraria

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**LETTER 27: MILLE, GRAZIE AND SARBORARIA, MEREDITH**

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**Response to Comment 27-1**

The comment does not address the adequacy of the IS/MND and has been forwarded to the decision-makers for their consideration.



Letter 28

Urzua, Sonia, CDA

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**From:** Brian Miracle <brianmiracle@gmail.com>  
**Sent:** Wednesday, January 22, 2020 1:05 PM  
**To:** Urzua, Sonia, CDA  
**Subject:** Comment on Oasis Fund Livermore Grow Facility

**Categories:** Green Category

28-1

Ms. Urzua,

I'm writing to voice my opposition to the proposed Oasis Fund Livermore Grow Facility to be located at 7033 Morgan Territory Road, Livermore, CA 94551.

28-2

I grew up nearby at 9015 Doubletree Lane and my parents still live there. Drought has always been a concern for Doubletree residents, and there have been times when the wells supplying Doubletree have run dry. I believe the proposed grow facility would lower the water table even further and have a significant adverse impact on the people who live nearby.

28-3

Specifically, I have concerns about the facility's ability to collect rain water:  
The grow facility proposes to harvest 314,000 gallons of rain water per year. Livermore receives approximately 9.28 gallons/foot<sup>2</sup> annually. So  $314,000 \text{ gallons} / 9.28 \text{ gallons/foot}^2 = 33,836 \text{ feet}$  of collection area would be required. The proposed square footage of the grow facility is 37,040 feet<sup>2</sup>. Which means that the rain water collection system would require an efficiency of 91% ( $33,836 \text{ feet}^2 / 37,040 \text{ feet}^2 = 0.913$ ). That is, of course, if all of the square footage is used to collect rain water.  
91% efficiency seems incredibly optimistic, especially with the inherent losses of such systems.

Sincerely,  
Brian Miracle  
29304 SW Brown Rd, Wilsonville, OR 97070

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## **LETTER 28: MIRACLE, BRIAN**

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### **Response to Comment 28-1**

The comment does not address the adequacy of the IS/MND and has been forwarded to the decision-makers for their consideration.

### **Response to Comment 28-2**

See Response to Comment 1-2, 1-7 and 1-8.

### **Response to Comment 28-3**

See Response to Comment 1-2. The commenter calculates the expected annual yield from the proposed rainwater harvesting system using a simplified method that, nonetheless, encompasses a number of variables used in preparing the site water balance as present in the August 23, 2019 Hydrology Report. However, the commenter uses two factors, expected mean annual rainfall and total roof area that are not consistent with local climate data and the actual project plans.

With respect to rainfall, the commented value of 9.28 gallons/square foot is equivalent to a mean annual rainfall of 14.89 inches. The August 2019 report is based data from the PRISM Climate Group at Oregon State University for the period from 1981 to 2010, which identifies a mean annual rainfall of 15.77 inches at the site.<sup>13</sup> This is equivalent to 9.83 gallons/square foot, nearly 6 percent higher than the value cited by the commenter.

Additionally, the comment references a total proposed roof area of 37,040 square feet. This is lower than the currently proposed total of 40,000 square feet.

Using the actual anticipated rainfall and proposed roof area gives total annual rainfall volume as:

$$(9.83 \text{ gallons/square foot}) \times (40,000 \text{ square feet}) = 393,250 \text{ gallons}$$

The site water balance is based on a rainwater harvesting total of 314,000 gallons per year implying a capture efficiency of:

$$(314,000 \text{ gallons/year}) \div (393,250 \text{ gallons/year}) = 79.8\%$$

This value for a rainwater harvesting system is actually near the lowest cited ranges for capture efficiency and likely underestimates the true yield from roof surfaces on structures such as greenhouses.

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<sup>13</sup> Balance Hydrologics, Inc. *Subject: Response Comments on CUP-MND for Oasis Fund Livermore Grow Facility.* June 10, 2020.



Letter 29

Brenda and Albert Morris  
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February 4, 2020

Sonia Urzua, Planner  
Alameda County Planning Department  
224 West Winton Avenue, Suite 111  
Hayward, CA 94544

Re: ISMND/Conditional Use Permit PLN:2018-00258; Oasis Fund Cannabis Grow Facility

Sonia Urzua, :

29-1

Attached are our formal responses to the ISMND along with the documents listed in the Appendix.

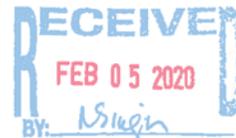
Sincerely,



Brenda and Albert Morris

Enclosures

- Response Letter
- Alameda County Health Care Services Agency Drinking Water Well Testing 5/6/13
- Zone 7 January 15, 2020 Draft CUP/MND Discrepancies and Omissions
- Permit Application for New Well January 22, 2019
- San Francisco Bay Regional Water Quality Control Board Comments January 20, 2020
- San Francisco Hydrologic Region Livermore Valley Groundwater Basin Bulletin 118 1/20/2006
- EBZA PLN 2018-00258 Conditional Use Permit March 28, 2019
- Appeal and Denial PLN 2017-00215 January 3, 2018
- MCCOP RFP 2017 including Landowner Information and Acceptance
- Morgan Territory Road Neighbors Request A Written Response to the Following Questions: March 28, 2019
- Incident/Criminal Report Alameda County Sheriff's Office Case Number 19-016952 10/04/2019
- Pictures



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Cont'd**

February 1, 2020

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29-2

After reviewing the Oasis Fund Livermore Grow Facility Initial Study/Mitigated Negative Declaration PLN: 2018-00258 submitted on 12/23/19 to Alameda County Planning Department it is our opinion that there is a fair argument that the Project may have adverse environmental impacts and fails to identify and sufficiently mitigate impacts. Therefore, we request that the County of Alameda prepare an environmental impact report ("EIR") for the Project pursuant to the California Environmental Quality Act ("CEQA"), Public Resources Code section 21000, et seq. We reserve the right to supplement these comments during public hearings concerning the Project.

29-3

The report is missing referenced documents and there are discrepancies of contradicting information and data within the ISMND. The factors potentially affected failed to include Aesthetics, Noise, Hazards and Hazardous Materials, and Water Quality in the checklist provided online in the *Notice of Completion & Environmental Document Transmittal*.

**F. Project Description: (p 6-13)**

**Project Location:**

The project location is referenced by two different addresses (e.g. pages 2 and 7) and the ISMND fails to identify the second residence on page 7.

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29-5 **Project Components:**  
The square footage of the buildings and number of parking stalls in the ISMND are inconsistent with the square footage of the buildings and parking stalls in the *Conceptual Water-Supply and WasteWater Plan, Balance Hydrologics Inc.* (e.g. ISMND p 7 and CWSWWP p 4). It is important to note the *Balance Hydrologics report* was not included in the ISMND and was obtained from Zone 7. Alameda County failed to supply the document when requested in writing.

29-6 **Landscaping:**  
The proposed landscape screening using endemic oaks is inadequate for screening the project. Endemic oaks are slower growing trees and are insufficient to screen the project. (p. 7)

29-7 **Safety Plan:**  
The safety plan includes an eight-foot security fence without specifying materials used; chain-link, chain-link privacy, barb wire, wood, plastic. The safety plan states the security guard(s) will be on site during operating hours and does not provide the hours or replacement protection measures after hours. Law enforcement response time is not addressed in the safety plan or the plan of response if the facility is breached by non-authorized individuals. (p. 11) *Title 17.52.585 C 2 Theft ... on the premises is prevented*  
  
The March 28, 2019 CUP proposal is for an "application to allow a cannabis cultivation operator 7033 Morgan Territory Road; 92.52 acres" (acreage is different in the ISMND 98.11 acres e.g p.7). PLN: 2017-00215 permit application is for a Medical Cannabis Cultivation operator permit. The MND (p. 11) states "Inventory would be removed from the storage safes only for immediate **transport or sale**. Sales are not permitted as a conditional use from the cultivation sites.

29-8 **Staffing:**  
The project in the ISMND anticipates there will be 20-30 employees, the CUP notice anticipates 20-24 employees, and the *Balance Hydrologics* references 20-23 employees. The ISMND proposes 26 paved parking spaces, CUP notice and *Balance Hydrologics* refer to 28 parking spaces. These inconsistencies between documents is an example of the errors supplied throughout the report.

29-9 **Lighting:**  
The security lighting for the project states the system would illuminate dark areas and detect movement and be supplemented with instant-on lighting triggered by motion detectors (page 11). Aesthetics 1d, page 18, contradicts the previous statement, "The lighting system would **only be triggered by motion detectors**, which would limit the amount of time when such systems are activated." This is a significant impact on neighboring families who would be subjected to the on and off lights that would be triggered by animals traveling the perimeter of the fence or flying over the facility. Drivers on Morgan Territory Road and houses adjacent to the project would be significantly impacted by the light pollution. There are very few lights in this area now and there are no mitigation measures in place for either the proposed motion detector lights or security lighting on page 11. The instant-on motion detector lighting is **not reasonable** under *Alameda County 17.52.585 section C 3...lighting as is reasonably utilized for the security of the premises.*

29-10 Mitigation for lighting escaping from inside the structures is not included in the ISMND. **17.52.585 section C 3 Artificial light shall not escape structures used for cannabis cultivation (e.g. greenhouses) at a level that is visible from neighboring properties between sunset and sunrise.**

29-11 **The Odor Mitigation and Cooling System:**  
This section on page 11 combines these two topics and yet they are separate issues. The reference to reducing bacterial and microbial contaminants by approximately 99% pertains to yield and quality



29-11  
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controls for the cannabis product. "If the humidity is too high, the risk of mold and fungal growth increases. If the humidity is too low, the yield and quality will drop."

<https://www.air2o.com/industries/grow/>.

The odor produced by Terpenes (the plant's oil-producing compounds) and emitted outside the building is a significant impact that requires mitigation. Details are missing on the effectiveness of the purification system, monitoring procedures and measurements for odor control. The mitigation measures are insufficient for this significant impact. **17.52.585 section C 6 Odorous gases or matter shall not be emitted in quantities such as to be perceptible outside of the cannabis cultivation site;**

29-12

The cooling system requires up to 10,000 gallons per day and the use of fans and pumps. The amount of water required for this system cannot be sustained with four wells that cumulatively produce 4 gallons per minute (*Balance Hydrologics* report p.3) and the largest producing well with approximately 3 gallons per minute supplies two existing houses and the pool on the property. The noise pollution from the fans and equipment from the cooling system is not quantified failing to identify any mitigation requirements that may be necessary. **17.52.585 section C 5**

29-13

**Utilities:**

The ISMND fails to describe the electrical upgrades necessary for this project and whether it can be supplied by Pacific Gas and Electric or any other source. The electrical grid on our road has been overloaded possibly by the cultivation site five miles up the road (anecdotal information from PGE linemen). Our neighborhood is in an area designated for Public Safety Power Shutoffs during fire season which now spans over 6 months. The ISMND fails to include a section describing the mitigation measures for the noise and air pollution created by generators. **17.52.585 section C 5 and C8**

29-14

The ISMND (p. 43) states, "following implementation of the proposed project, PG&E would provide electricity and natural gas to the project site." Again, the project fails to provide adequate information describing the utility upgrades necessary for the Project prior to implementation. PG&E does not supply natural gas to this location, it is serviced by propane. The ISMND does not include specific plans for a propane tank, location or size. The quantity and size of the tank required may be categorized as a hazardous material requiring additional restrictions, monitoring, or safeguards.

29-15

**Water Supply:**

The ISMND states four existing on-site wells cumulatively produce seven gallons per minute which is not consistent with the *Balance Hydrologics* report results. *Balance Hydrologics* 24-hour pumping and recovery test of the four existing wells indicated a cumulative operational yield of four gallons per minute. *Balance Hydrologics* continues by stating "Given the relatively low yield of the existing water-supply wells and in preparation for extreme or multiyear droughts, it would be prudent to explore the undeveloped east part of the Project property potentially for additional agricultural wells, which may reduce pumping of the existing wells located on the west portion of the property."(p. 3) The water supply appears insufficient and there is a discrepancy in the amount of water produced in the two reports.

29-16

*Balance Hydrologics* states Well #3 and an existing 10,000-gallon tank comprise the water-supply system for the two existing homes. (p. 4). The report continues on page 15, **3.2.1 24-Hour Pumping and Recovery Test Method**, with this statement "A standard constant-rate test (as planned) was only possible at Well #3 because it had sufficient yield...At Wells #1, #2, and #4, the pumping rate was not constant, and instead, the pump saver turned off the pump several times during the 24-hour pumping period." The water supply on the property appears insufficient to support the project.



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29-17 **Alameda County Health Care Services Drinking Water Well Testing** document was provided in the *Balance Hydrologics* report. Alameda County Health Care Services Flow Test requirements list “well flow must be  $\geq 5$ gpm for 4 hours per house or  $\geq 3$  gpm well flow will be acceptable with  $\geq 1200$  gallon potable water storage per house”. There are two existing large houses on the property and by Alameda County’s written standards, it appears the four cumulative wells do not meet the current Flow Test requirements for the existing homes. The water supply on the property appears insufficient to support the project and may significantly impact the groundwater supply and quality if the possibility exists that the four wells are pumping 24 hours a day.

29-18 At the **Zone 7 Board Meeting, January 15, 2020**, agenda item #9, a presentation was made outlining the *Draft CUP/MND Discrepancies and Omissions* provided for the Project Oasis Fund Livermore Grow Facility. Bullet points included; conflicting project water demands, erroneous and inconsistent water supply information, no monitoring or reporting requirements for pumped groundwater volumes or levels, no action threshold or contingency plans for a case of unsustainable groundwater pumping or levels, lone mitigation for potential GW impacts is “Zone 7 permit”, potential interference with GW recharge was not evaluated, potential cumulative impacts associated with two onsite residences not considered, no mention of onsite holding tank to keep pollution out of leachfield, reclaimed irrigation not quantified, *Balance Hydrologics* report was not included as an Appendix, and conditions of Zone 7’s approval for OWTS use were not included. The Board members voted to rescind the conditional approval for a commercial septic system for the Project given the new information presented at the meeting.

29-19 The ISMND does not provide details on location or specifications for the proposed 500,000-gallon storage tank reservoir.

There is insufficient well water flow on the property to service the existing homes and pool according to the information outlined in Alameda County Health Care Services Drinking Water Well Testing document. Water trucks have been observed filling the existing 10,000-gallon tank for ten years and most notably in 2017 there was an increase in deliveries of water. A plan for monitoring groundwater levels is absent as well as identified mitigation or monetary compensation if neighboring wells are damaged or rendered useless by this project resulting in permitted land uses taken. A full EIR is requested to complete a full analysis on the significant impacts this project will have on the groundwater, neighbor’s wells, and adjacent Cayetano creek.

29-20 **Wastewater:**  
The project proposes a new septic system for employees and a 5,000-gallon tank to hold the sludge generated from the water reclamation system *Balance Hydrologics* (p. 2). There is contradicting information for frequency to remove sludge and haul off-site; ISMND (p 78 and p 12): the range is 4 days to 7 days to 10 days. The *Acorn Onsite, Inc* document states the wastewater is for domestic sewage only: 23 employees and 6 visitors totaling 550 gpd. The number of employees and visitors is different in the ISMND/CUP and the approximate wastewater increases to 1000 gpd (p. 12) and then reduces to not exceed 700 gpd (p. 78). The ISMND does not provide sufficient documentation the Project is in compliance with the requirements of the State Water Resources Control Board’s Cannabis Policy and Cannabis General Order per comments submitted by the San Francisco Bay Regional Water Quality Control Board.

29-21 **XIX. Utilities and Service Systems a-c ISMND** (p. 78) There are two discussions of leach fields and it is unclear if both references are for the on-site septic tank for employees or if there is another septic tank



29-21  
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with a leach field and 5000-gallon sludge tank for the water reclamation system. We believe important information has been omitted from this section.

29-22

**Stormwater:**

The MND states the overland flow and runoff from the project generally flows within the project site north to south, however there is a hill directly east of the project making it more likely that the overland water and runoff currently flows east to west to Cayetano creek adjacent to where the project is proposed. An environmental study conducted when it is raining would most likely determine the measures necessary to protect Cayetano creek and whether the location and size of the bioretention basin is appropriate to mitigate the impervious surface created by this project. (p. 58) 17.52.585 C 7 The discharge into any...stream...

**G. ENVIRONMENTAL CHECKLIST**

i. AESTHETICS

c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? Marked less than significant

**Comment:** The site is visible from Morgan Territory Road which is a popular road for bike riding and sightseeing with access to Mt. Diablo and East Bay Regional Park's Morgan Territory Land Preserve and trails system. Constructing 32,000 sf and 5,040 sf buildings, surrounding the perimeter with a security fence and lighting is a significant change to the existing visual character and quality of the area. Mitigations for this project appear insufficient.

29-23



29-24

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? Marked less than significant

**Comment:** This is potentially a significant impact on neighboring families who would be subjected to the on and off lights that would be triggered by animals traveling the perimeter of the fence or flying over the facility. Drivers along Morgan Territory Road and houses adjacent to the project may be significantly impacted by the light pollution. There are very few lights in this area and there are no mitigation measures in place for either the proposed motion detector lights or security lighting on page 11. We believe the instant-on motion detector lighting is **not reasonable** under *Alameda County 17.52.585 section C 3...lighting as is reasonably utilized for the security of the premises*. There are no detailed specifications of the roof on the cultivation building. If the roof is composed of material that allows for the entrance of natural light it may also allow for the exit of interior lighting and potentially be visible from residences above the sight and drivers travelling south on Morgan Territory Road from above the site. Mitigation measures are noticeably absent for this potential impact.

29-25

II. AGRICULTURE AND FOREST RESOURCES

e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? Marked less than significant impact

**Comment:** The property has traditionally been used for dry-land farming and cattle production. Cattle grazing the property reduce the fuel load to minimize the risk of fire. The project does not provide information on the agricultural use of the remaining acreage which should be addressed as a potential impact as well as a safety impact if the remaining acreage remains fallow and accumulates fuel creating an increased safety hazard to neighboring properties.

29-26

III. AIR QUALITY

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? Marked less than significant impact

**Comment:** The use of diesel generators to power the buildings may have an impact when PGE shuts power off during fire season and the air is already at a hazardous level. The data provided in the appendix is from 2018 and doesn't discuss mitigation measures if diesel generators are used during "spare the air days". Data on construction emissions was provided in 2018 and does not address "spare the air days" and the change in our air if construction is operating 7 days a week. Mitigation for construction air quality should address the proposed 7 days a week dust, odor, noise pollution. Construction should not be allowed to continue seven days a week in a rural neighborhood.

29-27

Odor from the cannabis is not sufficiently discussed in the ISMND. The odor produced by Terpenes (the plant's oil-producing compounds) is a significant impact that requires mitigation if it escapes the 32,000 sf building. Information is missing on the effectiveness of the purification system, monitoring procedures and measurements for odor control. *17.52.585 section C 6 Odorous gases or matter shall not be emitted in quantities such as to*



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29-27  
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*be perceptible outside of the cannabis cultivation site.* County requirements for monitoring, reporting, and enforcement is missing from the report.

29-28

The project proposes to compost organic waste on-site. The plan and mitigation for potential odors from composting is omitted in the ISMND (p. 52). There appears to be insufficient information provided to determine the level of odor, monitoring, and mitigation necessary.

29-29

IV. BIOLOGICAL RESOURCES

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service: Marked less than significant impact

**Comment:** Two special plant species (large flowered fiddleneck and the bent flowered fiddleneck) should be surveyed per Live Oak's initial findings to confirm presence, or lack thereof, with a focused survey occurring in March – June blooming period. As this survey was not completed, this impact is unknown.

29-30

Countless special status species have been identified as having potential habitat onsite, including four amphibians and reptiles, seven migratory birds/nesting raptors, burrowing owls, special status bats, and four mammals all have the potential to occur onsite. Focused surveys should be completed to confirm their status prior to any approvals for project. As this survey was not completed, this impact is unknown and mitigation measures undetermined.

V. CULTURAL RESOURCES

a. Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5? Marked less than significant

**Comment:** The barn located on the property may be a significant historical resource in North Livermore built by John Beck. North Livermore Road, part of Manning Road and Morgan Territory Road to the county line originally was named Beck Road. Measures should be included in the MND to protect the building during construction.

29-31



IX. HAZARDS AND HAZARDOUS MATERIALS

29-32 a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials? Marked less than significant impact  
**Comment:** The project does not include a hazardous materials plan for monitoring stored fertilizers and the possibility of storing pesticides. Cleaning agents have not been identified for use or storage in the facility. A potential list of hazardous materials used on site should be a requirement and mitigations evaluated and updated. Mold and fungus are common problems in cannabis cultivation and treated with pesticides. Cannabis waste is considered organic waste if it is not combined or contains any hazardous or toxic material.<sup>1</sup> A plan to dispose of hazardous or toxic material should be required.  
 . <https://www.calrecycle.ca.gov/swfacilities/compostables/cannabis><sup>1</sup>

29-33 Natural gas use is mentioned as part of the utilities in the ISMND, however only propane is available in the area. Information is not provided on the quantity of propane that will be stored or the size, location, or monitoring of the propane tank. The impact is unknown.

X. HYDROLOGY AND WATER QUALITY

29-34 a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? Marked less than significant impact.  
**Comment:** "Wells tapping the Tassajara Formation yield only sufficient water for domestic or stock purposes" as stated in San Francisco Hydrologic Region California's Groundwater Livermore Valley Groundwater Basin Bulletin 118. The quantity of water required for the project has the potential to significantly impact the ground water. Zone 7 provided information outlining the discrepancies and omissions in the ISMND. Without accurate information impacts to the water supply cannot be mitigated.

29-35 b. Substantially decrease ground water supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? Marked less than significant with mitigation incorporated.  
**Comment: CDFA § 8107. Supplemental Water Source Information.** *The following information shall be provided for each water source identified by the applicant: (c) If the water source is a rainwater catchment system: (1) The total square footage of the catchment footprint area(s); (2) The total storage capacity, in gallons, of the catchment system(s); and (3) A detailed description and photographs of the rainwater catchment system infrastructure, including the location, size, and type of all surface areas that collect rainwater.* Examples of rainwater collection surface areas include a rooftop and greenhouse. The ISMND is missing (3) A detailed description and photographs of the rainwater catchment system infrastructure and specifications for the vault system and the 500,000-gallon storage reservoir.

29-36 The ISMND does not address the case of one year or multiple years of drought or identify a supplemental water source for increased dry days. The general 30-year precipitation study provided in the ISMND included the years from 1981-2010 and was not specific to the latitude and longitude of the Project site. The precipitation may be different given an updated time frame and using the specific location of the project site.

29-37 The ISMND (p57) references *Balance Hydrologics 3.3 Potential for Off-Site Drawdown Impacts: Case 1 a maximum daily demand of 4 gpm sustained at 24 hours; and Case 2, an average dry-season demand of 4 gpm sustained for 184 days (May through October).* The location



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experiences more than 184 days of a dry-season referencing CalFire's statement that "California's fire season is estimated to extend by 75 days". Case 2 did not consider this change to the dry-season in the analytical model.

29-38

*Balance Hydrologics* (p. 21) states "This conceptual plan is not intended to include mitigation and/or monitoring components." Alameda County Health requires at least 3 gpm well flow with at least 1200-gallon potable water storage per house and there are two existing houses and a pool using Well #3 which provides over 75% of the groundwater identified for the Project. Well #3 appears not to satisfy Alameda County's water supply requirement for the two existing houses.

29-39

***The mitigation measures for water quality and supply are insufficient and a full Environmental Impact Report should be required for this project.***

29-40

**XIII. NOISE**

a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? Marked less than significant  
**Comment:** The Project location is directly across and below several residences, adjacent to a private road to the north, and adjacent to Morgan Territory Road. The area is quiet with no buffer between the roads and houses. People's conversations from the current proposed location can be heard from Morgan Territory Road. The noise from construction has the potential to significantly impact neighbors, especially if construction occurs seven days a week for up to 12 hours a day. The report provides contradictory information on the timeframe for construction; on page 27 ISMND, construction would occur over an approximately 23-month period and on page 63 ISMND construction noise would occur during the approximately three-month construction period. The proposed construction hours are Monday-Friday 7:00 am – 7:00 pm, Saturday and Sunday 8:00 am – 5:00 pm. This is a potentially significant impact on the neighbors. The absence of mitigation for the noise levels and time frame of construction needs to be addressed.

29-41

Project operational noise includes a cooling and ventilation system for a 32,000 sf building and 5,040 sf building. Two diesel or propane generators are included in the project for backup power and the location is not specified. The noise generated from the systems and generators has the potential to significantly impact the neighbors and there are no mitigation measures proposed.

29-42

b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise? Marked less than significant  
**Comment:** The MND states the project is expected to produce at most 110 trips per day (e.g. p.63) and would be limited to authorized personnel and employees. This estimate is very low and currently there are people going in and out of the project area dozens of times per day. There are cars turning around on our property when new people "visit" the location. The vibration and noise from generators, people yelling over the noise of the heavy equipment has the potential to significantly impact neighbors along with the noise from increased traffic trying to enter and exit a single-lane driveway on a blind s-curve near our homes. Proposing these activities to occur for whichever length of time is accurate is a significant impact on our daily lives.



XV. PUBLIC SERVICES

29-43

*Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public service; fire protection, police protection, schools, parks, other public facilities?*

**Comment:** Cannabis/Hemp cultivation sites in rural Alameda County are targets for criminal activity. Plants from the cannabis/hemp crop on North Livermore Avenue were stolen in 2019, Alameda County Sheriff's Report #19-16952 and anecdotal information points to the theft of hemp/cannabis from the location on Manning Road the same night. An armed robbery occurred on a South Livermore cannabis cultivation site with security in place, Alameda County Incident Report 17-015098.

The sheriff's department is responsible for providing service to over 508 square miles in Alameda County. A statement included in the ISMND, "The Sheriff's Office has ... a sufficient budget to provide policing services to the County. (p. 67) is questionable. Response time is understandably delayed because there appears to be a limited number of law enforcement personnel (Sheriffs) for each shift to cover 508 square miles. Response time records can be requested for all the times Alameda County Sheriff's Department was called for incidents occurring on the proposed project site and neighboring properties on North Livermore Avenue/Manning Road. Neighbors are witnessing an increase in traffic with unfamiliar cars entering the driveway of the Project site, turning around inside the property, and leaving. A law enforcement plan is necessary to mitigate the potential safety problems with the Project. Alameda and Contra Costa County Sheriff, Livermore Police, and California Highway Patrol Departments should be included in a response plan for the project.

29-44

The San Ramon Fire Department has a quicker response time to fires and medical emergencies on Morgan Territory and Manning Road. SFRD sends out fire hazard and vegetation removal notices to all property owners on Morgan Territory Road. The ISMND does not include the San Ramon Fire Department and public safety service response plans or mitigation measures for this project.

The ISMND states "the proposed project would not create additional demand for fire and police protection services." This statement is questionable and the requirement of security guard(s), security fencing, lighting, surveillance cameras, the thefts and armed robberies reported on cannabis/hemp sites in Livermore, and the increased interest by the public entering and exiting the site after announcing the Project in the media along with arrests associated with the property in the past 10 years, clearly disputes the statement in the ISMND. The delay in public services must be mitigated for this project to protect the safety of the families who live here. *Title 17 section 14. Absent appropriate regulation, the cultivation of cannabis in the unincorporated area of the County poses a potential threat to public peace, health, and safety*

29-45

XVII. TRANSPORTATION

- d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or compatible uses (e.g. farm equipment)? Marked less than significant impact



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**Comment:** The only entrance to the Project site is located on a blind s-curve and appears narrow for heavy equipment, trucks or cars to enter in both directions at the same time. Vehicles exiting the driveway currently have been seen using the oncoming traffic lane to exit the driveway possibly because they do not have a clear view of traffic driving north to south on Morgan Territory Road. The curved rock wall at the entrance to the driveway and the trees may prevent drivers exiting the driveway from viewing cars coming from the north. Many neighbors, driving the speed limit, have almost hit vehicles exiting the driveway, especially the ones who don't stop and look for traffic. It is an unsafe location and will become a hazardous situation with construction vehicles, employees, visitors and curious sightseers using the driveway. Mitigation has not been identified for this potentially significant impact.

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The Traffic Impact Analysis appears inadequate and limits the study to defined peak hours as 7:00-9:00 am and 4:00-6:00 pm during the weekdays in December, 2018. The conclusion reached by TKM that the proposed project driveway would provide adequate site distance for vehicles exiting the project driveway may be inaccurate just based on the traffic that is using the property without the proposed project. Increased traffic from construction, employee, and visitor vehicles unfamiliar with the location may increase the unsafe conditions the neighbors already witness from drivers exiting the driveway.

29-47

The ISMND states the project would "operate on a continuous spanning of three shifts, seven days per week." (p. 72) This statement appears to contradict the statements from page 63, "The proposed construction hours are Monday-Friday 7:00 am – 7:00 pm, Saturday and Sunday 8:00 am – 5:00 pm."; and the proposed hours of operation 8:00 am – 6:00 pm, daily (p. 11). Table 7, Project Trip Generation Estimates, appear to be very low given three shifts, seven days per week with five to six cars per shift and visitors and the construction employees.

29-48

Alternative Transportation (page 73): "Based on the TIA counts conducted, pedestrian and bicycle activity along Morgan Territory Road does not exist." The narrow scope of the Traffic Impact Analysis failed to include the neighbors who walk on Morgan Territory Road daily and bicyclists who can be seen riding the road daily, and in greater numbers in the spring, fall, and summer.

29-49

- e. Result in inadequate emergency access? Marked less than significant impact.  
**Comment:** The conclusion the driveway is expected to be adequate for emergency vehicles given the scope of this project should include comment and approval by the Fire Departments servicing the location. This information is missing from the reports.

29-50

**XIX. UTILITIES AND SERVICE SYSTEMS**

a-e Marked less than significant impact.  
**Response:** The proposed project does not adequately provide consistent information in the ISMND to determine whether there is a sustainable water supply and failed to include the hydrology report as an appendix. The ISMND omitted propane as the energy source required for the project which requires information on location, size of the tank, quantity, and related hazardous materials plan. Natural gas is not available since the pipeline along with city sewer and water lines are not available to Morgan Territory Road property owners. The ISMND fails to describe the electrical upgrades necessary for this project and whether it can be supplied by Pacific Gas and Electric or any other source prior to a conditional use permit approval. A composting plan for solid waste is not included in the ISMND and the amount of wastewater produced and the time frame for sludge removal is not consistent within the ISMND and Acorn



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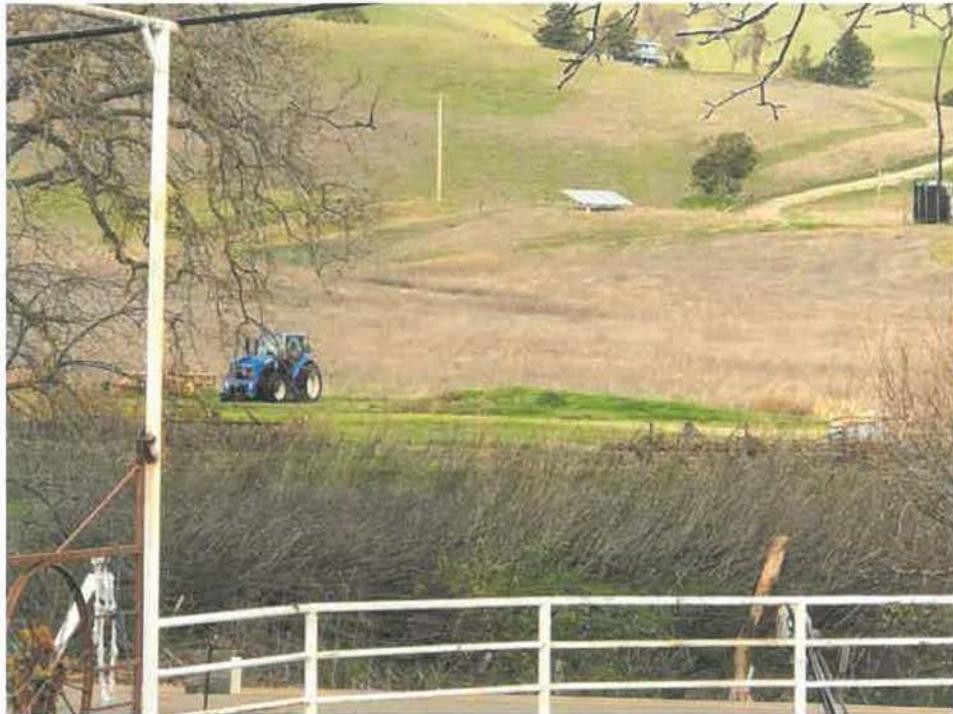
report. A specific discussion on monitoring requirements and how they will be implemented appears to be absent from the ISMND.

**A full Environmental Impact Report is requested.**

XX. Wildfire

a-d Marked less than significant

**Comment:** The project location is in a high wind, high fire danger area and as a result our electricity was shut-off by PGE in 2019 during Public Safety Power Shutoff Events. Nineteen spot fires were started on Morgan Territory in 2019 by an arsonist. The Project is located adjacent to a creek where dry vegetation appears to be accumulating to potentially dangerous levels placing the neighbors and animals at risk if a fire occurs. There is no discussion in the ISMND as to the management of vegetation fuels adjacent to the proposed Project and remaining 80 plus acres of the property. Increasing the activity on this site increases the risk of fire. This is an unacceptable risk to the neighboring property owners and a plan and implementation for fuel reduction must be included as an element of this project.



29-51

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

a-c Marked less than significant.

**Comment:** It is my opinion the cumulative effects of this project are considerable given the surrounding rural neighborhood, and the historical agricultural uses that have respected and

29-52

Letter 29  
Cont'd

29-52  
Cont'd

limited water usage pumped from wells. "Wells tapping the Tassajara Formation yield only sufficient water for domestic or stock purposes." (Bulletin 118) The absence of an adequate water supply and monitoring of the groundwater is potentially the most significant impact to the groundwater and the neighboring properties. Intensive irrigated agriculture has never occurred on this property proposed for the Project or the adjacent land due to the lack of a sustainable water supply. The impact on biological resources is unknown due to the omission of focused surveys for sensitive species that were identified as having potential habitat onsite. The construction of a 32,000 industrial building surrounded by a perimeter security fence, lighting, noise, and offensive odors is not consistent with the current structures, past structures, or physical environment in the area. I believe this project will have a significant impact on groundwater, the quality of the environment and the people who live here.

29-53

**Project Components and Related Materials.**

Documents posted on Alameda County and California State websites provide information for a Medical Cannabis Cultivation Operator Permit application, PLN 2017-00215, submitted for Assessor's Parcel Number: 903-0007-001-01 by Oasis Venture LLC, Secretary of State file number 201703410310. The attached Land Owner Information and Acceptance form which requires each landowner's signature was signed by one landowner. Conditional Use Permit PLN 2018-00258 and the ISMND do not reference the Medical Cannabis Cultivation as described in the operator permit application. Alameda County sales and mortgage history document #2108131809 records a change in ownership in 2018 for APN 903-0007-001-01 to Oasis Fund LLC with a Secretary of State file number 201815910299 and another Alameda County recorded document number 2019220585 by United States District Court in 2019 .

29-54

Is there a process in the Cannabis Ordinance that Alameda County currently has in place to transfer permits to new ownership and to revise the operation description for the Cannabis Cultivation Operator permit? A similar question, # 6, was included in the *MTR Neighbors Request A Written Response to the Following Questions* letter, submitted to County staff at the East County Board of Zoning Adjustments meeting March 28, 2019. We have not received written responses to our questions from County staff. It is worth stating for the record all related materials for PLN: 2018-00258, PLN 2017-00215, and the RFP application were requested in writing on January 9, 2020 and January 17, 2020 and the only response was an automated reply that staff would be out of the office January 20, 2020.

29-55

We believe there are substantial comments and evidence that support a fair argument that significant environmental impacts may occur from this project and request a full Environment Impact Report for this proposed conditional use of a cannabis facility.

Respectfully Submitted,



Albert and Brenda Morris



**Letter 29  
Cont'd**

**29-56**

**Appendix**

- Alameda County Health Care Services Agency Drinking Water Well Testing 5/6/13
- Zone 7 January 15, 2020 Draft CUP/MND Discrepancies and Omissions
- Permit Application for New Well January 22, 2019
- San Francisco Bay Regional Water Quality Control Board Comments January 20, 2020
- San Francisco Hydrologic Region Livermore Valley Groundwater Basin Bulletin 118 1/20/ 2006
- EBZA PLN 2018-00258 Conditional Use Permit March 28, 2019
- Appeal and Denial PLN 2017-00215 January 3, 2018
- MCCOP RFP 2017 including Landowner Information and Acceptance
- Morgan Territory Road Neighbors Request A Written Response to the Following Questions: March 28, 2019
- Incident/Criminal Report Alameda County Sheriff's Office Case Number 19-016952 10/04/2019
- Pictures



ALAMEDA COUNTY  
HEALTH CARE SERVICES  
AGENCY  
ALEX BRISCOE, Agency Director



DEPARTMENT OF ENVIRONMENTAL HEALTH  
1131 Harbor Bay Parkway Alameda, Ca 94502  
(510)587-6700 (510)337-9432 (Fax)

### Drinking Water Well Testing

Before a Building Permit can be issued for a building not served by public water, the quality & quantity of well water must be approved by this Department. Send a copy of the chemical, bacterial & flow test report to this Department (to the inspector handling the case).

#### • Chemical & Bacterial Testing

- samples must be drawn at well, before any treatment or filtration
- samples can be taken by lab personnel or others if using bottles from the lab & the lab procedures
- testing must be done by a California State Approved Lab; a list of local labs is on back of this sheet.
- write the address or APN of where sample was taken, on the lab slip.

<u>Chemical</u>	<u>Maximum</u>
• Chloride	500 mg/l
• Color	15 Units
• Copper	1,000 µg/l (micrograms per liter)
• Iron	300 µg/l
• Manganese	50 µg/l
• Nitrate (as NO <sub>3</sub> )	45.0 mg/l
• Odor - Threshold	3 Units
• Sulfate	500 mg/l
• Total Dissolved Solids	1,000 mg/l
• Turbidity	5 Units
• Zinc	5,000 µg/l

- Bacteria Must be absent of Coliform

#### • Flow Test

- must be done by a Licensed Water Well Driller. A list of local drillers is on the back of this sheet.
- well flow must be  $\geq 5$  gpm for 4 hours per house.  $\geq 3$  gpm well flow may be acceptable with  $\geq 1200$  gallon potable water storage per house
- The Department fees for evaluating the lab reports & the flow test is \$578.

This Department does not issue Permits for drilling or abandoning drinking water wells. Contact:

- Dublin, Livermore, Pleasanton, Sunol area: Zone 7 Water Agency (925)454-5000
- Alameda, Albany, Berkeley, Castro Valley, Emeryville, Hayward, Oakland, San Leandro, San Lorenzo area: Alameda County Public Works (510)670-6633
- Fremont, Newark, Union City area: Alameda County Water District (510)659-1970

5/6/13 - RH



Letter 29  
Cont'd

ITEM NO. 9



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7  
100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551 • PHONE (925) 454-5000 • FAX (925) 454-5727

**ORIGINATING SECTION:** Groundwater  
**CONTACT:** Carol Mahoney

**AGENDA DATE:** January 15, 2020

**SUBJECT:** Review of Resolution No. 19-68 Related to an Authorization for Commercial Septic System Use, Oasis Venture, LLC

**SUMMARY:**

On September 18, 2019, the Board of Directors approved Resolution No. 19-68 recommending authorization of an onsite wastewater treatment system (OWTS) under certain conditions (see attached board report from September 18, 2019). This authorization was based on detailed information provided in the application that was used by staff to determine the total onsite nitrogen loading from the application and/or disposal of treated wastewater, and to determine the risks to groundwater degradation from the OWTS. Since that time, the applicant has filed an application for a Conditional Use Permit from Alameda County and that application provides different information on project specifications. Staff is currently reviewing that information to determine potential impacts to the groundwater basin and the potential need for additional mitigation measures. Staff will be prepared to discuss specific information at the January 15, 2020, Board of Directors meeting.

**FUNDING:**

N/A

**RECOMMENDED ACTION:**

Based on the information to be discussed on January 15, 2020, that the Board of Directors provide direction to staff regarding the actions taken in Resolution No. 19-68 and related to the County's CUP and CEQA process.

**ATTACHMENT:**

Copy of Item 7b from the September 18, 2019, Board of Directors Meeting

29-58



**Water Supply Review of  
OASIS FUND LIVERMORE GROW FACILITY**

WATER	From Water Supply and Wastewater Plan for Project (Balance Hydrologist, 2019)		Described in MEND (County Planning Dept., Dec. 2019)	
<b>WATER DEMAND</b>				
Irrigation	3,600 gpd	4.0 af/yr	2,800 - 3,600 gpd	3.1 - 4.0 af/yr
Restrooms	550 gpd	0.6 af/yr	550 - 1,000 gpd	0.6 - 1.1 af/yr
Climate Control	1,780 gpd	2.0 af/yr	2,740 - 10,000 gpd	3.1 - 11.2 af/yr
Residence	700 gpd	0.8 af/yr	700 gpd <sup>(2)</sup>	0.8 af/yr
Landscape	200 gpd	0.2 af/yr	200 gpd <sup>(2)</sup>	0.2 af/yr
<b>TOTAL DEMAND</b>	<b>6,800 gpd</b>	<b>7.6 af/yr</b>	<b>6,990 - 16,300 gpd</b>	<b>8.0 - 17.3 af/yr</b>
<b>WATER SUPPLY</b>				
No. of Wells	4 wells		4-5 wells	
Groundwater	6,800 gpd <sup>(1)</sup>	6.5 af/yr	5,760 - 10,080 gpd	6.5 - 11.3 af/yr
Rainwater Harvest	880 gpd	1.0 af/yr	880 - 1,096 gpd	1.0 - 1.2 af/yr
Reclaimed Wastewater	1,200 gpd	1.3 af/yr	1,200 gpd <sup>(3)</sup>	1.3 af/yr
<b>TOTAL SUPPLY</b>	<b>7,880 gpd</b>	<b>8.8 af/yr</b>	<b>7,820 - 12,376 gpd</b>	<b>8.8 - 13.8 af/yr</b>

M/MND = Initial Study/Mitigated Negative Declaration gpd = gallons per day af/yr = acre-foot per year

<sup>(1)</sup> = Drawdown analysis was done for only 5,760 gpm at 24 hr and 184 days in Balance Hydrologist report

<sup>(2)</sup> = Restroom and Landscape demands not included in MND. Assumed value from Balance Hydrologist report.

<sup>(3)</sup> = Onsite recycled water value from Balance Hydrologist report used since not included in MND

29-58  
Cont'd

**Draft CUP/MND Discrepancies and Omissions**

- **Conflicting project water demands:**
  - Irrigation demand: 2,800 gpd in Project Description vs 3,600 gpd in Hydrology section and Balance water plan
  - Sanitary demand: 1,000 gpd in Project Description, vs 550 gpd in Hydrology section and Balance water plan
  - Air Cooler demand: "up to 10,000 gpd" in Project Description, but 1,750 gpd in Balance water plan
- **Erroneous and inconsistent water supply information.**
  - MND says existing wells yield a total of 7 gpm, whereas pumping tests confirm only 4 gpm
  - MND suggests that a new well is needed while the water plans says the existing 4 wells are sufficient.
  - Rainwater Harvesting: 400,000 gal/yr in Project Description vs 314,000 gal/yr in Hydrology section and Balance water plan
- **No monitoring or reporting requirements for pumped GW volumes or GW levels.**
- **No action threshold or contingency plan for case of unsustainable GW pumping or GW levels.**



Water Supply Review of  
OASIS FUND LIVERMORE GROW FACILITY

WATER	From Water Supply and Wastewater Plan for Project (Balance Hydrologics, 2019)		Described in IS/MND (County Planning Dept., Dec. 2019)	
<b>WATER DEMAND</b>				
Irrigation	3,600 gpd	4.0 af/yr	2,800 - 3,600 gpd	3.1 - 4.0 af/yr
Restrooms	550 gpd	0.6 af/yr	550 - 1,000 gpd	0.6 - 1.1 af/yr
Climate Control	1,780 gpd	2.0 af/yr	2,740 - 10,000 gpd	3.1 - 11.2 af/yr
Residence	700 gpd	0.8 af/yr	700 gpd <sup>(2)</sup>	0.8 af/yr
Landscape	200 gpd	0.2 af/yr	200 gpd <sup>(2)</sup>	0.2 af/yr
<b>TOTAL DEMAND</b>	<b>6,800 gpd</b>	<b>7.6 af/yr</b>	<b>6,990 - 16,300 gpd</b>	<b>8.0 - 17.3 af/yr</b>
<b>WATER SUPPLY</b>				
No. of Wells	4 wells		4-6 wells	
Groundwater	6,800 gpd <sup>(1)</sup>	8.5 af/yr	5,780 - 10,080 gpd	6.5 - 11.3 af/yr
Rainwater Harvest	880 gpd	1.0 af/yr	860 - 1,098 gpd	1.0 - 1.2 af/yr
Reclaimed Wastewater	1,200 gpd	1.3 af/yr	1,200 gpd <sup>(3)</sup>	1.3 af/yr
<b>TOTAL SUPPLY</b>	<b>7,880 gpd</b>	<b>8.8 af/yr</b>	<b>7,820 - 12,378 gpd</b>	<b>8.8 - 13.8 af/yr</b>

IS/MND = Initial Study/Mitigated Negative Declaration gpd = gallons per day af/yr = acre-foot per year

<sup>(1)</sup> = Drawdown analysis was done for only 5,780 gpm at 24 hr and 184 days in Balance Hydrologics report

<sup>(2)</sup> = Residential and Landscape demands not included in MND. Assumed value from Balance Hydrologics report.

<sup>(3)</sup> = Onsite recycled water value from Balance Hydrologics report used since not included in MND

29-58  
Cont'd

Draft CUP/MND Discrepancies and Omissions

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  - Air Cooler demand: "up to 10,000 gpd" in Project Description, but 1,750 gpd in Balance water plan
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  - Rainwater Harvesting: 400,000 gal/yr in Project Description vs 314,000 gal/yr in Hydrology section and Balance water plan
- **No monitoring or reporting requirements for pumped GW volumes or GW levels.**
- **No action threshold or contingency plan for case of unsustainable GW pumping or GW levels.**



### Draft CUP/MND Discrepancies and Omissions (cont'd)

- Lone mitigation for potential GW Impacts is "Zone 7 well permit".
  - Permit is for well construction only
- Potential Interference with GW recharge was not evaluated.
  - Rainwater capture and runoff diverted to creek.
- Potential cumulative impacts associated with 2 onsite residences not considered.
  - Residential use: +700 gpd
  - Landscape demand: +200 gpd
- No mention of onsite holding tank to keep pollution out of leachfield.
- Reclaimed irrigation and cooling system wastewater not quantified.
- Balance Hydrologics report was not included as an Appendix.
- Conditions of Zone 7's approval for OWTS use were not included.

29-58  
Cont'd

### Planned Actions

- Prepare written response for IS/MND
  - Due Jan 24
  - Restate needed GW protection measure
- Follow-up with ACDEH on OWTS design, and monitoring and reporting requirements.
- Attend any associated/relevant meetings
- Rescind or enforce outstanding well destruction requirement depending on outcome of final CUP/MND.
- Conduct workshop for Co. Planners to educate them on Zone 7's GSA role/authority, and various groundwater issues and concerns in East County, such as:
  - Salt and Nutrient Mgmt Plan
  - High Nitrate Areas-of-Concern
  - Sustainable Groundwater Ordinance
  - Water Wells Ordinance
  - Wastewater Management Plan
  - Groundwater Sustainability Plan
  - Sustainable Groundwater Ordinance
  - Areas of Special OWTS Requirements



Letter 29  
Cont'd

January 22, 2019

Mr. Chuck Moore  
Pacific Coast Well and Pump  
2415 San Ramon Valley Blvd,  
Suite 4 Mailbox 440  
San Ramon, CA 94583

Felix Kukushkin  
The Oasis Fund LLC  
7031 Morgan Territory Rd.  
Livermore, CA 94551

Subject: *Permit Application for New Well at 7031-7033 Morgan Territory Road, Livermore  
(Parcel #903-0007-001-01)*

Dear Mssr. Moore and Kukushkin:

This letter is to notify you that the well construction permit you applied for on January 15, 2019 for an additional new well at 7033 Morgan Territory Road in Livermore (parcel #903-0007-001-01) has been tentatively denied by Zone 7 Water Agency. Authorization for this additional well is being withheld pending fulfillment of the previous drilling permit's requirements and the submittal of a groundwater supply impact analysis.

In July 2018, Zone 7 issued Permit No. 2018091 (attached) for the construction of a new well (Well No. 2S/2E 17G4) to replace an existing abandoned well (Well No. 2S/2E 17G2). As a condition of this permit, Well No. 2S/2E 17G2 was to be properly destroyed under a separate permit within 30 days following the completion of the new well. This provision was accepted by the Managing Member of the then-well owner, Charles Campos. We have since received the Well Completion Report for the new well, but have not yet received an application for the destruction of Well No. 2S/2E 17G2.

As the regional groundwater sustainability manager and well ordinance administering agency, Zone 7 seeks to protect and conserve the public's groundwater supply. Under the California Constitution, a property owner has a right to pump groundwater for reasonable beneficial uses on the property immediately overlying it. Where groundwater supplies are limited, it becomes imperative for overlying owners to restrict pumping to their reasonable share of the common groundwater supply.

Since the plan for the proposed well is to use its production in conjunction with three or four other onsite wells to supply irrigation water for a new use, we require extra study and documentation to verify that the proposed use would not substantially deplete local groundwater

29-59



Letter 29  
Cont'd

29-59  
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supplies which support existing land uses or planned uses for which permits have been granted. The documentation must be prepared a registered Professional Geologist or registered Professional Civil Engineer (California Business and Professions Code Sections 7850 and 6762, respectively). This requirement for a groundwater impact analysis is consistent with the Alameda County Water Wells Ordinance (Chapter 6.88.050) and the California Environmental Quality Act (CEQA).

Zone 7 will reconsider the permit application for an additional new well if you can provide the requested documentation that shows there would not be a net deficit in aquifer volume or a lowering of the local groundwater table such that the production rate of pre-existing nearby wells would drop. If you are unable to provide adequate verification, we suggest that you seek an alternative water supply for the project or find a way to reduce the project's water demand, and require that one of the four existing wells be properly destroyed under a Zone 7 permit.

Thank you for your understanding. Please feel free to contact Matt Katen of my staff if you have any questions regarding this decision. He can be contacted by telephone at (925) 454-5071 or by email at [mkaten@zone7water.com](mailto:mkaten@zone7water.com).

Sincerely,

Valerie Pryor  
General Manager

cc: Carol Mahoney, Zone 7 Water Agency  
Rodrigo Orduna, Alameda County Community Development Agency  
Liz McElligott, Alameda County Community Development Agency



Letter 29  
Cont'd



San Francisco Bay Regional Water Quality Control Board

January 20, 2020

Sent via electronic mail: No hardcopy to follow

Alameda County Planning Department  
224 West Winton Ave., Suite 111  
Hayward, CA 94544

ATTN: Rodrigo Orduña (rodrigo.orduna@acgov.org)

**Subject:** San Francisco Bay Regional Water Quality Control Board Comments on the *Initial Study and Mitigated Negative Declaration for Oasis Fund Livermore Grow Facility Project, Alameda County, California* SCH No. 2019129080

Dear Mr. Orduña:

San Francisco Bay Regional Water Quality Control Board (Water Board) staff appreciates the opportunity to review the *Initial Study and Mitigated Negative Declaration for the Oasis Fund Livermore Grow Facility Project, Alameda County, California* (ISMND). The ISMND evaluates the potential environmental impacts associated with constructing and operating the Oasis Fund Grow Facility at 7033 Morgan Territory Road, Livermore, California (Project). The Project purpose is to establish an indoor cannabis cultivation facility. The Project includes development of a 32,000-square foot (sf) greenhouse building, as well as a 5,040-sf processing building, and 26 parking stalls. The Project will be developed within a 98.11-acre property. A private residence currently exists on the property. With the exception of rural, single-family residences to the north, west, and east, the Project site is surrounded by predominately undeveloped land.

**Summary**

As is discussed below, the ISMND does not accurately describe the extent of Water Board jurisdiction or provide sufficient information to document the Project's compliance with the requirements of the State Water Resources Control Board's Cannabis Policy and Cannabis General Order.

29-60

JIM McGRATH, CHAIR | MICHAEL MONTGOMERY, EXECUTIVE OFFICER

1515 Clay St., Suite 1400, Oakland, CA 94612 | [www.waterboards.ca.gov/sanfranciscobay](http://www.waterboards.ca.gov/sanfranciscobay)



29-60  
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**Comment 1.**

**The information presented in the ISMND is currently insufficient to demonstrate full compliance with the requirements of the Cannabis General Order.**

The Project proponent has submitted a Notice of Intent (NOI) to the Water Board for coverage under the State Water Resources Control Board's Cannabis Policy and Cannabis General Order (Order WQ 2019-0001-DWQ), and has been issued a Notice of Applicability (NOA) for enrollment under the Cannabis General Order. Based on the information presented in the ISMND, it is not clear if the Project is in full compliance with the requirements of the Cannabis General Order with respect to the requirements for greenhouse construction and the treatment of cannabis-related wastewaters (See Comment 3, below).

The Cannabis Policy and Cannabis General Order have strict definitions and requirements for facilities that are regulated as indoor growing facilities. A cultivation site is classified as an indoor facility if the greenhouse is a permanent structure with a permanent roof and an impervious floor (e.g., concrete, asphalt, etc.). Please revise the ISMND to provide sufficient detail with respect to greenhouse construction to confirm that the greenhouse will meet the requirements of the Cannabis Policy and Cannabis General Order for an indoor grow facility.

**Comment 2.**

**Section IV, Biological Resources of the ISMND is based on a Biological Evaluation that does not accurately describe Water Board and California Department of Fish and Wildlife (CDFW) jurisdiction.**

The *Discussion* subheading in Section IV states that, "The following discussion is based on a Biological Evaluation performed by the ecological consulting firm Live Oak Associates, Inc. for the proposed project (See Appendix B)." Appendix B consists of *Oasis Grow Facility Property, Biological Evaluation, Alameda County, California* (Live Oak Associates, Inc., October 24, 2018). Section 2.4 of this Evaluation includes the following text:

The limit of USACE<sup>1</sup> jurisdiction, as well as that of the RWQCB, over Cayetano Creek determined to be jurisdictional tributary waters is the ordinary high water mark. This creek would also be subject to the jurisdiction of the CDFW which regulates the bed-and-bank of streams, creeks or channels."

The Water Board has regulatory authority over wetlands and waterways under both the federal Clean Water Act (CWA) and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the Water Board has regulatory authority over actions in waters of the United States, through the issuance of water quality certifications (certifications) under Section 401 of the CWA, which are issued in combination with permits issued by the U.S. Army Corps of Engineers (USACE), under Section 404 of the CWA. When the Water Board issues Section 401 certifications, it simultaneously issues general Waste Discharge

<sup>1</sup> USACE = U.S. Army Corps of Engineers.



Requirements (WDRs) for the project, under the Porter-Cologne Water Quality Control Act. Activities in areas that are outside of the jurisdiction of the USACE (e.g., isolated wetlands, vernal pools, or stream banks above the ordinary high water mark) are regulated by the Water Board, under the authority of the Porter-Cologne Water Quality Control Act. Activities that lie outside of USACE jurisdiction may require the issuance of either individual or general WDRs from the Water Board. In addition, CDFW jurisdiction extends beyond the top of bank to the outer drip line of riparian vegetation present along the top of bank. Please revise the Biological Evaluation to correctly state the extent of Water Board and CDFW jurisdiction.

Under the authority of the Porter-Cologne Water Quality Act, the Water Board has developed, and implements, the *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan), which defines the Beneficial Uses of waters of the State within the San Francisco Bay Region. The Project site includes a reach of Cayetano Creek, which has been assigned the following existing and potential Beneficial Uses in the Basin Plan: the preservation of rare and endangered species, warm freshwater habitat, wildlife habitat, contact water recreation, and non-contact water recreation. Any permit action taken by the Water Board must be consistent with maintaining Beneficial Uses of waters of the State. Therefore, any Project activities that may impact aquatic habitat for foothill yellow-legged frog, California red-legged frog, or western pond turtle may be subject to Water Board jurisdiction. Please revise the Biological Resources discussion in in the ISMND to acknowledge that the Water Board has regulatory jurisdiction over impacts to rare and endangered species in Cayetano Creek.

**Comment 3.**

**Section XIX, Utilities and Service Systems, of the ISMND does not provide sufficient information to verify compliance with the requirements of the Cannabis General Order for cannabis-related wastewater.**

Text in Section XIX states:

Wastewater treatment for the proposed project would be provided by construction of an on-site septic tank and leach field. The septic system would serve the processing building for use by employees only. According to Chapter 15.18 of the County Code of Ordinances, if the amount of wastewater received by an OWTS exceeds 10,000 gpd, the method of treatment must be submitted for review and approval by the San Francisco RWQCB. Wastewater produced by the project would not exceed 700 gpd, and thus, would not require review by the San Francisco RWQCB.

The proposed project includes construction of a leach field, which would remove contaminants and impurities from the liquid that emerges after anaerobic digestion in a septic tank. The septic system would be subject to the Alameda County Septic System Ordinance per the ACEHD, and would require review by the department prior to approval of the permit. Wastewater would be directed to a leach field, which would filter and purify water. Any additional sludge would be kept in a 5,000-gallon sludge tank which would be hauled off-site every 10 days.

29-60  
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The ISMND discusses generation of domestic wastewater, but does not provide a discussion of the volumes of cannabis-related wastewater that may be generated. Cannabis-related wastewater includes, but is not limited to, tailwater, reverse osmosis reject water, and cleaning wastewater. Per the requirements of the Cannabis Policy and Cannabis General Order, onsite septic systems can only be used for domestic wastewater and cannot be used to treat cannabis-related wastewater. Any cannabis-related wastewater must be hauled off site at this time. Please revise the ISMND to describe management of cannabis-related wastewater in conformance with the requirements of the Cannabis General Order.

**Conclusion**

The ISMND should be revised to correctly describe Water Board jurisdiction at the Project site and to describe the measures to be used to maintain conformance with the requirements of the Cannabis General Order for indoor grow facilities and for the management of cannabis-related wastewater.

If you have any questions, please contact me at (510) 622-5680, or via e-mail at [brian.wines@waterboards.ca.gov](mailto:brian.wines@waterboards.ca.gov).

29-60  
Cont'd

Sincerely,

**Brian Wines**

Digitally signed by Brian  
Wines  
Date: 2020.01.21 12:35:01  
-08'00'

Brian Wines  
Water Resources Control Engineer  
South and East Bay Watershed Section

cc: State Clearinghouse ([state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov))  
CDFW, Marcia Grefsrud ([marcia.grefsrud@wildlife.ca.gov](mailto:marcia.grefsrud@wildlife.ca.gov))



San Francisco Hydrologic Region  
Livermore Valley Groundwater Basin

California's Groundwater  
Bulletin 118

### Livermore Valley Groundwater Basin

- Groundwater Basin Number: 2-10
- Counties: Alameda and Contra Costa
- Surface Area: 69,600 acres (109 square miles)

#### Basin Boundaries and Hydrology

The Livermore Valley lies about 40 miles east of San Francisco and 30 miles southwest of Stockton within a structural trough of the Diablo Range. The groundwater basin extends from the Pleasonton Ridge east to the Altamont Hills (about 14 miles) and from the Livermore Upland north to the Orinda Upland (about 3 miles). Surface drainage features include Arroyo Valle, Arroyo Mocho, and Arroyo las Positas as principal streams, with Alamo Creek, South San Ramon Creek, and Tassajara Creek as minor streams. All streams converge on the west side of the basin to form Arroyo de la Laguna, which flows south and joins Alameda Creek in Sunol Valley. Some geologic structures restrict the lateral movement of groundwater, but the general groundwater gradient is to the west, then south towards Arroyo de la Laguna. Elevations within the basin range from about 600 ft in the east, near the Altamont Hills, to about 280 ft in the southwest, where Arroyo de la Laguna flows into Sunol Groundwater Basin. Average annual precipitation ranges from 16 inches on the valley floor to more than 20 inches along the southeast and northwest basin margins.

#### Hydrogeologic Information

##### Water Bearing Formations

The entire floor of Livermore Valley and portions of the upland areas on all sides of the valley overly groundwater-bearing materials. The materials are continental deposits from alluvial fans, outwash plains, and lakes. They include valley-fill materials, the Livermore Formation, and the Tassajara Formation. Under most conditions, the valley-fill and Livermore sediments yield adequate to large quantities of groundwater to all types of wells. The quality of water produced from these rocks ranges from poor to excellent, with most waters in the good to excellent range.

The following information on the water bearing units is from Bulletin 118-2 (DWR 1966, DWR 1974).

**Valley-fill.** The Holocene age surficial valley-fill materials range in thickness from a few tens of feet to nearly 400 feet. They occur as stream channel deposits, alluvium, alluvial fan deposits, and terrace deposits, and are composed of unconsolidated sand, gravel, silt, and clay. In the central and southern portions of the valley, 50 to 80 percent of the valley-fill is comprised of aquifer material that yields significant quantities of water to wells. Clay deposits up to 40 feet thick cap the valley-fill in the western part of the Basin; where deep wells draw groundwater from underlying aquifer material. (Zone 7, 2002) Several gravel extraction pits have been dug into the upper portions of the valley fill material near the central portion of the basin. Dewatering activities related to the mining change ground water flow patterns and locally limit the storage capacity of the basin. Mining activities are scheduled to cease by 2030.

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**Livermore Formation.** The Plio-Pleistocene Livermore Formation is primarily exposed over the south and southwest regions of the Livermore Valley groundwater basin, but occurs almost everywhere beneath the surface at depths up to 400 ft. This formation is up to 4,000 feet thick and consists of unconsolidated to semi-consolidated beds of gravel, sand, silt, and clay. Limey concretions are fairly common in its lower portion, and tuffaceous beds are present at its base. Erosion of Jurassic and Cretaceous rocks to the south of the basin produced the coarse-grained Livermore Formation. These grains consist of black to red chert, micaceous sandstone, black shale, and quartzite. (DWR, 1966) Deep wells in the eastern half of the basin produce from the Livermore Formation. Upland wells to the South have limited groundwater yields. (Zone 7, 2002) Generally, yields are adequate for most irrigation, industrial, or municipal purposes.

**Tassajara Formation.** The Pliocene-age Tassajara Formation surfaces in the uplands to the north of the Livermore Valley and occurs beneath the central portion of the valley at depths ranging from 200 to 750 feet. Beds of the Tassajara are composed of sandstone, siltstone, shale, conglomerate, and limestone. Coarse-grained beds typically contain tuff and clay particles, reducing their overall permeability. Wells tapping the Tassajara Formation yield only sufficient water for domestic or stock purposes. There is little hydrologic continuity between the Tassajara and overlying water-bearing units.

#### **Restrictive Structures**

Within the Livermore Valley groundwater basin, faults are the major structural features known to have marked affect on the movement of groundwater. Faults in this region tend to act as barriers to the lateral movement of groundwater. The resulting groundwater levels stand higher on the up-gradient side. The Livermore, Pleasanton and Parks faults act as such barriers, dividing the Quaternary Alluvium into 5 groundwater sub-basins.

#### **Groundwater Level Trends**

#### **Groundwater Storage**

**Groundwater Storage Capacity.** Total storage capacity of the basin is estimated at about 500,000 af. (Zone 7, 2002)

**Groundwater in Storage.** Groundwater in storage in 1999 is estimated at 219,000 af.

#### **Groundwater Budget (Type A)**

Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7) has maintained an annual hydrologic inventory of supply and demand since 1974. The inventory describes the balance between groundwater supply and demand. Under average hydrologic conditions, the groundwater budget is essentially in balance. Groundwater budget inflow components include natural recharge of 10,000 af, artificial recharge of 10,900 af, applied water recharge of 1,740 af, and subsurface inflow of 1,000 af. Groundwater budget outflow components include urban extraction of

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10,290 af, agricultural extraction of 190 af, other extraction and evaporation associated with gravel mining operations of 12,620 af, and subsurface outflow of 540 af.

**Groundwater Quality**

**Characterization.** Water chemistry is highly varied around the basin. Generally, the northern extent of the basin is dominated by a sodium cation water. Much of the water underlying the western part of the basin near Pleasanton has magnesium-sodium as the dominant cation. The area along the eastern portion of the basin beneath Livermore typically has magnesium as the dominant cation. Nearly the entire basin has bicarbonate as the dominant anion (Sorenson and others 1985). TDS ranges from 300 mg/L to 550 mg/L with an average of 450 mg/L based on analyses from 27 municipal wells.

**Impairments.** Some areas have boron concentrations exceeding 2 mg/L (16 wells of approximately 137 wells sampled in 1982). Boron is generally highest in shallow wells because of marine sediments adjacent to the basin. The most areally-extensive elevated boron concentrations occur in the northeast part of the basin (Sorenson and others 1985).

**Water Quality in Public Supply Wells**

Constituent Group <sup>1</sup>	Number of wells sampled <sup>2</sup>	Number of wells with a concentration above an MCL <sup>3</sup>
Inorganics – Primary	33	0
Radiological	24	0
Nitrates	33	5
Pesticides	31	1
VOCs and SVOCs	31	2
Inorganics – Secondary	33	5

<sup>1</sup> A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater – Bulletin 118* by DWR (2003).

<sup>2</sup> Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.

<sup>3</sup> Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an Indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

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**Well Characteristics**

Well yields (gal/min)		
Municipal/Irrigation Main Basin: Valley Fill & Livermore Formation	Range: 500 – 4,500	Average: 1,500 (Well Completion Reports)
Irrigation: Fringe Sub-basins: Tassajara Formation	Range: 2 – 300	Average: 40 (Zone 7 Monitoring Data)
Total depths (ft)		
Domestic	Range: 100 - 350	Average: 180 (Well Completion Reports)
Municipal/Irrigation	Range: 315 - 810	Average: 500 (Well Completion Reports)

**Active Monitoring Data**

Agency	Parameter	Number of wells /measurement frequency
Zone 7 Water Agency	Groundwater levels Mineral, nutrient, & minor element.	210 wells annually 50 wells monthly 10 wells continuously
DWR	Mineral, nutrient, & minor element.	27 wells every three years
Department of Health Services and cooperators	Coliform, nitrates, mineral, organic chemicals, and radiological.	36 wells as required in Title 22, Calif. Code of Regulations

**Basin Management**

Groundwater management:	Zone 7 manages groundwater in the basin under authority from California Water Code Section 30000 (County Water District). In 1995, Zone 7 created a Groundwater Management Advisory Committee comprised of 10 members of the public. The GMAC reviews groundwater-related issues and makes recommendations to the Zone 7 board and staff. Zone 7 adopted a <a href="#">groundwater management plan</a> on September 21, 2005.
Water agencies	
Public	Zone 7, City of Pleasanton, City of Livermore, Dublin San Ramon CSD
Private	California Water Service Company

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San Francisco Hydrologic Region  
Livermore Valley Groundwater Basin

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### References Cited

- California Department of Water Resources, Bulletin No. 118-2, Evaluation of Groundwater Resources: Livermore and Sunol Valleys, Appendix A: Geology, August 1966.
- California Department of Water Resources, Bulletin No. 118-2, Evaluation of Groundwater Resources: Livermore and Sunol Valleys, June 1974.
- California Department of Water Resources, Memorandum Report, Livermore and Sunol Valleys, Evaluation of Groundwater Resources through 1968, June 1970.
- Sorenson SK, Cascos PV, Glass RL. 1985. Water-quality conditions and an evaluation of ground-and surface-water sampling programs in the Livermore-Amador Valley, California. Sacramento, Calif.: U.S. Geological Survey. v, 34 p.

### Additional References

- San Francisco Planning Department, Alameda Watershed Management Plan, Draft EIR, December 1999.
- Environmental Science Associates, Alameda County Water District Integrated Resources Plan and 1996-2001 Capital Improvement Program, May 1998.
- Oakeshott, G.O. 1973, Geologic map of Contra Costa County: California Division of Mines, Journal Vol. 54, No. 4, Plate 5
- Jennings, O.P. 1973, Geologic map of California: California Division of Mines and Geology, Geologic Map Series, San Francisco Sheet, scale 1:250,000.
- California Department of Water Resources, Bulletin No. 77-58, Ground Water Conditions in Central and Northern California 1957-58, October 1959.
- California Department of Water Resources, Bulletin No. 130-72, Volume II Northeastern California, December 1973.
- California Department of Water Resources, Bulletin No. 118-80, Ground Water Basins in California, January 1980.
- California Department of Water Resources, Bulletin No. 62-5, Sea-Water Intrusion in California, October 1975.
- Priestaf IG, Ulriok JS, David Keith Todd Consulting Engineers. 1982. Livermore-Amador Valley water supply. Berkeley, Calif.: David Keith Todd Consulting Engineers Inc. vi, 81 leaves, [18] leaves of plates (some folded) p.

### Errata

- Updated groundwater management information and added hotlinks to applicable websites. (1/20/06)

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Cont'd

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**ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY PLANNING  
DEPARTMENT**

**STAFF REPORT**

**TO:** East County Board of Zoning Adjustments (EBZA)

**HEARING DATE:** March 28, 2019

**GENERAL INFORMATION**

**PLANNING FILE #** PLN 2018-00258, Conditional Use Permit (CUP)  
**OWNER/ APPLICANT** Oasis Venture, LLC/ Kukushkin

**PROPOSAL** Application to allow a cannabis cultivation operator  
**LOCATION & SIZE OF PARCEL** 7033 Morgan Territory Road; 92.52 acres

**APN** 903 -0007-001-01

**ZONING DISTRICT** A (Agricultural)

**GENERAL PLAN DESIGNATION** This parcel is located within the boundary of the East County Area Plan and designated as "Resource Management." The parcel is also subject to Measure D.

**ENVIRONMENTAL REVIEW** A draft Mitigation Negative Declaration is currently being reviewed.

**STAFF RECOMMENDATION**

Staff recommends that Board members consider this application as an informational item, review the staff report, receive public comments and provide staff and the applicant with feedback.

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March 22, 2019

EBZA STAFF REPORT

PLN 2018-00258

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**SITE AND CONTEXT DESCRIPTION**

**Physical Features:** The generally rectangular parcel is currently developed with a residence, a detached guest house and a detached barn structure. The majority of the property consists of natural vegetation and native grasslands. A paved private road from Morgan Territory Road provides access to the private residence. Cayetano Creek runs along the front of the property, parallel to Morgan Territory Road.

**Adjacent Area:** Rural single family residences are located to the north, west, and east of the subject property. Surrounding area is largely undeveloped and vacant land.

**PROJECT DESCRIPTION**

The applicant proposes construction of a 34,213 square foot greenhouse building containing a 22,000 square foot of cannabis canopy as well as a 6,480 square foot processing building, and 28 parking spaces. An existing dirt road will be paved to provide access to the new parking area and properties to the north. (See attached Project Description prepared by the applicant.)

Improvements also include landscaping to be installed around the project perimeter to provide aesthetic enhancements and for visual screening of the facilities.

**REFERRAL RESPONSES**

The project has been referred to County agencies and interested parties. As of this writing, no comments have been received.

**STAFF ANALYSIS**

The applicant was issued a cannabis cultivation permit under Title 6 of the General Ordinance code. As a holder of PLN 2017-00215, they are allowed to apply for a conditional use permit in order to implement the operation.

**Conformance With General Plan**

This site lies within the boundaries East County General Plan and designated as "Resource Management." Staff is reviewing the applicant's submittal in order to determine if the application complies with the terms of the Resource Management land use designation.

**Conformance With The Zoning Ordinance**

Under section 17.52.585 of the General Ordinance Code, cannabis cultivation is permitted as a conditional use in the Agricultural district only if approved by the board of zoning adjustments. Staff is reviewing the applicant's submittal in order to determine if the application complies with the terms of the zoning requirements. As part of the submittal, addition information has been submitted including details about a safety plan, staffing, site access and parking, lighting, aesthetics, noise, traffic, odor mitigation, a cooling system.

**CONCLUSION**

As the review process continues, staff is soliciting comments from the EBZA and members of the public.

**Attachments:**

Project Description  
Site plans

**PREPARED BY:** Sonia Urzua

**SENIOR PLANNER**

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March 28, 2019

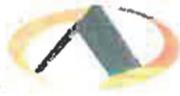
EBZA STAFF REPORT

PLN 2018-0258

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**ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY**  
PLANNING DEPARTMENT

Chris Bazar  
Agency Director

January 3, 2018

Albert Lopez  
Planning Director

Agenda Item #5  
January 09, 2018

224 West Winton Ave  
Room 111

The Honorable Board of Supervisors  
County Administration Building  
1221 Oak Street, Fifth Floor  
Oakland, CA 94612

Hayward, California  
94544-1215

phone  
510.870.5400  
fax  
510.785-8793

www.acgov.org/cda

Dear Board Members:

**SUBJECT:** Appeal submitted by Charles F. Campos on behalf of Oasis Venture, LLC, of a decision of the Community Development Agency Director for a Medical Cannabis Cultivation Operator Permit application, PLN2017-00215, for property located at 7033 Morgan Territory Road, in the North Livermore area of unincorporated Alameda County, Assessor's Parcel Number: 903 -0007-001-01.

**RECOMMENDATION:**

**CDA/Planning:** The Community Development Agency Director recommends that the Board of Supervisors deny the appeal and sustain the decision that the Oasis Venture application be considered an Unsuccessful Application.

**SUMMARY:**

In response to a County Request for Proposals (RFP) to issue Medical Cannabis Cultivation Operator Permits (MCCOP), CDA/Planning received 10 applications, which were all found to be complete and forwarded to the County Selection Committee (CSC) for evaluation. The CSC reviewed all 10 applications and ranked them in order of preference against the following Final Evaluation Criteria:

- Security Plan
- Appropriateness of Site and Design of Proposed Facility
- Operating Plan
- Mitigation of Potential Impacts
- Environmental Considerations
- Community Benefit
- Local Commitment

Pursuant to County ordinances and the RFP process, the top four applicants were granted Cultivation Operator Permits (see table below for final results). By ordinance (6.106.120), an appeals process is available, and Oasis Venture LLC has submitted an appeal described more fully below. Section 6.106.120 also stipulates that the Board of Supervisors will consider the appeal at a public hearing at which the Board may sustain, modify, or overrule the decision. The Board may also remand the decision back to the Community Development Director for reconsideration based on new information not previously presented to the Director.

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Board of Supervisors  
 Oasis Venture, LLC  
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The total scores for each cultivation application given by the three members of the County Selection Committee are listed below. The maximum number of points possible from each selection committee member is 440.

Cultivation Permits				
Ranking	Applicant	PLN number	Total score (out of a possible 1320 points)	Average score (out of a possible 440 points)
1	ACGH, Inc.	PLN2017-00213	1155	385.00
2	Sunol 3C, Inc.	PLN2017-00214	1116.5	372.17
3	CCSAC, Inc.	PLN2017-00216	1100.45	366.82
4	5840 Lindemann, LLC	PLN2017-00211	1071.75	357.25
5	Eagle Valley Farms, Inc.	PLN2017-00207	922.4	307.47
6	Rosciano Farms, LLC	PLN2017-00208	888.4	296.13
7	Oasis Venture, LLC	PLN2017-00215	884.35	294.78
8	Frank Imhof	PLN2017-00209	765.2	255.07
9	Chretien Maynes	PLN2017-00210	738.1	246.03
10	The Royal Herb	PLN2017-00212	636.65	212.22

**APPEAL:**

On December 19, 2017, Charles Campos submitted an appeal on behalf of Oasis Venture, LLC advocating in favor of his application and noting that the process did not include a site visit or oral interview. He contends that an oral interview would have provided the applicant the opportunity to explain their technology and cancer research, as well as provide clarification on the application. The appeal letter also argues that not having access to the other applications prior to the expiration of the appeal period does not provide a basis for comparison of one application to another. Also, the appellant states that there would be benefit in approving their cannabis cultivation application on a property that is located in close proximity to the property on Manning Road that was granted two of the four cannabis cultivation applications: ACGH, Inc. and CCSAC, Inc.

**DISCUSSION**

The County Selection Committee (CSC) consisted of the Planning Director, the Agricultural Commissioner and a Commander from the Sheriff's Office. As the Planning Director was on the CSC, the Community Development Agency (CDA) Director served as the final administrative decision-maker on the applications, with appeals going straight to the Board of Supervisors. At the completion of the final scoring, the CSC provided their results to the CDA Director, who reviewed and affirmed their conclusions; letters of Notice of Intention to Grant were mailed on December 14, 2017.

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Board of Supervisors  
Oasis Venture, LLC  
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Although the majority of the applications for cultivation received were competitive, the process as described in the published RFP required a scoring and ranking, clearly stating that an application with a high weighted total will be deemed of higher quality than an application with a lesser-weighted total. Also, the RFP clearly explained that a site visit and oral interview were an optional 2<sup>nd</sup> stage of the final evaluation process, thereby allowing the CSC to complete the evaluation process based solely on what was submitted in the applications. After the first stage of scoring and ranking was complete, it was the consensus of the CSC that, based on the distribution of the points (evenly spread, clear top candidates), a site visit and interview would not be necessary. As scored, this application was 7<sup>th</sup> out of 10 on the final list, indicating this proposal was of a lesser quality than others submitted.

Although not explicit, the appeal letter suggests that the application be reconsidered, suggesting that either: (1) a successful application/permit be rescinded; or (2) a fifth cultivation permit be issued to Oasis Venture, LLC.

Staff recommends against a re-examination of the scoring outcome, as the three-person panel sitting as the CSC ranked the Oasis application similarly (scoring sheets attached). Also, given where Oasis ranked out of the ten applications, there is no basis for considering them a higher quality application than any of the four successful proposals.

In terms of considering additional cultivation sites, staff believes there is a potential path forward to do so if that was the direction of the Board, but it would require additional ordinance work that builds on the foundation already laid by the Board of Supervisors. The ordinance allowing the County to issue cultivation permits is based on a two year pilot program model, and a revision to the ordinance would be required to allow additional permits to be issued. Should the Board be interested in pursuing this path, staff would require additional guidance on some key questions.

**CONCLUSION:**

Based on the Final Evaluation Criteria, the results of the County Selection Committee, and the determination of the Community Development Director, it is recommended that the Board of Supervisors deny the appeal and sustain the decision that the Oasis Venture LLC application be considered an Unsuccessful Application.

Very truly yours,



Chris Bazar, Director  
Community Development Agency

Enc: Appeal Letter from Oasis Venture LLC  
Scoring sheets for Oasis Venture LLC  
RFP submittal from Oasis Venture LLC  
RFP final  
County Ordinance Chapter 6.106 (cultivation)

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**EXHIBIT A**  
**APPLICATION RESPONSE PACKET**

**MCCOP RFP 2017**

To: The County of Alameda, Community Development Agency

From: **Oasis Venture, LLC**

(Official Name of Applicant)

- **AS DESCRIBED IN THE SUBMITTAL OF APPLICATIONS SECTION OF THIS RFP, APPLICANTS ARE TO SUBMIT ONE ORIGINAL HARDCOPY APPLICATION (EXHIBIT A – APPLICATION RESPONSE PACKET), INCLUDING ADDITIONAL REQUIRED DOCUMENTATION), WITH ORIGINAL INK SIGNATURES, PLUS 6 COPIES AND ONE ELECTRONIC COPY OF THE APPLICATION IN PDF**
- **ALL PAGES OF THE APPLICATION RESPONSE PACKET (EXHIBIT A) MUST BE SUBMITTED IN TOTAL WITH ALL REQUIRED DOCUMENTS ATTACHED THERETO; ALL INFORMATION REQUESTED MUST BE SUPPLIED**
- **EACH APPLICANT MUST SIGN AND SUBMIT THE APPLICANT INFORMATION AND ACCEPTANCE FORM BELOW**
- **EACH LANDOWNER MUST SIGN AND SUBMIT THE LANDOWNER INFORMATION AND ACCEPTANCE FORM BELOW**
- **ALL NOTATIONS MUST BE PRINTED IN INK OR TYPEWRITTEN; ERRORS MAY BE CROSSED OUT AND CORRECTIONS PRINTED IN INK OR TYPEWRITTEN ADJACENT, AND MUST BE INITIALED IN INK BY PERSON SIGNING THE APPLICATION**

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**APPLICANT INFORMATION AND ACCEPTANCE**

1. The undersigned Applicant declares that the Application Documents, including, without limitation, the RFP, Addenda, and Exhibits have been read.
2. The undersigned Applicant has reviewed the Application Documents and fully understands the requirements in this RFP.
3. The undersigned Applicant authorizes the County, its agents and employees, to seek verification of the information contained in the Application.
4. The undersigned Applicant agrees to hold harmless and indemnify the County from all costs and expenses including attorney's fees that the County may incur in connection with processing the Applicant's Application.
5. The undersigned Applicant declares, under penalty of perjury, that:
  - a. I am the Applicant or have legal authority to sign on behalf of the Applicant;
  - b. The Applicant has the ability to comply with laws regulating businesses in the state of California and shall maintain compliance with all relevant laws during the term of the permit;
  - c. The Applicant and any person with an ownership interest of more than ten (10) percent in the proposed cultivation operation has not been convicted of a felony within the past three years; and
  - d. The Applicant is at least eighteen (18) years of age.
6. The undersigned Applicant certifies, under penalty of perjury, that:
  - a. All the information contained in this Application is true and correct; and
  - b. The Applicant accepts the Performance Standards and Standard Conditions for Pilot Program Medical Cannabis Cultivation Sites adopted by the Planning Director.

[SIGNATURE AND ADDITIONAL INFORMATION AND ACCEPTANCE FOLLOW ON NEXT PAGE]

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Cont'd

APPLICANT INFORMATION AND ACCEPTANCE (CONTINUED)

Official Name of Applicant: Oasis Venture, LLC

Street Address Line 1: 7033 Morgan Territory Road

Street Address Line 2: \_\_\_\_\_

City: Livermore State: CA Zip Code: 94551

Webpage (if applicable): www.oasislivermore.com

Type of Entity / Organizational Structure (check one):

- |   |  |
|---|--|
| <input type="checkbox"/> Corporation                              | <input type="checkbox"/> Joint Venture |
| <input type="checkbox"/> Limited Liability Partnership            | <input type="checkbox"/> Partnership   |
| <input checked="" type="checkbox"/> Limited Liability Corporation | <input type="checkbox"/> Non-Profit    |
| <input type="checkbox"/> Other: _____                             |  |

Jurisdiction of Organization Structure: California

Date of Organization Structure: February 3, 2017

Primary Contact Information:

Name / Title: Charles F. Campos/Managing Member

Telephone Number: 925-606-6185 Fax Number: no inbound

E-mail Address: chuk@oasislivermore.com

SIGNATURE: \_\_\_\_\_

Name and Title of Signer: Charles F. Campos/Managing Member

Dated this 23rd day of October 2017

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Cont'd



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Cont'd

**LANDOWNER INFORMATION AND ACCEPTANCE**

1. The undersigned Landowner declares, under penalty of perjury, that:
- a. I am the owner of the proposed cultivation site identified in Exhibit A;
  - b. I consent to the proposed use of the land by the Applicant for the purpose of a medical cannabis cultivation operation.

*If the site has more than one landowner, the signature of each landowner is required. Provide a completed Landowner Information and Acceptance for each landowner and clearly identify the total number and names of all relevant Landowners.*

Official Name of Landowner: Campos Family Trust

Street Address Line 1: 7033 Morgan Territory Road

Street Address Line 2: \_\_\_\_\_

City: Livermore State: CA Zip Code: 94551

Type of Entity / Organizational Structure (check one):

- |  |  |
|--|--|
| <input type="checkbox"/> Corporation                           | <input type="checkbox"/> Joint Venture |
| <input type="checkbox"/> Limited Liability Partnership         | <input type="checkbox"/> Partnership   |
| <input type="checkbox"/> Limited Liability Corporation         | <input type="checkbox"/> Non-Profit    |
| <input checked="" type="checkbox"/> Other: <u>Family Trust</u> |  |

Jurisdiction of Organization Structure: California

Date of Organization Structure: August 27, 1994

Primary Contact Information:

Name / Title: Charles F. Campos/Trustee

Telephone Number: 925-606-6185 Fax Number: no inbound

E-mail Address: chuk@oasislivermore.com

SIGNATURE: \_\_\_\_\_

Name and Title of Signer: Charles F. Campos/Trustee

Dated this 23rd day of October 2017

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Cont'd



March 28, 2019 Conditional Use Permit PLN 2018-00258 Oasis Venture, LLC/Kukushkin

Morgan Territory Road Neighbors Request A Written Response to the Following Questions:

1. Is the county required to post notice of the CUP on telephone poles?
2. Have any site visits occurred on any properties with Administrative Cannabis Permits?
3. What is the status of the microbusiness ordinance changes regarding cultivation sites and manufacturing?
4. What is the status of the CUPs on the Manning/Morgan Territory Road property?
5. Are board members who were granted an administrative Cannabis permit required to excuse themselves from voting on any Cannabis CUPs due to a potential conflict of interest?
6. Can individuals be added to the CUP application that were not on the RFP? If so what is the process?
7. C 5 Noise or vibration shall not be discernible without instruments at any lot line of the site. Can you please elaborate on this statement?
8. If a property owner is within 1000 feet of a cannabis processing facility, are they prohibited from applying for a day care license or selling a trail easement for a public park?
9. Are there any other locations in Alameda County with a 34, 213 sf (3/4 of an acre) Industrial metal building? If so, what are the locations?
10. Why is the landscape screening composed of deciduous and moderate to slow growth trees?
11. Why is the security guard only on duty from 8-6 pm?
12. What is the response time for law enforcement to reach this facility if needed?
13. Why does the report state the site is hidden by existing trees and vegetation when it is clearly visible from Morgan Territory Road?
14. How often are the ventilation fans running and what is the noise level compared to the current level on site?
15. How often are the water pumps running and what is the noise level compared to the current level on site?
16. What is the noise level of the generators compared to the current level on site?
17. Are the exhaust fans from the cooling system different than the ventilation fans?
18. The driveway is located on an S-curve that is difficult to see from southbound traffic; will there be requirements to improve the safety of egress with increased traffic?
19. What are the minimum gallons per minute required for building 2 homes on Resource Management property?
20. Is there an adequate water supply for both residences, 24 employees, 10,000 gpd cooling system, processing facility, and 2800 gpd cannabis cultivation?
21. How do you determine if there is enough water to sustain this project and not negatively impact the neighbors or environment?
22. If there isn't enough water can the processing facility truck in water and what damage will that do to our roads?
23. Will Zone 7 review this plan?
24. Will all hazardous material use, containment, and disposal be addressed?
25. Who determines if the lighting is a nuisance to the neighbors?
26. Why aren't all the homes to the south of the project included in the diagrams?
27. Why isn't an Environmental Impact Report Required?

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	<b>INCIDENT / CRIMINAL REPORT</b>		
	<b>Alameda County Sheriff's Office</b>		
Agency: ETS	ORI: CA00100000	Case Number: 19-016952	

Incident Information			
Date/Time Reported	Date/Time Found	Date/Time Found	Officer
10/04/2019 09:02	10/04/2019 09:02	10/04/2019 09:02	(203816) BRANNON, JUSTIN R.
Incident Location			Supervising Officer
N LIVERMORE AV, LIVERMORE, CA 94551			(201602) JONES, COLIN P
			Domestic Violence <input type="checkbox"/>

Charges					
1	Charge Type	Description	Statute	UCR	<input type="checkbox"/> Alt <input checked="" type="checkbox"/> Com
	State	GRAND THEFT - ALL OTHER	487 PC	23H	
Alcohol, Drugs or Computers Used		Premise Type	Premises Entered	Forced Entry	Weapons
<input type="checkbox"/> Alcohol <input type="checkbox"/> Drugs <input type="checkbox"/> Computers		FIELD/WOODS		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1.
Entry	Exit	Criminal Activity			2.
					3.
Bias Motivation		Bias Target	Bias Circumstances		Hate Group

Victims						
Seq. #	Type	Injuries	Residency Status		Ethnicity	
1	PERSON	None	Resident		Non-Hispanic	
Name (Last, First, M)			Race	Sex	DOB	Age
[REDACTED]			W	M	[REDACTED]	69
Address					Home Phone	
N LIVERMORE AV, LIVERMORE, CA 94551					[REDACTED]	
Employer Name/Address					Business Phone	
/						
Victim of Crimes			SSN#			
1						

29-66



Letter 29  
Cont'd

	<b>INCIDENT / CRIMINAL REPORT</b>		
	Alameda County Sheriff's Office		
Agency: ETS	ORI: CA00100000	Case Number: 19-016952	

Other Persons Involved					
Name Code	Seq. #	Name (Last, First, M)	Race	Sex	DOB
Involved Party	1	[REDACTED]	H	M	
Address		SSN #	Home Phone		
ONA CT					
Employer Name/Address				Business Phone	
/					

Property					
Seq. #	Description	Serial Number	Make/Model		
1	HEMP SAMPLES /STOLEN				
Owner		License / State	Color		
[REDACTED]					
Status	Status Officer	Quantity	Units of Measure	Value	
EVIDENCE	(203816) BRANNON, JUSTIN R.	1.00	GM	\$1500.00	
Gun Type	Caliber	Finish	Grip	Gun Stock	
Condition	Gun Test	Test Type	Sight Test	Sight Type	
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Seq. #	Description	Serial Number	Make/Model		
2	TRASH BAGS				
Owner		License / State	Color		
[REDACTED]					
Status	Status Officer	Quantity	Units of Measure	Value	
EVIDENCE	(203816) BRANNON, JUSTIN R.	1.00			
Gun Type	Caliber	Finish	Grip	Gun Stock	
Condition	Gun Test	Test Type	Sight Test	Sight Type	
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

29-66  
Cont'd



Letter 29  
Cont'd



## INCIDENT / CRIMINAL REPORT

Alameda County Sheriff's Office

Agency: ETS

ORL: CA00100000

Case Number: 19-016952

### Narrative

\*My department issued body worn camera (BCW) was activated during the contact except for times there were personal or law enforcement sensitive conversations. I later uploaded the footage to the Sheriff's Office secure server which was later annotated.

On 10/04/19, about 0900 hours, I was detailed to [REDACTED] North Livermore Avenue in the unincorporated area of Livermore for a report of a theft.

I arrived and spoke to the reporting party, [REDACTED]. The property at [REDACTED] North Livermore was an approximate 33 acre open field which [REDACTED] used for farming and was located in a rural area. On the property, [REDACTED] had an approximate 30,000 square feet area which he used to grow about 150 hemp plants. The hemp plants were about 460 feet west of North Livermore Avenue and were visible from the roadway.

[REDACTED] said he had a valid permit through the State of California to legally grow the hemp. According to [REDACTED] the hemp plants contained a very small amount of tetrahydrocannabinol (THC), the psychoactive ingredient in cannabis, and was within the state required specifications.

About 0830 hours, [REDACTED] went to check on his hemp plants and saw several of them had been uprooted and were lying on the ground in the field. [REDACTED] also noticed empty black plastic garbage bags were lying on the ground next to the uprooted plants. After inspecting the area, [REDACTED] found 16 plants had been uprooted and 4 or 5 plants were gone. [REDACTED] estimated each plant to contain enough product to produce \$500-\$750 of cannabidiol (CBD) oil, totaling over \$15,000 in loss.

[REDACTED] said the black garbage bags were not his and he thought they might have belong to the suspect(s). I later recovered the bags and placed them into evidence at the Eden Township Division (ETD).

[REDACTED] told me a construction worker who was working on North Livermore Avenue had possible information on a suspect. [REDACTED] did not have any other suspect information, but did want to pursue a criminal complaint against the suspect(s) who stole and damaged his hemp plants. I did not notice any surveillance cameras or find anything else of evidentiary value in the area.

I later spoke to A. [REDACTED] from Graniterock construction who told me the following:

About 0530 hours, [REDACTED] was driving construction equipment on North Livermore Avenue and removing the reflectors from the roadway. As [REDACTED] drove, he noticed a brown or purple older model Datsun 4 door sedan (unknown plate) parked on the west shoulder of the road, in front of [REDACTED] North Livermore Avenue. [REDACTED] saw a black male standing next to the Datsun, loading a black plastic garbage bag into the vehicle.

[REDACTED] could only describe the black male as wearing baggie pants. Because [REDACTED] was focused on operating the construction equipment, he did not pay a lot of attention to the black male. [REDACTED] did not get

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Cont'd



Letter 29  
Cont'd



**INCIDENT / CRIMINAL REPORT**

Alameda County Sheriff's Office

Agency: ETS

ORI: CA00100000

Case Number: 19-016952

**Narrative**

a good look at the male and would not be able to recognize him if he saw him again. [REDACTED] did not get a license plate number from the vehicle or have any further information.

I notified Sergeant C. Mears of the incident. Sergeant Mears requested I take 5 samples from the hemp plants for THC testing. With [REDACTED]'s consent, I recovered 5 branches from different plants on the property. These branches were later placed into evidence at ETD.

Nothing further pending investigative leads.

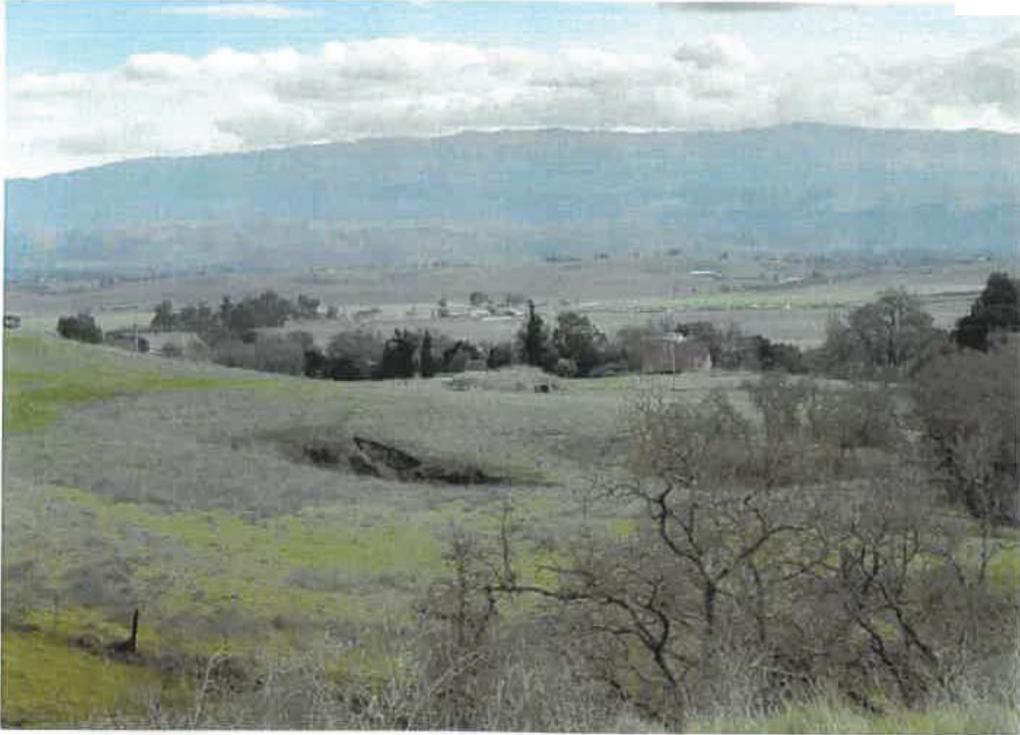
**Continuation**

29-66  
Cont'd



MTR north of project

Letter 29  
Cont'd



29-67

MTR north west of project



MTR north west of project.

Letter 29  
Cont'd



MTR West of project



29-67  
Cont'd



MTR West of Project

Letter 29  
Cont'd



29-67  
Cont'd

MTR West of Project



## **LETTER 29: MORRIS, ALBERT AND BRENDA**

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### **Response to Comment 29-1**

The comment is an introductory statement and does not address the adequacy of the IS/MND.

### **Response to Comment 29-2**

The comment is an introductory statement regarding the adequacy of the IS/MND, requesting preparation of an EIR. The County has determined that adequate evidence exists and is included in the Recirculated IS/MND to support the conclusion that all potential impacts of the proposed project have been reduced to a less-than-significant level. Therefore, the preparation of an EIR for the proposed project is not warranted.

### **Response to Comment 29-3**

The comment is an introductory statement. Specific issues raised by the commenter are addressed in the responses below.

### **Response to Comment 29-4**

On both page 1 and page 7 of the IS/MND, the location of the project site is identified as 7033 Morgan Territory Road, Livermore, California. The site is located on a property identified by Assessor's Parcel Number (APN) 903-0007-001-01.

In response to the comment's concern regarding the number of existing residences on the subject property, page 7 of the IS/MND is hereby revised as follows:

The project site is on a 98.11-acre property located at 7033 Morgan Territory Road in the City of Livermore in Alameda County, CA (APN: 903-0007-001-01) (see Figure 1). The project site is located approximately six miles from downtown Livermore, in a rural area. Two private residences exist within the property containing the project site. With the exception of rural single-family residences to the north, west, and east, the project site and surrounding area is predominately undeveloped and vacant (see Figure 2). Cayetano Creek borders the project site to the west. Land uses in the vicinity consist of agricultural and sparse rural residences. The site is designated Resource Management under the ECAP and zoned Agricultural.

The foregoing revision does not affect the analysis or conclusions presented in the IS/MND.

### **Response to Comment 29-5**

Page 7 of the IS/MND is hereby revised as follows to match the Hydrology Report:

The proposed project would include development of a ~~32,000~~34,213-sf greenhouse building containing approximately 22,000-sf of a cannabis canopy, as well as a ~~5,040~~6,480-sf processing building and ~~262~~8 parking stalls (see Figure 3). As noted above, development activity related to the proposed project would be limited to the portion of the property identified as the project site.

The foregoing revision is a typographic error made in the IS/MND and has been updated accordingly. It should be noted that the impact analysis used the updated square footages in



determining impacts throughout the IS/MND. Therefore, the foregoing revision does not affect the analysis or conclusions presented in the IS/MND.

### **Response to Comment 29-6**

As noted on page 7 of the IS/MND, in addition to native blue oak trees, the project would include planting of a mix of other California native and drought-tolerant plants. Upon reaching maturity, the proposed landscaping elements would help to screen views of the project site. The species and size of tree planting on-site would be determined in coordination with the County.

### **Response to Comment 29-7**

The proposed security plan is consistent with the requirements of Section 6.106.080 of the County Code of Ordinances, and has been deemed adequate for the proposed uses. Furthermore, crime is a law enforcement issue and is not within the purview of CEQA. CEQA is concerned with law enforcement if a project would require a new or modified facility, the construction of which could cause environmental impacts.

The proposed project would be limited to cultivation only, and would not include on-site cannabis sales. Page 11 of the IS/MND is hereby revised as follow:

All cannabis would be stored in high-security, fire-proof safes. Inventory would be removed from the storage safes only for immediate transport ~~or sale~~. The storage area would have a volumetric intrusion detection device installed and connected to the facility intrusion detection system.

The foregoing revision does not affect the analysis or conclusions presented in the IS/MND.

### **Response to Comment 29-8**

Regarding staffing, see Response to Comment 1-2 above. Regarding the number of proposed parking stalls, see Response to Comment 29-5 above.

### **Response to Comment 29-9**

While the proposed motion-triggered lighting could potentially be activated by animals travelling through the project site, such events would likely be relatively limited, and would only activate the project lighting fixtures for short periods of time. Furthermore, even when the lights are activated, the project would not result in substantial light spillage onto any neighboring properties. As noted on page 18 of the IS/MND, due to the setback from the nearest public roadway and residences, as well as existing vegetation sheltering the structure from view of the public roadway, the proposed project would not create a substantial light source that would affect the day or nighttime views. The County has determined that motion-triggered lighting is appropriate for the proposed project. The motion-triggered lighting is a component of the proposed security plan which is ultimately subject for review and approval by the County.

### **Response to Comment 29-10**

Consistency with the lighting standards included in Section 17.52.585 of the County Code of Ordinances would be verified by the County prior to issuance of building permits. Per Section 17.52.585, artificial light shall not escape structures used for cannabis cultivation at a level that is visible from neighboring properties between sunset and sunrise. Given that such lighting standards are adopted regulations with which the project would be required to comply, inclusion of additional mitigation in the IS/MND is not warranted per the CEQA Guidelines.



### **Response to Comment 29-11**

See Response to Comment 13-4. Compliance with the odor standards provided in Section 17.52.585 of the County Code of Ordinances would be verified by the County on an ongoing basis as part of routine code enforcement.

### **Response to Comment 29-12**

As noted in Response to Comment 1-2, water usage for the proposed cooling system would be approximately 1,750 gpd. Overall, accounting for demands from the cooling system, the irrigation system, and other proposed operations, the project would result in a total annual water demand of 6,200 gpd. As demonstrated in Section X, Hydrology and Water Quality, of the IS/MND, the proposed project would not result in any significant impacts related to groundwater resources, and sufficient water supplies would be available to serve the proposed project, as well as the existing residences on the subject property. The findings presented in the IS/MND are supported by the Hydrology Report prepared for the proposed project by Balance Hydrologics, Inc.

Noise associated with the proposed cooling fans is addressed on page 63 of the IS/MND, which states the following:

[...] Typical noise-generating equipment associated with cannabis cultivation would include ventilation fans, truck loading/unloading, and water pumps. The proposed project would implement a wet-wall evaporative cooling system, which uses the natural cooling process of water evaporation in conjunction with exhaust fans to provide cooling for large volume buildings. The use of the wet-wall system would reduce noise typically associated with HVAC systems. The proposed project would use state-of the-art technology in order to increase the efficiency of a ventilation fan, and reduce operational noise levels.

As discussed in the IS/MND, due to the distance of the project site from the nearest noise-sensitive receptors, the project would not generate a substantial permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance.

### **Response to Comment 29-13**

As discussed on page 79 of the IS/MND, because the proposed project would grow cannabis using a greenhouse, electricity would not be used on the same scale that warehouse operations would. As noted in Response to Comment 6-3, the proposed cultivation facility would be constructed as a permanent structure with an impervious floor. Thus, the proposed green house would be considered an indoor growing facility, and, thus, the project applicant would be required to comply with the regulations set forth in the Cannabis General Order. While supplemental lighting would be installed in the greenhouse, the project would include the installation of a new electrical transformer and switchgear on-site. The installation of the electrical transformer and switchgear on-site would be anticipated to impact the electricity needed for the surrounding residences in the area. Thus, the proposed project would not cause new significant environmental effects related to the construction of new or expanded electric power facilities beyond what has been previously anticipated per the County and analyzed in the General Plan EIR.

Noise associated with the proposed generators is addressed on page 63 of the IS/MND, as follows:

Project operations would include two backup generators on-site. Use of the generators would be limited to occasional testing and emergency situations. While the location of the



generators has not yet been determined, they would likely be close to the proposed greenhouse structure, and more than 200 feet from the nearest sensitive receptor. Considering the distance between the proposed generators and nearest sensitive receptors, the noise produced by the generators would not be anticipated to disturb any nearby residents.

Thus, even in the event of temporary power shutoffs, noise from the proposed generators would not result in a substantial temporary increase in ambient noise levels in excess of the standards established in the General Plan or the County Code of Ordinances.

#### **Response to Comment 29-14**

See Response to Comment 20-35.

#### **Response to Comment 29-15**

With regard to discrepancies between the Hydrology Report and the IS/MND, see Responses to Comments 1-2 and 1-4.

#### **Response to Comment 29-16**

See Response to Comment 1-4.

#### **Response to Comment 29-17**

The water demand estimates presented in Section X, Hydrology and Water Quality, of the IS/MND are consistent with the Hydrology Report prepared for the proposed project by Balance Hydrologics, Inc. As noted therein, the adequate water supply is available for the existing and proposed uses. With regard to discrepancies between the Hydrology Report and the IS/MND, as well as rain water harvesting, see Responses to Comments 1-2, 1-4, 1-7, 1-8, and 28-3.

#### **Response to Comment 29-18**

With regard to discrepancies between the Hydrology Report and the IS/MND, see Response to Comment 1-2. With regard to monitoring of groundwater pumping, see Response to Comment 1-8. With regard to groundwater recharge, see Response to Comment 1-9.

Projected water demands associated with the two existing residences on the subject property were accounted for in the Hydrology Report (see Table 1 of the Plan). As noted therein, the existing residences are projected to result in an average water demand of 700 gpd.

As noted on page 78 of the IS/MND, wastewater from the proposed on-site restrooms would be first routed to a septic tank to allow for anaerobic digestion of waste. Subsequently, wastewater would flow to the proposed leach field, which would remove remaining contaminants and impurities. As noted on page 79 of the IS/MND, the proposed septic system would be subject to review and approval by the Alameda County Environmental Health Department (ACEHD), which would ensure that the system would be adequately designed to avoid any potential impacts.

As noted in Response to Comment 1-2, approximately 1,200 gpd of reclaimed water would be captured by the proposed irrigation system.

#### **Response to Comment 29-19**

See Responses to Comments 1-2, 1-6, 1-7, 1-8, and 4-10.



### **Response to Comment 29-20**

See Response to Comment 1-2 and 6-5. In addition, Page 12 of the IS/MND is hereby revised as follows:

#### *Wastewater*

The project would include construction of a new septic tank system on the project site. The septic system would include a pump vault connecting to a two-inch force main which would lead to a leach field located approximately 300-ft from the project site. A 5,000-gallon capacity sludge tank would be constructed and sludge would be hauled off-site every four days~~once a week~~.

Page 78 of the IS/MND is hereby revised as follows:

Wastewater treatment for the proposed project would be provided by construction of an on-site septic tank and leach field. The septic system would serve the processing building for use by employees only. According to Chapter 15.18 of the County Code of Ordinances, if the amount of wastewater received by an OWTS exceeds 10,000 gpd, the method of treatment must be submitted for review and approval by the San Francisco RWQCB. Wastewater produced by the project would not exceed ~~700~~550 gpd, and thus, would not require review by the San Francisco RWQCB.

The proposed project includes construction of a leach field, which would remove contaminants and impurities from the liquid that emerges after anaerobic digestion in a septic tank. The septic system would be subject to the Alameda County Septic System Ordinance per the ACEHD, and would require review by the department prior to approval of the permit. Wastewater would be directed to a leach field, which would filter and purify water. Any additional sludge would be kept in a 5,000-gallon sludge tank which would be hauled off-site every ~~10~~four days.

The above revisions are to ensure consistency between the IS/MND and the Hydrology Report prepared for the proposed project by Balance Hydrologics, Inc. and will be incorporated into the recirculated IS/MND.

### **Response to Comment 29-21**

See Response to Comment 6-5.

### **Response to Comment 29-22**

Page 56 of the IS/MND states the following regarding the proposed stormwater infrastructure:

Stormwater that falls directly on the project site would be managed through stormwater facilities constructed for the project, including a rip rap dissipator and a ten by ten-foot bioretention area which would include a cobble dissipator to properly treat and mitigate the flow volumes for water quality, hydromodification, and flood control requirements. After being properly treated and dispersed, outflow would then flow into Cayetano Creek. Implementation of BMPs under the NPDES permit and enrollment in the WDR program, would ensure that the project would have a *less-than-significant* impact related to water quality standards and waste discharge requirements.



Based on the above, all stormwater runoff associated with the proposed impervious surfaces would be appropriately managed and treated prior to discharge to Cayetano Creek.

### **Response to Comment 29-23**

See Response to Comment 20-3.

### **Response to Comment 29-24**

See Responses to Comments 29-9 and 29-10.

### **Response to Comment 29-25**

The subject property within which the project site is located, as well as the neighboring areas in the vicinity of the subject property, are classified as Grazing Land per the California Department of Conservation. Thus, any potential changes to agricultural uses on the subject property would not constitute the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.

The proposed project would be required to include ongoing management of vegetation within the vicinity of the proposed project, so as to provide for defensible space. Fuel load management throughout the remaining portion of the subject property (exclusive of the project site) would continue to be the responsibility of the property owner, and would not be altered as a result of the project. In addition, as stated on page 81 of the IS/MND, according to the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program, the project site is not located within or near a Very High Fire Hazard Severity Zone or State Responsibility Area.

### **Response to Comment 29-26**

As discussed in the IS/MND, given required compliance with the BAAQMD's Basic Construction Mitigation Measures, as well as Mitigation Measure III-1, the project would result in a less-than-significant impact with regard to conflicting with or obstructing implementation of regional air quality plans. It should be noted the BAAQMD Spare the Air Program is voluntary; while use of construction equipment or operation of generator may be avoided on Spare the Air days, at the discretion of the project applicant, failure to do so would not result in a significant impact per the CEQA Guidelines.

### **Response to Comment 29-27**

See Response to Comment 29-11.

### **Response to Comment 29-28**

See Response to Comment 13-4 related to odors. In addition, in response to the commenter, page 28 of the IS/MND is hereby revised as follows:

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, a quantitative analysis is difficult. Certain land uses such as wastewater treatment facilities, landfills, confined animal facilities, composting operations, food manufacturing plants, refineries, and chemical plants have the potential to generate considerable odors. The proposed project ~~does not include operation of any of the foregoing sources of odors; however, would include~~ the cultivation and processing of cannabis, as well as composting of organic waste, which would have the potential to create objectionable odors.



Although the cultivation and processing of cannabis, including the composting of organic waste, could be considered to create objectionable odors, Section 6.106 of the County Ordinance Code requires that cannabis cultivation sites be designed to include odor control devices sufficient to ensure that odors are not detected outside of the lot on which the operation is located. Provision of such odor control devices would be ensured during County review of the cannabis cultivation permit required for operation of the proposed project. Considering the requirements of Section 6.106 of the County Ordinance Code, operation of the proposed project would not be permitted to result in the emission of objectionable odors detectable outside of the lot within which the project is operating.

Furthermore, page 29 of the IS/MND states the following regarding odor complaints:

It should be noted that BAAQMD also regulates objectionable odors through BAAQMD Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain effective until such time that citizen complaints have not been received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. Thus, if odor complaints are made after the proposed project is developed, the BAAQMD would ensure that such odors are addressed and any potential odor effects are reduced.

Because the proposed project would be required to comply with applicable County and BAAQMD requirements related to odors, mitigation for odor impacts is not necessary.

#### **Response to Comment 29-29**

See Response to Comment 20-20. The surveys requested by the commenter would be required per Mitigation Measure IV-1, as noted on page 35 of the IS/MND.

#### **Response to Comment 29-30**

See Response to Comment 20-20. The surveys requested by the commenter would be required prior to initiation of construction activities per Mitigation Measures IV-2, IV-3, IV-4, IV-5, and IV-6, as discussed on pages 35 through 37 of the IS/MND.

#### **Response to Comment 29-31**

The existing barn referenced by the commenter would be preserved as part of the proposed project. The barn is situated over 25 feet from the proposed roadway alignment; thus, damage to the structure would not occur as a result of the proposed project.

#### **Response to Comment 29-32**

See Response to Comment 13-3.

#### **Response to Comment 29-33**

See Response to Comment 29-14.



**Response to Comment 29-34**

With regard to discrepancies between the Hydrology Report and the IS/MND, see Response to Comment 1-2. With regard to groundwater recharge and availability of groundwater supplies, see Response to Comment 1-7.

**Response to Comment 29-35**

With regard to rain water harvesting and well pumping, see Responses to Comments 1-4, 1-8, and 28-3.

**Response to Comment 29-36**

With regard to rain water harvesting and well pumping, see Responses to Comments 1-4, 1-8, and 28-3. Mitigation Measure IX-1, as revised herein, would ensure ongoing monitoring of groundwater pumping and groundwater supplies in the project vicinity. Monthly reports of the water levels in each of the pumping wells, as well as the monitoring wells, would be submitted to the Zone 7 Water Agency. Thus, in the event that drought conditions result in lowered groundwater levels, such that pumping could be inhibited, the Zone 7 Water Agency would be notified and appropriate measures to address water usage at the project site would be taken.

**Response to Comment 29-37**

With regard to rain water harvesting and well pumping, see Responses to Comments 1-4, 1-8, and 28-3.

**Response to Comment 29-38**

See Responses to Comments 1-4, 1-8, and 28-3.

**Response to Comment 29-39**

See Response to Comment 29-2. See also the revisions to Mitigation Measure IX-1 provided in Response to Comment 1-2 above.

**Response to Comment 29-40**

See Response to Comments 20-29 and 20-30.

**Response to Comment 29-41**

See Response to Comment 29-13 above.

**Response to Comment 29-42**

As discussed on page 63 of the IS/MND, the project is expected to produce at most 110 trips per day, which is well below the current 576 trips along Morgan Territory Road and 2,229 trips along Manning Road. Given the relatively small addition of trips, the proposed project operations would not result in a substantial increase in traffic noise. Additionally, the distance of the project site to any nearby sensitive receptors, as well as the limited trip generation resulting from project operations, would ensure that the proposed project would not generate a substantial permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance. With regard to noise associated with the proposed generators and other on-site equipment, see Response to Comment 29-13 above.

**Response to Comment 29-43**

See Response to Comment 29-7.



#### **Response to Comment 29-44**

The Alameda County Fire Department is currently, and would continue to be, the designated fire protection service provider for the project site; thus, the IS/MND does not include a discussion of the San Ramon Fire Department. With regard to crime, see Response to Comment 29-7.

#### **Response to Comment 29-45**

See Response to Comment 16-4.

#### **Response to Comment 29-46**

The peak traffic hours selected as part of the Traffic Impact Analysis are consistent with industry standard methodologies. With regard to traffic safety issues, see Response to Comment 16-4.

#### **Response to Comment 29-47**

The shift schedule noted by the commenter refers to the proposed project operations, and is separate from the proposed construction schedule. Similarly, the vehicle trip generation estimates presented in Table 7 of the IS/MND are for operations only, and do not include construction traffic. Construction traffic would be temporary and, thus, would not result in any substantial long-term effects on the local transportation system, particularly given the relatively small scale of the proposed project. Overall, construction traffic would not conflict with local programs, plans, ordinances, or policies addressing roadway facilities.

#### **Response to Comment 29-48**

The existing operations of the study intersections were evaluated for the highest one-hour volumes during weekday morning and evening peak periods. Turning movement counts for vehicles, bicycles, and pedestrians were conducted during typical weekday day AM and PM peak periods (7:00 to 9:00 AM and 4:00 to 6:00 PM, respectively) at the study intersections on September 20, 2018. Such traffic counts did not identify any pedestrian or bicycle traffic at the study intersections. Nonetheless, page 73 of the IS/MND is hereby revised as follows:

##### Alternative Transportation

The expected trips to the proposed project would primarily include single passenger vehicles. Based on the TIA counts conducted, pedestrian and bicycle activity along Morgan Territory Road ~~does not exist~~ is relatively limited. The nearest transit stop is approximately seven miles from the project site. While alternative transportation would not likely be used, the proposed project would not create a hazard or otherwise decrease the performance of any forms of alternative transportation. Additionally, because the proposed project is consistent with the site's current land use designation, the proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

The foregoing revision is for clarification purposes and does not affect the analysis or conclusions presented in the IS/MND.

#### **Response to Comment 29-49**

The conclusions presented in the IS/MND regarding adequacy of emergency access are based on the Traffic Impact Analysis prepared by TJKM. Furthermore, the proposed site plan would be subject to review and approval by the Alameda County Fire Department prior to approval of building permits.



### **Response to Comment 29-50**

With regard to inconsistencies related to water supply and demand, see Response to Comment 1-2. With regard to natural gas usage, see Response to Comment 29-14. With regard to electrical infrastructure improvements, see Response to Comment 29-13. With regard to wastewater, see Responses to Comments 6-5 and 29-18. With regard to monitoring of groundwater levels and water demand, see Response to Comment 1-8.

### **Response to Comment 29-51**

See Response to Comment 29-25 above.

### **Response to Comment 29-52**

As noted on page 79 of the IS/MND, the proposed septic system would be subject to review and approval by the ACEHD, which would ensure that the system would be adequately designed to avoid any potential impacts. The commenter does not provide any supporting evidence that the proposed septic system would result in substantial adverse odor impacts at nearby receptors. Furthermore, page 29 of the IS/MND states the following regarding odor complaints:

It should be noted that BAAQMD also regulates objectionable odors through BAAQMD Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain effective until such time that citizen complaints have not been received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. Thus, if odor complaints are made after the proposed project is developed, the BAAQMD would ensure that such odors are addressed and any potential odor effects are reduced.

Based on the above, mitigation for odor impacts is not necessary.

With regard to analysis of cumulative water demands and groundwater effects, see Response to Comment 1-4 and 5-26. With regard to pre-construction surveys for wildlife species, see Response to Comment 29-29. With regard to lighting, noise, and odors, see Responses to Comments 29-9, 29-10, 29-12, 29-13, 29-11, and 29-28.

### **Response to Comment 29-53**

The comment does not address the adequacy of the IS/MND.

### **Response to Comment 29-54**

The comment does not address the adequacy of the IS/MND.

### **Response to Comment 29-55**

The comment is a conclusion statement, requesting preparation of an EIR. The County has determined that adequate evidence exists and is included in the Recirculated IS/MND to support the conclusion that all potential impacts of the proposed project have been reduced to a less-than-significant level. Therefore, the preparation of an EIR for the proposed project is not warranted.



**Response to Comment 29-56**

The comment does not address the adequacy of the IS/MND.

**Response to Comment 29-57**

The comment does not address the adequacy of the IS/MND.

**Response to Comment 29-58**

See Responses to Comments 1-1 through 1-11.

**Response to Comment 29-59**

See Responses to Comments 1-1 through 1-11.

**Response to Comment 29-60**

See Responses to Comments 6-1 through 6-6.

**Response to Comment 29-61**

The comment does not address the adequacy of the IS/MND.

**Response to Comment 29-62**

The comment does not address the adequacy of the IS/MND.

**Response to Comment 29-63**

The comment does not address the adequacy of the IS/MND.

**Response to Comment 29-64**

The comment does not address the adequacy of the IS/MND.

**Response to Comment 29-65**

The comment does not address the adequacy of the IS/MND.

**Response to Comment 29-66**

The comment does not address the adequacy of the IS/MND.

**Response to Comment 29-67**

The comment does not address the adequacy of the IS/MND.



Letter 30

**Urzua, Sonia, CDA**

**From:** Brenda Morris <morrisranching@aol.com>  
**Sent:** Friday, February 7, 2020 7:40 AM  
**To:** Urzua, Sonia, CDA  
**Cc:** Palmeri, Maria, CDA; onetracman@earthlink.net; Scott.Beyer@wentevineyards.com; derek@purpleorchid.com; BoardofDirectors@zone7water.com; Littlejohn, Heather M., County Counsel; Bazar, Chris, CDA; Miles, Kelly D., Sheriff  
**Subject:** Electronic Copy Re: ISMND/Conditional Use Permit PLN:2018-00258; Oasis Fund Cannabis Grow Facility  
**Attachments:** MND Response Letter.pdf; Dept of Environmental Health Drinking Water Well Testing.pdf; Questions from MTR Neighbors March 28.pdf; San Francisco Hydrologic Region Livermore Valley Basin Bulletin 118.pdf; Zone 7 January 15 Presentation of Discrepancies and Omissions.pdf  
**Categories:** Green Category

February 7, 2020

Sonia,

30-1

Thank you for your assistance on Wednesday during my visit to the Planning Department. Attached is an electronic copy of my detailed responses to the ISMND along with documents listed in the Appendix. The paper copy was delivered on Wednesday.

This electronic cover letter has been revised to draw attention to the Well Water Flow Test requirements that must be approved by Alameda County Health Care Services Agency prior to issuing a Building Permit for a building not served by public water. The applicant's Hydrology report suggests the four existing wells on the property only produce a total of 4 gpm and currently the existing two houses use the highest producing well, 3 gpm, as their source of water.

30-2

The 6480 sf processing building proposed in the Oasis CUP Project Description includes an employee break room, lockers, and bathrooms (showers?) for the 20-24 employees. If the wells cannot meet Alameda County's Health Department Well Water Flow Test requirements to approve a new building permit, why is this Conditional Use Permit being considered by the County?

Regards,

Brenda Morris

\*\* This email was sent from an external source. If you do not know the sender, do not click on links or attachments. \*\*



## **LETTER 30: MORRIS, BRENDA**

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### **Response to Comment 30-1**

The comment is an introductory statement and does address the adequacy of the IS/MND.

### **Response to Comment 30-1**

See Response to Comment 1-2. As noted therein, the water demands and wastewater generation estimates presented in Section X of the IS/MND are consistent with the estimates presented in the Hydrology Report.



Letter 31

**Urzua, Sonia, CDA**

---

**From:** Mark&Elizabeth Piscotty <mepiscotty@comcast.net>  
**Sent:** Wednesday, January 29, 2020 7:10 PM  
**To:** Urzua, Sonia, CDA  
**Subject:** No to Marijuana Farm in Livermore  
  
**Categories:** Green Category

Ms. Urzua,

31-1

I am a resident of Livermore and recently read the article in the Independent newspaper. This type of farm requires a tremendous amount of very precious water, which is a bay area asset that needs to be protected. In addition to the environmental concerns, I believe that this type of facility would encourage crime in our community. I have friends in Oregon who run an apple orchard and have several marijuana farms nearby. She tells me of frequent altercations and crimes associated with criminals attempting to steal from these farms. As the article describes the 8 foot fence with video surveillance, lighting and a full time security guard, I can't help but be alarmed at the proposal of adding a pot farm to our community. This cannot be allowed to go forward. We absolutely don't want this farm or anything like it here in our community. Ever!

31-2

PLEASE do not allow this marijuana farm to be approved!

Thank you,  
Mark Piscotty  
Resident - Livermore

\*\* This email was sent from an external source. If you do not know the sender, do not click on links or attachments. \*\*



## **LETTER 31: PISCOTTY, MARK**

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### **Response to Comment 31-1**

See Response to Comment 1-2 related to water usage and demand estimates.

### **Response to Comment 31-2**

Crime is a law enforcement issue and is not within the purview of CEQA. Thus, the comment does not address the adequacy of the IS/MND but has been forwarded to the decision-makers for their consideration.



**Letter 32**

**Urzua, Sonia, CDA**

---

**From:** Angelica <arespitia@gmail.com>  
**Sent:** Saturday, February 1, 2020 2:01 PM  
**To:** Urzua, Sonia, CDA  
**Subject:** Cannabis farm Morgan territory

**Categories:** Green Category

32-1

We are residents of Livermore within a few miles of the Morgan territory site. We are absolutely opposed to the approval of the cannabis farm seeing as how criminal activity is most likely due to rise. Not to mention, the business partner is facing federal charges for illegal activity associated with cannabis already and they haven't even obtained the business! I can only imagine what other illegal activity will continue if they are given the opportunity to continue. Please for the sake of the tax payers and residents of the city and county, don't approve this.

Thank you,  
Concerned citizens.

\*\* This email was sent from an external source. If you do not know the sender, do not click on links or attachments. \*\*



## **LETTER 32: RESPITIA, ANGELICA**

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### **Response to Comment 32-1**

Crime is a law enforcement issue and is not within the purview of CEQA. Thus, the comment does not address the adequacy of the IS/MND but has been forwarded to the decision-makers for their consideration.



Letter 33

February 7, 2020

Sonia Urzua, Planner  
Alameda County Planning Department  
224 West Winton Avenue, Suite 111  
Hayward, CA 94544  
(510) 670-5437

Maria Palmeri, Administrative Specialist  
224 W. Winton Avenue, Rm 111  
Hayward, CA 94544  
Phone: (510) 670-5400

Ladies,

- 33-1 **This is yet another submission of mine in OPPOSITION to the Oasis Marijuana Grow Facility that is proposed at 7033/7031 Morgan Territory Road for which the Initial Study/Mitigated Negative Declaration PLN: 2018-00258 was submitted on 12/23/19 to Alameda County Planning Department.**
- 33-2 **As the Alameda County Planning Department should be aware that the ZONE 7 Board of Directors have now rescinded their prior approval for a septic system for the Oasis Marijuana Grow Facility at their January 15, 2020 meeting due to untrue/fictitious/falsified hydrology documents submitted to them in September 2019 by the same Oasis Ventures (a.k.a. C. Campos/A. Kukushkin, LLC).**
- 33-3 **Since my family home shares a property line with the "proposed" Oasis Marijuana Grow Facility and after reviewing the Oasis Fund Livermore Grow Facility Initial Study/Mitigated Negative Declaration PLN: 2018-00258 submitted on 12/23/19 to Alameda County Planning Department, I (also, WE in the MTR Neighborhood) have discovered many deficiencies, missing supporting reports and insufficient Mitigation Measures throughout.**
- 33-4 **Please note the most important insufficiencies and missing items listed below, with references to the page numbers in the submitted Oasis Fund Livermore Grow Facility Initial Study/Mitigated Negative Declaration PLN2018-00258:**
- 33-5 **1. Aesthetics, Scenic Quality (Section I.c, Page 15-18 In the IS/MND)**
- a. In item C, mid-way through the paragraph it says that the proposed project would not result in a substantial degradation of the existing visual character of quality of the site as the proposed structures would be partially screened by vegetation and would be limited in size. Furthermore, it says that because the proposed project would not have an adverse effect on a scenic vista and would not**



C

Letter 33  
Cont'd

33-5  
Cont'd

damage scenic resources or existing visual character, a *less-than-significant* impact would occur. Both of these statements are insufficient as there is no proposed or existing vegetation for screening of this urban style warehouse facility facing our residence (*see attached picture with highlighted area from my front yard*). There is a Potentially Significant Impact to our current scenic vista and existing visual character, with potential damage to scenic resources, therefore, we request new mitigation measures must be added or proposed, and we request a full EIR, Environmental Impact Report.

2. Light pollution due to illumination for necessary security (section I.d, Page 18 in the IS/MND)

a. Item d reads that ".....the proposed project will install safety lighting around the outside perimeter of the building, creating a new source of light glare where none currently exists. The lighting system would only be triggered by motion detectors, which would limit the amount of time when such systems are activated."

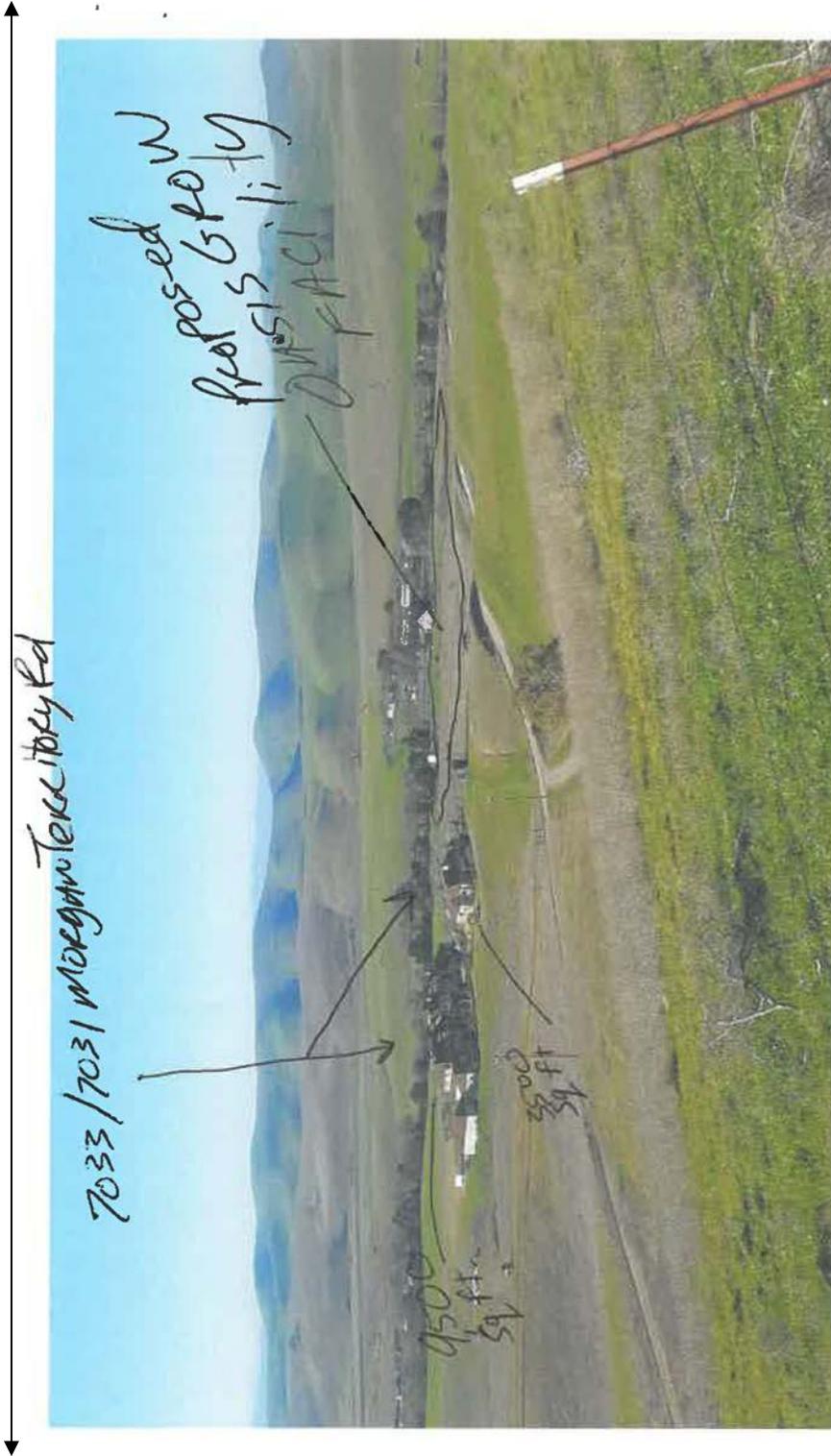
33-6

1. This is **FALSE**, and is a potentially significant impact that needs to be studied. Since the applicant has not resided in our area, they are unaware that many wild animals and cattle from neighboring farms are on our properties all the time. These are coyotes, bobcats, skunks, many deer, raccoons, turkeys, owls, bats, rabbits, and the list goes on. Many of the wild animals are nocturnal and will constantly be triggering the on and off light glare and create light pollution in an utterly country setting that is currently natural and without nighttime light. Our home faces the proposed warehouse and will constantly be assaulted by the light pollution. We cannot have flashing lights suddenly hitting our home as soon as the sun sets and going off all throughout the night, every single night. This is utterly unacceptable. Then paragraph d. concludes with this statement: "Due to the setback from the nearest public roadway and residences, as well as existing vegetation sheltering the structure from view of the public roadway, the proposed project would not create a substantial light source that would affect the day or nighttime views, and a *less-than-significant* impact would occur." This is also a **FALSE** and insufficient statement as our residence faces the proposed location with no current vegetation or landscape screening at all, so we would be fully impacted with a **Potentially Significant Impact** with currently no viable



Letter 33  
Cont'd

33-6  
Cont'd



Picture from my  
Front yard  
- Rick Flynn 2/7/2020  
Rick Flynn



Letter 33  
Cont'd

33-6  
Cont'd

mitigation measures offered in this document (see attached picture). Therefore, the mitigation measures for light impact are fully insufficient and must be reviewed and recirculated, and we request a full EIR, Environmental Impact Report.

33-7

b. **Safety:** When a Conditional Use Permit to grow a crop, near residences requires Security personnel, security lights, security cameras (pointing towards OUR homes, which constitutes a MAJOR Invasion of privacy), this is great cause for concern and impacts. **No other crop cultivated requires security due to criminal activity that is associated with it and the criminal activity that it brings with it. This is well known throughout the Cannabis Industry, law enforcement and is seen in the news all the time throughout California.** This major impact was not studied or mentioned anywhere in detail in the IS/MND, or the CUP, therefore, Safety and Security impacts to surrounding families and residences are potentially significant impacts that need to be reviewed and studied, with mitigation measures offered, and then the report re-circulated.

33-8

**3. Sound pollution due to climate control in the greenhouse, (section XIII. Noise, page 62 in the IS/MND)**

a. The impact of sound pollution due to climate control in the greenhouse/warehouse is unknown as there are currently no known warehouses of this size and scope in Alameda County cultivating this use in this manner. Under the section "Project Operational Noise" it refers to ventilation fans and exhaust fans to provide cooling for large volume buildings." **This potentially significant impact has not been fully studied nor mitigated at all. The likelihood that there would be a potentially significant impact in noise to neighboring families and residences is very high, therefore, the Noise mitigation measures are insufficient and require a full EIR (Environmental Impact Report).**

33-9

**4. Sound pollution due to 'Diesel Generators', (section XIII. Noise, page 63 in the IS/MND and Section VI. Energy, page 41 in the IS/MND)**

a. The proposed "occasional use of diesel generators" (on page 27 under TAC emissions of the IS/MND which have not had their location confirmed) on page 42, in the Energy section, and on page 63 under the Noise Section, do not provide essential details giving the location of these generators. In addition, the MND does not address the decibel rating of these large diesel generators. Furthermore, there is no detail on the location of the fuel storage for these generators. Will we have to see these large generators? **The MND contains missing**



33-9  
Cont'd

supporting information related to this very potentially significant impact. In addition, when PG&E shuts off our power in the rural areas for consecutive days (which happened multiple times last Summer and Fall 2019) then these generators will be running non-stop with NO noise mitigation offered. Diesel Generators are not quiet. Therefore, this section in the MND is insufficient and needs to be reviewed and studied and recirculated for public comment. **A full EIR, Environmental Impact report to study this potentially significant impact is required.**

33-10

**5. Sound pollution and water impact due to water cooling system (Section F, page 11 &12 In the IS/MND)**

a. This impact is unknown as there are currently no known warehouses of this size and scope in Alameda County with a water-cooling system of this size. The Initial Study/ Mitigated Negative Declaration does not address the potential sound, nor has it been studied for potentially significant impacts. In addition, the requirement of 10,000 gallons per day of well water to cool this system has not been studied. **Again, the assumptions in this IS/MND and mitigation measures are insufficient and require a full EIR (Environmental Impact Report).**

33-11

**6. Proposed Water impact: Proposed impact/usage of 10,000 gallons per day for cooling system, 2,800 gallons per day for irrigation of the cannabis, and then 1,000 gallons per day for sanitary and processing uses. (Section X., Hydrology and Water Quality, page 55 In the IS/MND)**

a. The numbers given for wells and water usage in the IS/MND do not compute. How can 4 existing wells that produce currently 5,800 gallons of water per day, support the needed, 13,800 gallons per day requirement to operate the proposed warehouse (given in the same paragraph of the MND)? The wells currently service the two large occupied homes on the property. To our knowledge there has been no study submitted with this IS/MND on the underground water basin supply. 500,000 gallons of storage containers are proposed, and no information is provided as to the location and number or size of tanks that will be installed on the property.

33-12

b. **There is no Hydrology report provided online or in person when requested with Alameda County.** It is referenced in the Initial Study/Mitigated Negative Declaration, but the report itself, has not been provided when requested to the public. **This report MUST be released to the public and it has not been.** We are unsure if Zone 7



Letter 33  
Cont'd

32-12  
Cont'd

Water Agency even has access to this report. **Again, the IS/MND is incomplete, and the unknown impacts and mitigation measures make this insufficient and this requires a full EIR (Environmental Impact report).**

33-13

c. Who supplied the information regarding Hydrology and Water supply? It is referenced that new wells are necessary to construct, yet the IS/MND states that the four existing wells would be adequate. Major conflict of information that does not compute. Again, no hydrology report to support what is referenced even incorrectly. **Therefore, the IS/MND is incomplete, insufficient and must be reviewed, corrected and re-circulated for public comment.**

33-14

d. The Report says that the proposed project would “harvest rainwater through underground vaults” where are these underground vaults going to go? **There is no guarantee of any amount of rainwater each year in this area. We have had predominately drought years for the last few decades and only dry farming (cattle) is done in the North Livermore Valley. Everyone who lives here in the area, knows this. There is also great uncertainty of the ability of a rain harvesting system due to climate change and climate shifts. What would the water usage impact be without rainwater harvesting? The IS/MND is incomplete and must have this information added and recirculated for public comment. In addition, the proposed water usage has a VERY potentially significant impact to all the surrounding families and residences, so this must be fully studied in a full EIR (Environmental Impact report). We request a full EIR to study this very serious potentially significant impact.**

33-15

**7. Potential impact to plant and animal species due to increased activities onsite and 32,000 SF facility and 5,040 SF processing facility. (Section IV., Biological Resources, page 30 in the IS/MND)**

a. Two special plant species (large flowered fiddleneck and the bent flowered fiddleneck) should be surveyed per Live Oak’s initial findings to confirm presence, or lack thereof, with a focused survey occurring in March – June blooming period. As this survey was not completed, this impact is unknown. Therefore, the MND is insufficient and cannot be approved since the surveys were not completed. **These surveys would also require a recirculation of the MND document with surveys included this time and potentially a full EIR (Environmental Impact Report).**



33-16

b. Countless special status species have been identified as having potential habitat onsite, including four amphibians and reptiles, seven migratory birds/nesting raptors, burrowing owls, special status bats, and four mammals all have the potential to occur onsite. Focused surveys should be completed to confirm their status prior to any approvals for project. **As this survey was not completed, this impact is unknown. Therefore, this IS/MND is insufficient and would require a recirculation with those surveys completed or potentially a full EIR (Environmental Impact Report).**

33-17

**8. Stormwater treatment for new parking lot- Missing**

a. There was no mention of the impact of installing a 26-car paved parking lot as it relates to Stormwater treatment. As this impact was not reviewed or mitigation measures given, this impact to Cayetano Creek is unknown. **Therefore, the missing information in this IS/MND needs to be added or instead require a full EIR (Environmental Impact Report).**

33-18

**9. Odor Mitigation and Air Quality – (Letter F, Page 11 and Section III. Air Quality on page 21 in the IS/MND)**

a. **Odors from site cannot be quantified but are assumed to be negligible even though they cannot be quantified.**

b. The mitigation is enforcement by County, but this will occur after facility is already up and running? This is unacceptable therefore, this IS/MND is missing information and must be added on this subject and recirculated for comment.

c. Can measures be included to control odor up front?

d. On page 21 of Section III, Air Quality, the item d is checked as “Less-than-significant-impact” yet there is no way to quantify the odor control system that is conceptual. Therefore, this is insufficient, and the mitigation proposed is completely unknown if it will work. **This makes it a potentially significant impact, so we request that a full EIR must be done to address this impact.**

33-19

**10. Safety Plan & Staffing (Letter F, Page 11 in the IS/MND)**

a. Safety Plan: States that there will be “at least one security guard during all operating hours”.



Letter 33  
Cont'd

- 33-19  
Cont'd
1. What type of security and it's what form?
  2. Will the security be armed? A KTVU FOX2 news video, they will be, according to the interviewed Chuk Campos.
  3. Exact hours the security will be on the site?
- 33-20
- b. Safety, Video Surveillance: In the Safety paragraph on page 11, it reads "Additionally, video surveillance would be installed on the exterior of the building in all areas of ingress and egress." **Those areas of ingress and egress will undoubtedly include our private road and driveway, as those intending to commit crime on this site, will try to jump fences and access this dangerous destination on our property. This is a VERY potentially significant impact and invasion of privacy to all of the families that live on that private road.** Insufficient information and details in the MND and CUP are not provided on this matter. This impact needs to be reviewed and studied and recirculated for public comment.
- 33-21
- c. Safety Plan: says "All cannabis would be stored in high-security, fire-proof safes. Inventory would be removed from the storage safes only for immediate transport or sale." **Sales? There is not a permit issued nor is SALES allowed on site. This needs to be reviewed, confirmed by Law Enforcement and the County of Alameda, and mitigation measures taken to control NO SALES on site. This is unacceptable to all surrounding families and residences. A full EIR must be required along with additional permits and studies to support County and Federal allowance of SALES allowed on site.**
- 33-22
- d. It's very unclear what those operating hours will be. At one place under Staffing, it reads "8:00am to 6:00pm, daily". Is this being proposed to run 7 days a week? This is totally unacceptable, and no studies or impacts have been reviewed or studied on this. This would result in a potentially significant impact to all families and residences surrounding this site.
1. The CUP permit states 8 a.m. – 6 p.m. working hours but also notes security during the evening hours as well, so this information is incorrect and undefined.
  2. What type of disruption and impact can our families expect? This was not studied or mentioned anywhere in the IS/MND, therefore it must be included and recirculated for public comment.



33-23

**11. Mass grading and construction. (Section XIII.Noise, page 62 in the IS/MND)**

a. The construction is anticipated to take 23 months, and due to proximity of project to residential homes and families, we would require limiting construction work hours to Monday – Friday 8:00am – 5:00pm. There shall be no construction or grading work to occur on Saturdays or Sundays. This potentially significant impact was not studied, and no mitigation measures given, so that must be included and recirculated for public comment.

33-24

**12. Cannabis Cultivation is not a permitted use; it requires a use permit. (Section E., Introduction page 6 in the IS/MND)**

a. Since Cannabis cultivation is not a permitted use, and it requires a use permit, therefore, concessions such as location, light impacts, sound mitigation, safety and hours of operation should be made to allow a non-permitted use on this property. This Initial Study/Mitigated Negative Declaration does not take into account the many impacts to the surrounding families and residences. Throughout the document it says that there is mostly vacant land surrounding the project site. This is not accurate. We respectfully request that location of proposed warehouses be studied and reviewed due to proximity to private road for neighboring families and residences. The warehouse should be placed farther south and east on the project site, to minimize impacts to all surrounding families and residences. Please review these potentially significant impacts and include these in the analysis for the Mitigated Negative Declaration and then recirculate for public comments.

33-25

**13. Transportation – (Section XVII. Transportation, page 70 in the IS/MND)**

a. 110 daily trips are anticipated to be added, which is adding about 20% more daily trips to Morgan Territory Road. This is noted as a “small addition of trips” but an additional 20% increase in daily traffic along Morgan Territory Road is notable, not a “small addition of trips” as indicated in the MND. Although the report states that this is “less-than-significant,” we are concerned that the existing driveway and Morgan Territory Road will be greatly impacted by the potential peak-hour queuing to turn into the project driveway, which is a heavily



Letter 33  
Cont'd

33-25  
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curved corner coming out of it, and approaching from the North. There have been numerous times collisions have almost occurred from drivers leaving residence and entering Morgan Territory Road due to the blind corner where the driveway is located.

33-26

b. **Transportation Impact: VMT:** Though the Vehicle Miles Traveled (VMT) is not required to be studied until July 1, 2020, most projects at this stage are reviewing both VMT and Average Daily Trips to reflect best practices. Given the lack of local public transportation, we expect most trips and miles will be driven by single occupancy vehicles. *We respectfully request that VMT be included in the analysis and then recirculated for public comments.*

33-27

In Conclusion, We in the Morgan Territory Road Neighborhood ask that all missing and insufficient items be added to the Initial Study/Mitigated Negative Declaration and have it recirculated for public comment. Additionally, WE (the entire MTR Neighborhood) request a full Environmental Impact Report be done for this proposed conditional use permit PLN2018-00258.

My apologies for any grammatical or other errors as this subject matter has stirred many strong emotions for many of us.

Thank you, for you time and efforts.

Sincerely,



Rick Ryan  
13285 Morgan Territory Road  
Livermore, CA 94551

[rybrew1@gmail.com](mailto:rybrew1@gmail.com)



**Urzua, Sonia, CDA**

---

**From:** Palmeri, Maria, CDA  
**Sent:** Friday, February 7, 2020 8:21 AM  
**To:** Urzua, Sonia, CDA  
**Cc:** Lopez, Albert, CDA  
**Subject:** FW: ZONE 7 has rescinded APPROVAL for Oasis Fund Livermore Marijuana Grow Facility. YEAH!!! NOW, Alameda County Planning Department NEEDS TO DENY the Initial Study/Mitigated Negative Declaration PLN: 2018-00258!!!!  
**Attachments:** 2.7.2020 Oasis pic.jpg  
**Categories:** Green Category

Maria Palmeri  
Alameda County Planning Department  
224 West Winton Avenue, Room 111  
Hayward, CA 94544  
tel: (510)670-5421  
fx: (510)785-8793

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**From:** Rick Ryan <rybrew1@gmail.com>  
**Sent:** Friday, February 7, 2020 8:19 AM  
**To:** Palmeri, Maria, CDA <maria.palmeri@acgov.org>; onetracman@earthlink.net; Scott.Beyer@wentvineyards.com; derek@purpleorchid.com  
**Cc:** bob@bontekoe.net; bonningtond@yahoo.com; Carol Gerich <carolgerich@gmail.com>; carp.brian@gmail.com; cathygk60@aol.com; cplevyak@yahoo.com; cstneff@sbcglobal.net; eme@sercotech.com; homes@marjekosic.com; Emile Meylan <emeylan@sercotech.com>; jandjheinke@gmail.com; jeancmiracle@yahoo.com; jjmctigue@gmail.com; jljen@comcast.net; jtmecozzi@att.net; Leepyear256@aol.com; mecozzyc@gmail.com; mecozzic@gmail.com; Richard Foley <rjfoley@occutech.com>; rogdelisle@aol.com; s2springer@s2springer.com; safetylisa@occutech.com; stan.martin@lamresearch.com; steve@s2springer.com; susan@bontekoe.ne; teri\_stivers@yahoo.com; tkosic@earthlink.ne; tmk@tmkroeger.com; tracy.wood589@gmail.com  
**Subject:** ZONE 7 has rescinded APPROVAL for Oasis Fund Livermore Marijuana Grow Facility. YEAH!!! NOW, Alameda County Planning Department NEEDS TO DENY the Initial Study/Mitigated Negative Declaration PLN: 2018-00258!!!!

Ladies and Gentlemen,

This is yet another submission of mine in OPPOSITION to the Oasis Marijuana Grow Facility that is proposed at 7033/7031 Morgan Territory Road for which Initial Study/Mitigated Negative Declaration PLN: 2018-00258 submitted on 12/23/19 to Alameda County Planning Department.

Since my family and I share a property line with the "proposed" Oasis Marijuana Grow Facility and after reviewing the Oasis Fund Livermore Grow Facility Initial Study/Mitigated Negative Declaration PLN: 2018-00258 submitted on 12/23/19 to Alameda County

33-28



Letter 33  
Cont'd

Planning Department, I (also, we in the MTR Neighborhood) have discovered many deficiencies, missing supporting reports and insufficient Mitigation Measures throughout.

Please note the most important insufficiencies and missing items listed below, with references to the page numbers in the submitted Oasis Fund Livermore Grow Facility Initial Study/Mitigated Negative Declaration PLN2018-00258:

1. **Aesthetics, Scenic Quality (Section I.c, Page 15-18 in the IS/MND)**

a. In item C, mid-way through the paragraph it says that the proposed project would not result in a substantial degradation of the existing visual character of quality of the site as the proposed structures would be partially screened by vegetation and would be limited in size. Furthermore, it says that because the proposed project would not have an adverse effect on a scenic vista and would not damage scenic resources or existing visual character, a *less-than-significant* impact would occur. **Both of these statements are insufficient as there is no proposed or existing vegetation for screening of this urban style warehouse facility facing our residence (see attached picture with highlighted area from my front yard). There is a Potentially Significant Impact to our current scenic vista and existing visual character, with potential damage to scenic resources, therefore, we request new mitigation measures must be added or proposed, and we request a full EIR, Environmental Impact Report.**

2. **Light pollution due to illumination for necessary security (section I.d, Page 18 in the IS/MND)**

a. Item d reads that ".....the proposed project will install safety lighting around the outside perimeter of the building, creating a new source of light glare where none currently exists. The lighting system would only be triggered by motion detectors, which would limit the amount of time when such systems are activated."

1. This is **FALSE**, and is a potentially significant impact that needs to be studied. Since the applicant has not resided in our area, they are unaware that many wild animals and cattle from neighboring farms are on our properties all the time. These are coyotes, bobcats, skunks, many deer, raccoons, turkeys, owls, bats, rabbits, and the list goes on. Many of the wild animals are nocturnal and will constantly be triggering the on and off light glare and create light pollution in an utterly country setting that is currently natural and without nighttime light. Our home faces the proposed warehouse and will constantly be assaulted by the light pollution. We cannot have flashing lights suddenly hitting our home as soon as the sun sets and going off all throughout the night, every single night. This is utterly unacceptable. Then paragraph d. concludes with this statement: "Due to the setback from the nearest public roadway and residences, as well as existing vegetation sheltering the structure from view of the public roadway, the proposed project would not create a substantial light source that would affect the day or nighttime views, and a *less-than-significant* impact would occur." **This is also a FALSE and insufficient statement as our residence faces the proposed location with no current vegetation or landscape screening at all, so we would be fully impacted with a Potentially Significant Impact with currently no viable mitigation measures offered in this document (see attached picture). Therefore, the**

33-28  
Cont'd



Letter 33  
Cont'd

**mitigation measures for light impact are fully insufficient and must be reviewed and recirculated, and we request a full EIR, Environmental Impact Report.**

b. **Safety:** When a Conditional Use Permit to grow a crop, near residences requires Security personnel, security lights, security cameras (**pointing towards OUR homes, which constitutes a MAJOR invasion of privacy,** ) this is great cause for concern and impacts. **No other crop cultivated requires security due to criminal activity that is associated with it and the criminal activity that it brings with it. This is well known throughout the Cannabis industry, law enforcement and is seen in the news all the time throughout California.** This major impact was not studied or mentioned anywhere in detail in the IS/MND, or the CUP, therefore, Safety and Security impacts to surrounding families and residences are potentially significant impacts that need to be reviewed and studied, with mitigation measures offered, and then the report re-circulated.

**3. Sound pollution due to climate control in the greenhouse, (section XIII.Noise, page 62 in the IS/MND)**

a. The impact of sound pollution due to climate control in the greenhouse/warehouse is unknown as there are currently no known warehouses of this size and scope in Alameda County cultivating this use in this manner. Under the section "Project Operational Noise" it refers to ventilation fans and exhaust fans to provide cooling for large volume buildings." This potentially significant impact has not been fully studied nor mitigated at all. **The likelihood that there would be a potentially significant impact in noise to neighboring families and residences is very high, therefore, the Noise mitigation measures are insufficient and require a full EIR (Environmental Impact Report).**

**4. Sound pollution due to 'Diesel Generators', (section XIII.Noise, page 63 in the IS/MND and Section VI. Energy, page 41 in the IS/MND)**

a. The proposed "occasional use of diesel generators" (on page 27 under TAC emissions of the IS/MND which have **not** had their location confirmed) on page 42, in the Energy section, and on page 63 under the Noise Section, do not provide essential details giving the location of these generators. In addition, the MND does not address the decibel rating of these large diesel generators. Furthermore, there is no detail on the location of the fuel storage for these generators. Will we have to see these large generators? **The MND contains missing supporting information related to this very potentially significant impact . In addition, when PG&E shuts off our power in the rural areas for consecutive days (which happened multiple times last Summer and Fall 2019) then these generators will be running non-stop with NO noise mitigation offered.** Diesel Generators are not quiet. Therefore, this section in the MND is insufficient and needs to be reviewed and studied and recirculated for public comment. **A full EIR, Environmental Impact report to study this potentially significant impact is required.**

**5. Sound pollution and water impact due to water cooling system (Section F, page 11 &12 in the IS/MND)**

a. This impact is unknown as there are currently no known warehouses of this size and scope in Alameda County with a water cooling system of this size. The Initial Study/ Mitigated Negative Declaration does not address the potential sound nor has it been studied for potentially significant impacts. In addition, the requirement of 10,000 gallons per day of well water to cool this system has not been studied. **Again, the**



Letter 33  
Cont'd

**assumptions in this IS/MND and mitigation measures are insufficient and require a full EIR (Environmental Impact Report).**

6. Proposed Water impact: Proposed impact/usage of 10,000 gallons per day for cooling system, 2,800 gallons per day for irrigation of the cannabis, and then 1,000 gallons per day for sanitary and processing uses. (Section X., Hydrology and Water Quality, page 55 in the IS/MND)

a. The numbers given for wells and water usage in the IS/MND do not compute. **How can 4 existing wells that produce currently 5,800 gallons of water per day, support the needed, 13,800 gallons per day requirement to operate the proposed warehouse (given in the same paragraph of the MND)?** The wells currently service the two large occupied homes on the property. To our knowledge there has been no study submitted with this IS/MND on the underground water basin supply. 500,000 gallons of storage containers are proposed and no information is provided as to the location and number or size of tanks that will be installed on the property.

b. **There is no Hydrology report provided online or in person when requested with Alameda County.** It is referenced in the Initial Study/Mitigated Negative Declaration, but the report itself, has not been provided when requested to the public. **This report MUST be released to the public and it has not been.** We are unsure if Zone 7 Water Agency even has access to this report. **Again, the IS/MND is incomplete, and the unknown impacts and mitigation measures make this insufficient and this requires a full EIR (Environmental Impact report).**

c. Who supplied the information regarding Hydrology and Water supply? It is referenced that new wells are necessary to construct, yet the IS/MND states that the four existing wells would be adequate. Major conflict of information that does not compute. Again, no hydrology report to support what is referenced even incorrectly. **Therefore, the IS/MND is incomplete, insufficient and must be reviewed, corrected and re-circulated for public comment.**

d. The Report says that the proposed project would "harvest rain water through underground vaults" where are these underground vaults going to go? **There is no guarantee of any amount of rain water each year in this area. We have had predominately drought years for the last few decades and only dry farming (cattle) is done in the North Livermore Valley. Everyone who lives here in the area, knows this. There is also great uncertainty of the ability of a rain harvesting system due to climate change and climate shifts. What would the water usage impact be without rainwater harvesting? The IS/MND is incomplete and must have this information added and recirculated for public comment. In addition, the proposed water usage has a VERY potentially significant impact to all the surrounding families and residences, so this must be fully studied in a full EIR (Environmental Impact report). We request a full EIR to study this very serious potentially significant impact.**

7. Potential impact to plant and animal species due to increased activities onsite and 32,000 SF facility and 5,040 SF processing facility. (Section IV., Biological Resources, page 30 in the IS/MND)

a. Two special plant species (large flowered fiddleneck and the bent flowered fiddleneck) should be surveyed per Live Oak's initial findings to confirm presence, or lack thereof, with a focused survey occurring in March – June blooming period. As this survey was not completed, this impact is unknown. Therefore, the MND is insufficient and cannot be approved since the surveys were not completed. **These**

33-28  
Cont'd



surveys would also require a recirculation of the MND document with surveys included this time and potentially a full EIR (Environmental Impact Report).

b. Countless special status species have been identified as having potential habitat onsite, including four amphibians and reptiles, seven migratory birds/nesting raptors, burrowing owls, special status bats, and four mammals all have the potential to occur onsite. Focused surveys should be completed to confirm their status prior to any approvals for project. **As this survey was not completed, this impact is unknown. Therefore, this IS/MND is insufficient and would require a recirculation with those surveys completed or potentially a full EIR (Environmental Impact Report).**

**8. Stormwater treatment for new parking lot- Missing**

a. There was no mention of the impact of installing a 26 car paved parking lot as it relates to Stormwater treatment. As this impact was not reviewed or mitigation measures given, this impact to Cayetano Creek is unknown. **Therefore, the missing information in this IS/MND needs to be added or instead require a full EIR (Environmental Impact Report).**

**9. Odor Mitigation and Air Quality – (Letter F, Page 11 and Section III. Air Quality on page 21 in the IS/MND)**

a. **Odors from site cannot be quantified, but are assumed to be negligible even though they cannot be quantified.**

b. The mitigation is enforcement by County, but this will occur after facility is already up and running? This is unacceptable therefore, this IS/MND is missing information and must be added on this subject and recirculated for comment.

c. Can measures be included to control odor up front?

d. On page 21 of Section III, Air Quality, the item d is checked as “Less-than-significant-impact” yet there is no way to quantify the odor control system that is conceptual. Therefore, this is insufficient and the mitigation proposed is completely unknown if it will work. **This makes it a potentially significant impact, so we request that a full EIR must be done to address this impact.**

**10. Safety Plan & Staffing (Letter F, Page 11 in the IS/MND)**

a. Safety Plan: States that there will be “at least one security guard during all operating hours”.

1. What type of security and it what form?

2. Will the security be armed? A KTVU FOX2 news video, they will be, according to the interviewed Chuk Campos.

3. Exact hours the security will be on the site?

b. Safety, Video Surveillance: In the Safety paragraph on page 11, it reads “Additionally, video surveillance would be installed on the exterior of the building in all areas of ingress and egress.” **Those areas of ingress and egress will undoubtedly include our private road and driveway, as those intending to commit crime on this site, will try to jump fences and access this dangerous destination on our property. This is a VERY potentially significant impact and invasion of privacy to all of the families that live on that private road.** Insufficient information and details in the MND and CUP are not provided on this matter. This impact needs to be reviewed and studied and recirculated for public comment.

33-28  
Cont'd



**Letter 33  
Cont'd**

c. Safety Plan: says "All cannabis would be stored in high-security, fire-proof safes. Inventory would be removed from the storage safes only for immediate transport or sale." **Sales? There is not a permit issued nor is SALES allowed on site. This needs to be reviewed, confirmed by Law Enforcement and the County of Alameda, and mitigation measures taken to control NO SALES on site. This is unacceptable to all surrounding families and residences. A full EIR must be required along with additional permits and studies to support County and Federal allowance of SALES allowed on site.**

d. It's very unclear what those operating hours will be. At one place under Staffing, it reads "8:00am to 6:00pm, daily". Is this being proposed to run 7 days a week? This is totally unacceptable and no studies or impacts have been reviewed or studied on this. This would result in a potentially significant impact to all families and residences surrounding this site.

1. The CUP permit states 8 a.m. – 6 p.m. working hours but also notes security during the evening hours as well, so this information is incorrect and undefined.

2. What type of disruption and impact can our families expect? This was not studied or mentioned anywhere in the IS/MND, therefore it must be included and recirculated for public comment.

**11. Mass grading and construction. (Section XIII.Noise, page 62 in the IS/MND)**

a. The construction is anticipated to take 23 months, and due to proximity of project to residential homes and families, we would require limiting construction work hours to Monday – Friday 8:00am – 5:00pm. There shall be no construction or grading work to occur on Saturdays or Sundays. This potentially significant impact was not studied and no mitigation measures given, so that must be included and recirculated for public comment.

**12. Cannabis Cultivation is not a permitted use, it requires a use permit. (Section E., Introduction page 6 in the IS/MND)**

a. Since Cannabis cultivation is not a permitted use, and it requires a use permit, therefore, concessions such as location, light impacts, sound mitigation, safety and hours of operation should be made to allow a non-permitted use on this property. This Initial Study/Mitigated Negative Declaration does not take into account the many impacts to the surrounding families and residences. Throughout the document it says that there is mostly vacant land surrounding the project site. This is not accurate. We respectfully request that location of proposed warehouses be studied and reviewed due to proximity to private road for neighboring families and residences. The warehouse should be placed farther south and east on the project site, to minimize impacts to all surrounding families and residences. Please review these potentially significant impacts and include these in the analysis for the Mitigated Negative Declaration and then recirculate for public comments.

**13. Transportation – (Section XVII. Transportation, page 70 in the IS/MND)**

a. 110 daily trips are anticipated to be added, which is adding about 20% more daily trips to Morgan Territory Road. This is noted as a "small addition of trips" but an additional 20% increase in daily traffic along Morgan Territory Road is notable, not a "small addition of trips" as indicated in the MND. Although the report states that this is "less-than-significant," we are concerned that the existing driveway and Morgan Territory Road will be greatly impacted by the potential peak-hour queuing to turn into the project driveway, which is a heavily curved corner coming out of it, and

33-28  
Cont'd



**Letter 33  
Cont'd**

approaching from the North. There have been numerous times collisions have almost occurred from drivers leaving residence and entering Morgan Territory Road due to the blind corner where the driveway is located.

b. **Transportation Impact:** VMT: Though the Vehicle Miles Traveled (VMT) is not required to be studied until July 1, 2020, most projects at this stage are reviewing both VMT and Average Daily Trips to reflect best practices. Given the lack of local public transportation, we expect most trips and miles will be driven by single occupancy vehicles. **We respectfully request that VMT be included in the analysis and then recirculated for public comments.**

**33-28  
Cont'd**

In Conclusion, We in the Morgan Territory Road Neighborhood ask that all missing and insufficient items be added to the Initial Study/Mitigated Negative Declaration and have it recirculated for public comment. **Additionally, WE (the entire MTR Neighborhood) request a full Environmental Impact Report be done for this proposed conditional use permit PLN2018-00258.**

My apologies for any gramatical or other errors as this subject matter has stirred many strong emotions.

Thank you, for you time and efforts.

Sincerely,

Rick Ryan  
13285 Morgan Territory Road  
Livermore, CA 94551  
[rybrew1@gmail.com](mailto:rybrew1@gmail.com)

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## **LETTER 33: RYAN, RICK**

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### **Response to Comment 33-1**

The comment is an introductory statement and does not address the adequacy of the IS/MND.

### **Response to Comment 33-2**

The comment does not address the adequacy of the IS/MND.

### **Response to Comment 33-3**

The comment is an introductory statement with responses provided in the comments below.

### **Response to Comment 33-4**

The comment is an introductory statement with responses provided in the comments below.

### **Response to Comment 33-5**

See Response to Comment 4-3. CEQA (Pub. Resources Code, § 21000 et seq.) case law has established that only public views, not private views, are protected under CEQA. Therefore, implementation of mitigation is not necessary. However, the comment has been forwarded to the decision-makers for consideration.

### **Response to Comment 33-6**

See Response to Comment 4-3.

### **Response to Comment 33-7**

As discussed previously, the proposed security plan is consistent with the requirements of Section 6.106.080 of the County Code of Ordinances, and has been deemed adequate for the proposed uses. Furthermore, crime is a law enforcement issue and is not within the purview of CEQA. The comment, however, has been forwarded to the decision-makers for consideration.

### **Response to Comment 33-8**

See Response to Comment 20-10.

### **Response to Comment 33-9**

See Responses to Comment 20-11.

### **Response to Comment 33-10**

See Responses to Comments 20-11 and 20-12.

### **Response to Comment 33-11**

See Responses to Comments 1-2 and 1-4.

### **Response to Comment 33-12**

See Responses to Comments 1-2 and 1-4.

### **Response to Comment 33-13**

See Responses to Comments 1-2 and 1-4.



**Response to Comment 33-14**

See Responses to Comments 1-2, 1-4, 1-8, and 28-3.

**Response to Comment 33-15**

See Response to Comment 20-20.

**Response to Comment 33-16**

See Response to Comment 20-20.

**Response to Comment 33-17**

See Response to Comment 20-23.

**Response to Comment 33-18**

See Responses to Comments 13-4, 29-11, and 29-28 regarding odors.

**Response to Comment 33-19**

See Response to Comment 13-5.

**Response to Comment 33-20**

See Response to Comment 13-5.

**Response to Comment 33-21**

See Response to Comment 20-27.

**Response to Comment 33-22**

See Response to Comment 13-5.

**Response to Comment 33-23**

See Response to Comment 20-30.

**Response to Comment 33-24**

See Responses to Comments 19-1 and 20-31.

**Response to Comment 33-25**

See Responses to Comments 20-32.

**Response to Comment 33-26**

See Responses to Comments 20-33.

**Response to Comment 33-27**

The comment is a conclusion statement, requesting preparation of an EIR. The County has determined that adequate evidence exists and is included in the Recirculated IS/MND to support the conclusion that all potential impacts of the proposed project have been reduced to a less-than-significant level. Therefore, the preparation of an EIR for the proposed project is not warranted.



**Response to Comment 33-28**

See Responses to Comments 33-1 through 33-27.



**Letter 34**

**Urzua, Sonia, CDA**

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**From:** bontekoe <bob@bontekoe.net>  
**Sent:** Tuesday, February 4, 2020 9:44 AM  
**To:** Urzua, Sonia, CDA; Palmeri, Maria, CDA; Littlejohn, Heather M., County Counsel; onetracman@earthlink.net; scott.beyer@wentevineyards.com; derek@purpleorchid.com  
**Cc:** Bob-home Schock  
**Subject:** Cannabis Grow Facility at 7033 Morgan Territory Road, N. Livermore Valley  
**Attachments:** Ltr\_AlamedaCo\_200203.docx  
  
**Categories:** Green Category

Dear Ms. Uszua, Ms. Palmeri, Ms. Littlejohn. Attached is a copy of a letter mailed to Ms. Urzua regarding the proposed cannabis Grow Facility in the rural area of N. Livermore and also copied to the Board of Zoning Adjustment. Please distribute as appropriate.

Thank you,

*Robert Schock, PhD*  
[bob@bontekoe.net](mailto:bob@bontekoe.net)  
925-606-1440 (tel)

34-1

\*\* This email was sent from an external source. If you do not know the sender, do not click on links or attachments. \*\*



Letter 34  
Cont'd

121 Twin Oaks Lane  
Livermore CA 94551  
4 February 2020

Sonia Urzua, Planner  
Alameda County Planning Department  
224 West Winton Avenue, Suite 111  
Hayward, CA 94544

Re: Condition Use Permit PLN:2018-00258.

Dear Ms. Urzua:

34-2 I am writing with regard to the Conditional Use Permit for the proposed Oasis Fund Cannabis Grow Facility at 7033 Morgan Territory Road in the rural area North of Livermore. Let me say first, my spouse and I reside about one-half mile north of the site of the proposed facility and on the same geologic formations. We have lived here for 30 years and are very familiar with the geology and hydrology of the area.

34-3 Let me next say that I hold a BS degree in geology, and a PhD in geophysics. I have spent a career in the Earth Sciences, including as a group leader, section leader, division header, department head and associate director at a major national laboratory. And, a few decades ago I was a Director, and then Chair of the Alameda County Zone 7 Board.

34-4 While I have many concerns about the location and the operation of the proposed facility, I want to direct these remarks to the hydrology of the area as stated in the project proposal and the Water Plan Report of August 2019. The August report uses a rainfall amount of 15 inches per year based on an estimate from 1971 and is for the entire Bay Area. In 30 years living here we have measured, at our residence, annual rainfall totals as low as 0.1, 6.7, 8.7, and 9.1 in/yr, and 7 years out of the last 20 were below 15 in/yr. Clearly the planners and operators need to account for frequent rainfall figures much lower than 15 in/yr. Another issue: The proposers must perform longer testing than 24 hours for the main water source, well #3, as this is not long enough to begin to substitute for the effect of the proposed usage on the local aquifer.

34-5 Next, I wish to call the County's attention to the fact that there are other residences nearby beyond those on the facility property itself that can be seriously affected by the proposed operation. There are at least three that essentially abut the property under consideration. These residences must also be accounted for in any impact analysis, not just the property in question.

34-6 Finally, Zone 7, in its Draft CUP/MND, pointed out a number of discrepancies and omissions in the planning, including no contingency plan for unsustainable pumping, no reporting requirements for pumping groundwater, and inconsistent information. Zone 7 had previously suggested, as did the August 2019 Water Plan Report, and I will concur, that the rest of the facility property be explored for groundwater.



**Letter 34  
Cont'd**

34-7

In conclusion, there are many concerns that need to be addressed which deal just with the hydrology, in order to ensure that neighboring water supplies are not adversely affected by the proposed operations. We live in an area with very scarce water and everyone will be affected in some way by this industrial-scale operation.

Sincerely,



Robert N Schock

Electronic copies to:

[sonia.urzua@acgov.org](mailto:sonia.urzua@acgov.org)

[maria.palmeri@acgov.org](mailto:maria.palmeri@acgov.org)

[heather.littlejohn@acgov.org](mailto:heather.littlejohn@acgov.org)

[onetracman@earthlink.net](mailto:onetracman@earthlink.net)

[scott.bever@wentevineyards.com](mailto:scott.bever@wentevineyards.com)

[derek@purpleorchid.com](mailto:derek@purpleorchid.com)



## **LETTER 34: SCHOCK, ROBERT**

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### **Response to Comment 34-1**

The comment does not address the adequacy of the IS/MND.

### **Response to Comment 34-2**

The comment does not address the adequacy of the IS/MND.

### **Response to Comment 34-3**

The comment does not address the adequacy of the IS/MND.

### **Response to Comment 34-4**

See Response to Comment 1-2, 1-4, 1-7, 1-8, and 28-3.

### **Response to Comment 34-5**

See Response to Comment 20-31.

### **Response to Comment 34-6**

With regard to discrepancies between the Hydrology Report and the IS/MND, see Response to Comment 1-2. With regard to groundwater recharge and availability of groundwater supplies, see Response to Comment 1-4 and 1-7.

### **Response to Comment 34-7**

The comment is a conclusion statement and does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.



**Urzua, Sonia, CDA**

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**From:** Steve & Sue Springer <wine@s2springer.com>  
**Sent:** Friday, February 7, 2020 2:31 PM  
**To:** Urzua, Sonia, CDA  
**Cc:** Palmeri, Maria, CDA; Littlejohn, Heather M., County Counsel; BoardofDirectors@zone7water.com; onetracman@earthlink.net; scott.beyer@wentevineyards.com; derek@purpleorchid.com  
**Subject:** PLN-2018-00258 Impact Comments  
**Attachments:** PLN 2018-00258.pdf  
**Categories:** Green Category

Dear Ms. Urzua:

**35-1** I appreciate the opportunity to comment regarding the proposed Oasis Fund Livermore Grow Facility conditional use permit (#PLN2018-00258) by Felix Kukushkin at 7031/7033 Morgan Territory Road, Livermore.

**35-2** I have resided at 9017 Doubletree Lane, Livermore for over 28 years. Our residence is approximately one mile from the entrance of 7031/7033 Morgan Territory Road. (see photo 1) I am reluctant to interfere with individual's use their private property, unless it affects our neighbors' safety and quality of life. I believe the proposed cannabis facility will have a negative impact on neighbors and others who travel Morgan Territory Road.

**35-3** I urge Alameda County to request a full Environmental Impact Report (EIR) as a requirement for Conditional Use Permit PLN:2018-00258. The Initial Study/Mitigated Negative Declaration is insufficient, contains significant omissions and errors, reports referenced are missing, and the impacts are much greater than the applicant stated.

**35-4** First, I am concerned regarding the safety of the planned access point off Morgan Territory Road. The proposed driveway is on the east side of a blind S-curve for vehicles traveling south. (see photos 2 & 3) Traffic will be significant during and following construction with a projected 20% increase in the number of vehicles traveling the road. Morgan Territory Road already has a significant number of commuters traveling from Clayton, as well as heavy bicycle traffic. The suggested entrance point will be a hazard to anyone using the road, including pedestrians and wildlife.

**35-5** Traffic enforcement on the rural road is infrequent and first response to emergencies in the area is primarily by mutual aid from volunteers of the San Ramon Valley Fire Protection District. I am advocating for a traffic study by Alameda County Public Works to study the dimensions of the road and the sight distance (when a car would be visible at the edge of the road from a car approaching from the north and the south) at the posted speed limit. Also, a review by the San Ramon Valley Fire Protection District would be advised.

**35-6** Second, the water impact of drawing almost 14,000 gallons per day in addition to the daily water usage of the two existing residences is unknown and has not been studied. The increased usage has potential significant impact to all surrounding residences. The proposed harvest of rainwater is unrealistic since we have recently experienced several years of drought and have no ability to project future precipitation. It should be assumed that all water supply will be provided from wells. Loss through evaporation and filtration also needs to be



**Letter 35  
Cont'd**

35-6  
Cont'd

↑  
considered. A full EIR needs to be performed to study the full aspect of the water needed and available for the project.

35-7

**Third**, odor mitigation is addressed, but not quantified in the proposal. How will odor pollution be measure and enforced by the County? A full EIR will help to identify the risk and acceptable mitigations.

35-8

**Fourth**, the proposal to install a 5,000 gallon septic tank and leach field to collect wastewater is not adequately described in the Mitigated Negative Declaration.

35-9

**Fifth**, the mitigation to dispose of stormwater into Cayatano Creek needs to be studied for the environmental impact on the bioretention basin and the impact to the habitat caused by the chemical pollutants carried in the stormwater. Not to mention the impact to the water table downstream that other residents draw from. Again, a full EIR needs to be performed.

35-10

**Sixth**, the project is proposed in a high wind and high fire danger location. The location is surrounded by dry vegetation. Increased electrical power usage and activity on the property puts everyone in the area at risk of fire danger. A full EIR should review the fire hazard and mitigations.

35-11

**Lastly**, the proposed change to an otherwise picturesque landscape is a visual assault. The large edifice of an industrial size warehouse/greenhouse, as well as processing facility and parking lot will stand out from the natural environment and spoil the beauty of the surrounding area. There is not sufficient vegetation or landscaping to screen the facility, making it visible especially from the north, but also west and south of the facility.

35-12

The light pollution for security purposes would produce an unnatural source of glare on an otherwise minimally lit landscape. Using motion detectors as triggers would mean a constant on and off lights as animals and objects moving in the wind will undoubtedly cause the lights to trigger.

35-13

In conclusion, the Morgan Territory Road neighborhood requests a full Environmental Impact Report be prepared for the proposed conditional use permit PLN20148-00258. Thank you for your consideration and addressing these concerns. Please contact me if you have questions.

*Susan Springer*  
Susan Springer  
9017 Doubletree Lane  
Livermore, CA 94551  
925-422-5507



**Letter 35  
Cont'd**



Photo 1 Line of sight

from Doubletree Lane

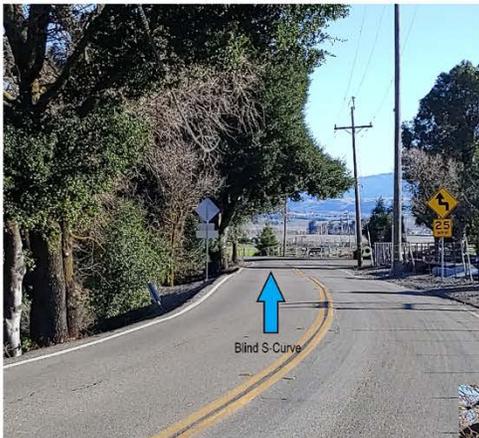


Photo 2 Traveling South on Morgan Territory

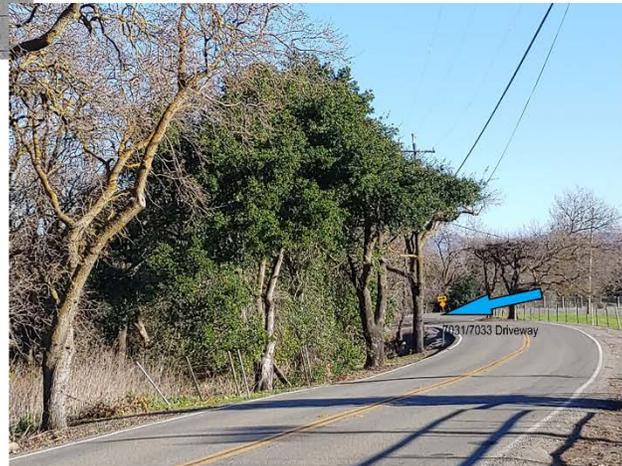


Photo 3 Access Point on Morgan Territory Road

## **LETTER 35: SPRINGER, SUSAN**

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### **Response to Comment 35-1**

The comment does not address the adequacy of the IS/MND.

### **Response to Comment 35-2**

The comment does not address the adequacy of the IS/MND.

### **Response to Comment 35-3**

The comment is a conclusion statement, requesting preparation of an EIR. The County has determined that adequate evidence exists and is included in the Recirculated IS/MND to support the conclusion that all potential impacts of the proposed project have been reduced to a less-than-significant level. Therefore, the preparation of an EIR for the proposed project is not warranted.

### **Response to Comment 35-4**

See Response to Comment 16-4.

### **Response to Comment 35-5**

See Responses to Comments 16-4 and 29-44.

### **Response to Comment 35-6**

See Response to Comment 1-2.

### **Response to Comment 35-7**

See Responses to Comments 13-4, 29-11, and 29-28 regarding odors.

### **Response to Comment 35-8**

See Responses to Comments 6-5 and 29-18.

### **Response to Comment 35-9**

See Responses to Comments 1-9 and 20-23.

### **Response to Comment 35-10**

See Response to Comment 29-25.

### **Response to Comment 35-11**

See Response to Comment 4-3. In addition, CEQA (Pub. Resources Code, § 21000 et seq.) case law has established that only public views, not private views, are protected under CEQA. Therefore, implementation of mitigation is not required.

### **Response to Comment 35-12**

See Response to Comment 29-9.

### **Response to Comment 35-13**

The comment is a conclusion statement, requesting preparation of an EIR. The County has determined that adequate evidence exists and is included in the Recirculated IS/MND to support



the conclusion that all potential impacts of the proposed project have been reduced to a less-than-significant level. Therefore, the preparation of an EIR for the proposed project is not warranted.



**Letter 36**

**Urzua, Sonia, CDA**

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**From:** rick.stivers@altamontmfg.com  
**Sent:** Friday, February 7, 2020 10:25 AM  
**To:** onetracman@earthlink.net; Scott.Beyer@wentevineyards.com; derek@purpleorchid.com; Urzua, Sonia, CDA; Palmeri, Maria, CDA  
**Cc:** morrisranching@aol.com; Rick Ryan; teri stivers  
**Subject:** Proposed Oasis Cannabis Grow Facility  
**Categories:** Green Category

Dear Board Members and Planning Department Members,

We recently moved to Morgan Territory Road for the tranquility and community it offers. The proposed grow facility site is a couple hundred yards down the road and in plain sight from our home and neighborhood.

My question: In what universe does a 32,000 square foot building with a processing facility, a parking lot, and motion-activated security lighting belong *here*?

36-1



**Letter 36  
Cont'd**

36-2



On the technical and legal level, please add our voices to the serious application deficiency objections raised by Brenda Morris, Rick Ryan, and other MTR neighbors.

Sincerely,

Rick & Teri Stivers  
9040 Doubletree Lane  
Livermore, CA 94551



## **LETTER 36: STIVERS, RICK AND TERI**

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### **Response to Comment 36-1**

The comment does not address the adequacy of the IS/MND and has been forwarded to the decision-makers for their consideration.

### **Response to Comment 36-2**

The comment refers to other comment letters submitted. Please see Responses to Comments 29-1 through 29-67 and 33-1 through 33-28.



Letter 37

**Urzua, Sonia, CDA**

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**From:** Stacey Swanson SAS Marketing <marketsas@gmail.com>  
**Sent:** Monday, January 6, 2020 9:21 PM  
**To:** Urzua, Sonia, CDA; Paul Swanson  
**Cc:** Coomber, Bob; Marchand, John, City of Livermore; Patricia Munro; Woerner, Bob  
**Subject:** No Cannabis Grow on Morgan Territory

**Categories:** Green Category

- 37-1 Hello,  
I understand there has been an environmental report filed for a 98 acre cannabis growing and processing operation on Morgan Territory Road.  
I am against this for reasons of water consumption, odor, traffic on a rural road, and safety because of a high dollar value, very salable product grown, processed and shipped a couple of miles, and upwind of my home.
- 37-2 I see there are provision's for water gathering from rain to the tune of 400k gallons.
- 37-3 A. This is water that would otherwise recharge our aquifer or streams, so not water neutral.
- 37-4 B. What is the plan for discharge of the sewage from this operation, the waste green material etc.?  
C. Is 400k even close to the amount of water needed for the operation?
- 37-5 Regarding smells, will there be scrubbers on the ventilation systems for this facility? The smell of weed is nauseating and commercial, indoor grows are a year 'round operation.
- 37-6 Regarding safety, this operation is at the very edge of both Alameda and Contra Costa County, how does the sheriff propose to patrol and respond to issues?
- 37-7 While somewhat isolated, this location also has a straight shot to the freeway as well as very being close to Vasco road. Great for escape. However, employee traffic and trucks for supplies and moving product will add a great deal of traffic to a very small rural road.
- 37-8 These operations don't have a good reputation with any community they have gone into, and basically once approved seem to feel they can do whatever they want.  
<https://daily.jstor.org/the-environmental-downside-of-cannabis-cultivation/>  
<https://calcoasttimes.com/2019/10/22/cannabis-growers-dirty-loophole-research-exempt-hemp/>  
<https://www.independent.com/2019/06/05/santa-barbara-county-in-an-uproar-over-cannabis-odors/>  
I am sick of Livermore's northern agriculture area being a dumping ground for whatever the county wants. We've had an illegal cemetery, a cockfighting operation, and most recently a single family home was turned into a church.  
Please let me know the answers to my questions, as well as where we can attend to protest in person.  
Thank you,  
Stacey Swanson  
Stacey Swanson  
SAS Marketing  
925-292-9470



## **LETTER 37: SWANSON, STACEY**

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### **Response to Comment 37-1**

With regard to water supply, see Responses to Comments 1-1 through 1-11. With regard to odors, see Response to Comment 13-4, 29-11, and 29-28. With regard to transportation, see Responses to Comments 20-32 and 20-33.

### **Response to Comment 37-2**

With regard to water supply, see Response to Comment 1-2.

### **Response to Comment 37-3**

See Responses to Comments 6-5 and 29-18.

### **Response to Comment 37-4**

See Response to Comment 1-2.

### **Response to Comment 37-5**

See Responses to Comments 13-4, 29-11, and 29-28 regarding odors.

### **Response to Comment 37-6**

Page 67 of the IS/MND states the following regarding police protection associated with the proposed project:

The Alameda County Sheriff's Office provides policing to the project site and other unincorporated areas of the County. The Sheriff's Office has over 1,500 authorized positions and a sufficient budget to provide policing services to the County. Each employee of the proposed project would be required to submit fingerprints and photo identification for background checks and verification by the Sheriff's Office. Additionally, the security plan created for the proposed project would undergo review and approval by the Sheriff's Office. During operations of the proposed project, security video would be maintained for 30 days and made available to the Sheriff's Office upon request. In accordance with Section 6.106.020 of Ordinance Code, the project would adhere to all requirements by the Sheriff's Office.

### **Response to Comment 37-7**

With regard to transportation, see Responses to Comments 20-32 and 20-33.

### **Response to Comment 37-8**

The comment does not address the adequacy of the IS/MND and has been forwarded to the decision-makers for their consideration.



**Letter 38**

**Urzua, Sonia, CDA**

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**From:** Cheryl Uribe <relicquits@comcast.net>  
**Sent:** Tuesday, January 7, 2020 12:44 PM  
**To:** Urzua, Sonia, CDA  
**Subject:** Support for Livermore Cannabis Farm

**Categories:** Green Category

Hello Sonia,

I'm a 32 year resident of Livermore. I'd like to share my support for the proposed cannabis farm.

Thank you,  
Cheryl Uribe

\*\* This email was sent from an external source. If you do not know the sender, do not click on links or attachments. \*\*

**38-1**



**LETTER 38: URIBE, CHERYL**

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**Response to Comment 38-1**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.



**Letter 39**

**Urzua, Sonia, CDA**

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**From:** Susan Webb <susanwebb1@yahoo.com>  
**Sent:** Tuesday, January 7, 2020 6:58 AM  
**To:** Urzua, Sonia, CDA  
**Subject:** Marijuana in Livermore

**Categories:** Green Category

**39-1**

Why not have it here in Livermore? If people want it they will find where to get it. And it may not be clean. Regulate it and have the tax and revenue be directly in Livermore. It is here and legal now. Livermore needs to take advantage of the revenues it can produce. Yes, I have been involved with numbers for years 😊.

[Sent from Yahoo Mail on Android](#)

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**LETTER 39: WEBB, SUSAN**

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**Response to Comment 39-1**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.



**Letter 40**

**Urzua, Sonia, CDA**

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**From:** cindraw <cindraw@pacbell.net>  
**Sent:** Thursday, January 23, 2020 9:17 AM  
**To:** Urzua, Sonia, CDA  
**Subject:** FW: Proposed Marijuana Farm on Morgan Territory Road

**Categories:** Green Category

Sorry. Mistake in your email address the first time. Cindy

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

**From:** cindraw <cindraw@pacbell.net>  
**Date:** 1/22/20 7:30 PM (GMT-08:00)  
**To:** Sonia.urzua@ac.gov.org  
**Subject:** Proposed Marijuana Farm on Morgan Territory Road

**40-1** I am commenting on the proposed marijuana farm on Morgan Territory Road. I have many concerns, but will limit my comments here to two.

**40-2** The first is regarding traffic. The entrance to this property is on a sharp corner with limited visibility. With 20 to 30 employees, plus trucks delivering and picking up product, this will become an even more difficult hazard to navigate for residents, as well as other drivers of this road.

**40-3** Secondly, I am appalled to see the kind of water usage being considered. Water is a limited resource, particularly in California. That additional draw on our aquifer will definitely impact neighbors. During a drought this competition could cause the demise of local ranching/farming.

Please let the county supervisors know that I, along with many other residents, do not support this proposal in any way.

**40-4** If you have questions or need to contact me, please feel free to call me at 925 683 2501.

Cindy Wheeler  
1817 Buena Vista Avenue  
Livermore, CA 94550

Sent from my Verizon, Samsung Galaxy smartphone

**\*\* This email was sent from an external source. If you do not know the sender, do not click on links or attachments. \*\***



## **LETTER 40: WHEELER, CINDY**

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### **Response to Comment 40-1**

The comment is an introduction statement and does not address the adequacy of the IS/MND.

### **Response to Comment 40-2**

See Responses to Comments 20-32 and 20-33.

### **Response to Comment 40-3**

With regard to water supply, see Response to Comment 1-2. With regard to groundwater, see Response to Comment 1-7.

### **Response to Comment 40-4**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.



Letter 41

**Urzua, Sonia, CDA**

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**From:** tracy.wood589@gmail.com  
**Sent:** Sunday, January 19, 2020 8:05 PM  
**To:** Urzua, Sonia, CDA  
**Cc:** tracywood589@gmail.com; Palmeri, Maria, CDA; Littlejohn, Heather M., County Counsel  
**Subject:** RE: Mitigated Negative Declaration (MND) for a Cannabis Grow Facility at 7031/7033 Morgan Territory Road, APN 903-0007-001-01 in preparation for a Conditional Use Permit PLN:2018-00258.

**Categories:** Green Category

41-1

Sonia,  
Since the recent meeting with Zone 7, I would like to see an environmental impact study conducted and how it will impact our neighborhood. I am concerned about the amount water that will be needed for this request on a daily and annual basis along with the waste product that will be anticipated with this endeavor. Can the study include potential fire danger and impact on our neighborhood and our inability to fight fires with well water.

Tracy

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**From:** tracy.wood589@gmail.com <tracy.wood589@gmail.com>  
**Sent:** Tuesday, January 7, 2020 11:22 AM  
**To:** Sonia.Urzua@acgov.org  
**Cc:** tracywood589@gmail.com  
**Subject:** Re: Will Livermore Get Its First Cannabis Farm

41-2

Sonia,  
It is very disturbing to see that this initiative is still in play. Has anyone taken the time to visit our neighborhood? We have million dollar plus custom homes in our community with children. This sort of business belongs in an industrial park not a community neighborhood.

41-3

I am a property owner who has lived in this neighborhood for 18 years and lives within a mile of the proposed cannabis sites. We have raised young children safely in our neighborhood who are now attending High School. There are over thirty plus homes within a mile of the proposed cannabis site and many homes have young children. Many families including ours jog and bike up and down Morgan Territory Road. The odor alone may impact our quality of life and potentially impact my employment due to random drug testing for the Medical Device manufacturer that I work for.

41-4

We chose this neighborhood because it was designated as ranch land and have property that is considered ranch property and raised appropriate ranch animals. We have felt safe in our neighborhood and worried more about the occasional rattle snake or mountain lion not unsavory characters. We jog and ride bicycles up and down Morgan Territory Road. With the addition of the Cannabis site would come additional traffic, unsavory characters, devalue our home property value and bring crime to our neighborhood. This type of business does not belong in our neighborhood and instead belongs in a Pharma Medical Device business area in an industrial setting. Such as those located on Vasco Road.

41-5

There is a tremendous risk to our quality of water and potential water shortage site accessing our neighborhood aquifers. Cannabis takes two times the amount of water to produce crops compared to producing vines. With the use of ethanol to manufacture the cannabis our neighborhood will be facing a risk of a potential fire hazard and if our neighborhood was to experience a wildfire such as the fires that occurred in Paradise N.Ca. we have no means of protecting our homes and property as the wells would be depleted immediately. Nor do we want our aquifers contaminated with herbicides, fungicides and pesticides that will be needed to cultivate the cannabis.

41-6

You should be referencing other states such as Colorado who has also legalized cannabis growing and experienced numerous problems with unlawful behavior by locals and people from out of town at these cannabis sites. There has been 151% increase in marijuana related traffic incidents (Washington Post). Drug use and addiction, especially among the youth, are a growing public health concern in communities across Colorado and the nation. According to the 2016 National Survey on Drug Use and Health (NSDUH), [Colorado is a national leader](#) among 12-17-year-



**Letter 41  
Cont'd**

**41-6  
Cont'd**

olds in (1) Last year marijuana use; (2) Last month marijuana use; and (3) The percentage of youth who tried marijuana for the first time. I ask you do you want these same types of statistics for our community.

**41-7**

I respect the fact that California voters voted in this initiative, however I feel that there is a rush to tax revenue. This type of business does not belong in our rural neighborhood it belongs in an industrial park. Come visit our neighborhood and you will see multimillion dollar homes.

Sincerely,

Tracy Wood

Tracy Wood  
O 925-371-6132  
C 925-667-7954

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## **LETTER 41: WOOD, TRACY**

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### **Response to Comment 41-1**

With regard to water supply, wastewater, and groundwater, see Responses to Comments 1-2 and 1-7. With regard to fire, see Response to Comment 29-25.

### **Response to Comment 41-2**

The comment does not address the adequacy of the IS/MND.

### **Response to Comment 41-3**

See Responses to Comments 13-4, 29-11, and 29-28 regarding odors.

### **Response to Comment 41-4**

With regard to traffic, see Responses to Comments 20-32 and 20-33. In addition, crime is a law enforcement issue and is not within the purview of CEQA. However, the comment has been forwarded to the decision-makers for their consideration.

### **Response to Comment 41-5**

See Responses to Comments 1-2, 1-4, 1-7, 4-3, and 29-25.

### **Response to Comment 41-6**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.

### **Response to Comment 41-7**

The comment does not address the adequacy of the IS/MND, but has been forwarded to the decision-makers for their consideration.



## **Attachment 1**

### **Balance Hydrologics, Inc. – Technical Responses Memorandum**



# BALANCE HYDROLOGICS, Inc.

## MEMORANDUM

To: Rod Stinson, Raney Planning & Management, Inc.

From: Mark Woyshner and Ed Ballman

Date: June 10, 2020

**Subject: Response Comments on CUP-MND for Oasis Fund Livermore Grow Facility Project**

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## Introduction

Balance Hydrologics (Balance) prepared a Conceptual Water-Supply and Wastewater Plan for the proposed Oasis Fund Livermore Grow Facility (Project), dated August 23, 2019. The report included a groundwater supply analysis and estimates of potential off-site drawdown impacts. The CUP - Mitigated Negative Declaration for the proposed Project, dated December 23, 2019, was prepared by Sonia Urzua, Planner, Alameda County Planning Department. You have provided us with comments on the CUP-MND:

- a) from Zone 7 Water Agency, dated January 29, 2020, and have asked that we prepare responses to comments #4 and #5, and
- b) from Doubletree Lane resident, Brian Miracle, dated January 22, 2020.

## Comment #4 Need for Environmental Impact Report.

*Zone 7 believes that the proposed project may have a significant adverse impact on groundwater resources if the values presented in the IS/MND are used to develop the Conditional Use Permit. Zone 7 believes that these conditions constitute "fair argument" that the proposed project would have a significant adverse impact on groundwater resources that requires the preparation of an EIR. Recognizing this deficiency in the IS/MND, during the January 15, 2020 meeting, the Board of Directors of Zone 7 voted to request the County to prepare a full EIR for this project.*

*Specifically, the Hydrology Report analyzed the "potential for off-site drawdown impacts" under Section 3.3, page 17. In this analysis, of the four wells tested, only Well #3 had the ability to sustain a constant-rate pump test. The other three wells triggered Page 4 pump shut-offs and did not have sufficient yield to maintain constant pumping over a 24-hour period. The 24-hour well yield of Well #3 was estimated at 3.2 gallons per minute. Wells #1, #2, and #4 would need to be intermittently pumped, along with the constant pumping of Well #3, to achieve the estimated overall yield of four (4) gallons per minute. Moreover, the well tests referenced indicated that the pumping would reach neighboring wells after a period of 184 days; it is not plausible that the Applicant will only pump the wells for six months out of the year. This issue – by itself – calls for additional analysis in a comprehensive EIR.*

*Furthermore, various chapters of the IS/MND reference different overall pumping rates, up to seven (7) gallons per minute, or almost double the rate analyzed in the Hydrology Report. There is no analysis in*

*the Hydrology Report or elsewhere in the information contained with the IS/MND that analyzes such a pumping rate. Such a rate needs analysis and thorough discussion in a full-blown EIR in order for Zone 7 and the public to be confident that such a pumping rate will not endanger the groundwater basin.*

*Finally, the Applicant may be tempted to meet the shortfalls in well production by trucking in water from other sources. The County has, quite properly, barred that type of water transportation in connection with cannabis facilities. Zone 7 strongly supports the County's policy and urges that the Applicant not be able to make up the shortfall in local groundwater supplies by means of trucking.*

**Response:**

Balance Hydrologic conducted a 24-hour constant-rate pumping and recovery test at each of the four project wells, which is a Federal and State agency accepted standard of practice for assessing the yield of a water well. Results of the tests are presented in the August 23, 2019 Conceptual Water-Supply and Wastewater Plan (referred to by Zone 7 as the “Hydrology Report”). These results are the most reliable estimates of yield for the project wells to date. Previous estimates of well yield appearing in earlier documents, including the referenced seven gallons per minute (7 gpm) in the IS/MND as noted in Comment #4, were at best based on the driller’s “air-lift” estimate following completion of the well or brief pumping following pump installation, and are largely regarded as a gross estimate of yield. These preliminary estimates of well yield are superseded by the results presented in the Conceptual Water-Supply and Wastewater Plan.

Pumps for wells are sized based on various factors including well yield, well diameter, depth to water, friction losses, above ground head pressure, and cost. Independent of Balance’s well-yield testing, the wells were previously setup each with a submersible pump (the make and model unknown). The pumps installed in Wells #1, #2, and #4 were incorrectly sized too large for the test and could not be throttled down low enough to maintain a constant rate for 24 hours. The pump saver thus triggered short-term pump shut-offs during the test. Nevertheless, the estimates of 24-hour yield for each of the wells are credible.

In addition to providing an estimate of well yield, the results of a constant-rate pumping and recovery test provide estimates of aquifer characteristics (parameters) which can be used to refine estimates of well capture area and potential drawdown impacts. It is acceptable practice as a first-level assessment of impacts to use the assessed aquifer characteristics to extrapolate drawdown through the dry season when there is effectively no recharge from rain, after which drawdown would be limited by the effects of recharge during the wet season. The analysis of 184 days of pumping at 4 gallons per minute represents a maximum dry-season impact (May through October) for the average demand of the proposed project. The Conceptual Water-Supply and Wastewater Plan concludes that careful management of the wells is required and that the long-term viability of pumping the wells would be best evaluated with use across a cycle of years of major recharge and of drought years.

Other independent lines of reasoning were integrated in the Conceptual Water-Supply and Wastewater Plan, including an analysis of groundwater recharge, water quality, geologic framework, and soils, in addition to the drawdown calculations. Results of these analyses

supersede previously reported values including the values reported in the CUP-MND and are generally taken in whole to develop mitigation and a monitoring plan.

As to what the applicant might do to meet shortfalls, for example during an extreme dry year or during multiple dry years, is speculative. However, farmers regularly reduce crop production and let fields go fallow during droughts when water supplies are limited. The applicant shall comply with all regulatory conditions to meet potential water-supply shortfalls.

## Comment #5 Groundwater Supply, Quality, and Wells.

*The project area is situated near the edge of a “fringe” portion of the Livermore Valley Groundwater Basin; as such, the underlying groundwater is subject to the management provisions of the basin’s Alternative Groundwater Sustainability Plan (GSP), which was prepared by Zone 7 Water Agency and approved by the State Department of Water Resources in 2019. As the designated Groundwater Sustainability Agency (GSA), Zone 7 strives to maintain sufficient groundwater supplies and good groundwater quality within the groundwater basin. To support these goals, the project needs to be consistent with the Alternative GSP and Zone 7’s Sustainable Groundwater Management Ordinance, as well as the State’s Water Recycling Policy (and associated orders), and the County’s Water Wells Ordinance. Links to many of these documents can be found on Zone 7’s website at <https://www.zone7water.com/>.*

*Our records indicate there are four water wells in the project area that will need to be protected or decommissioned. The approximate location is shown on the enclosed well map. Zone 7 issued a permit in 2018 for the construction of one of the four wells at the site (2S/2E 17G 4). As a stipulation for the construction of this well, one of the other three wells (2S/2E17G 2) was to be destroyed within 30 days of construction of the new well. In April 2019, Zone 7 informed the applicant that they were out of compliance Page 5 with the permit. Applicant stated that they intended to complete a hydrology report that included all wells at the site and requested that the permit requirements be held until the results of the hydrology report were complete. The Balance Hydrologics Report was completed in August 2019.*

*Zone 7 provided initial comments on the proposed project in the attached letter, dated October 2, 2019. The following elements are required to receive concurrence from Zone 7, as the Groundwater Sustainability Agency, that the project provides sufficient safeguards to groundwater:*

- a. Installation of monitoring wells between the wells of the project and the downgradient parcel and/or the nearest off-site well;*
- b. Flow-meters on each of the project wells that provide daily totals of the volume extracted;*
- c. Monthly reporting of water levels in each of the pumping wells and the monitoring wells to Zone 7;*
- d. Notification of Zone 7 if the pumping volumes exceed those analyzed in the Balance Hydrologics Report.*

*Please immediately notify Zone 7 Water Agency if any other wells exist in the project area. All well locations should be field verified and noted on the plans. If any of the wells are to be decommissioned, a well destruction permit must be obtained from Zone 7 before the work begins. A Zone 7 drilling permit is also needed for any other water well or soil boring work that may be planned for this project. The drilling permit application and fee schedule can be downloaded from the Zone 7 website at <http://www.zone7water.com/permits-a-fees/64-well-drilling-and-destruction-permits>.*

## Response:

Prior to Balance's August 23, 2019 Conceptual Water-Supply and Wastewater Plan, very little information useful for planning was available for the four project wells on site. The four wells tested and reported in the Conceptual Water-Supply and Wastewater Plan were the only wells found on the project property. The Conceptual Water-Supply and Wastewater Plan used 24-hour pumping and recovery tests to predict seasonal drawdown and concluded that "If carefully managed, the four existing water wells would be suited to contribute sustainably as a groundwater source to the Project. The long-term viability of pumping the wells for the Project would be best evaluated with use across a cycle of years of major recharge and of drought years – for example, from years of peak recharge, through drought years, and then completing the cycle with a return to a peak recharge." This conclusion requires a monitoring and action plan for implementation. The development of a monitoring and action plan was not part of the scope of work for the report, but is stated in the report as an objective for a future task, implying that one will be completed.

Zone 7 provided comments on the Conceptual Water-Supply and Wastewater Plan in an October 2, 2019 letter to Ms. Sonia Urzua, Alameda County Planning Department. Zone 7 believes that Balance's report "made a reasonable case for the project's anticipated groundwater impact to be less than significant with "careful management" of the four existing supply wells", but recommended that "measurable objectives (operating ranges) and minimal thresholds should be set for water levels measured in a monitoring well, and an action plan should be developed for the case of the groundwater level dropping below the minimum threshold." Details are identified in the letter. The revised CUP-MND will require implementation of the recommendations laid out in Zone 7's October 2, 2019 comment letter. As called for in the letter, Zone 7 will therefore "cancel the outstanding well permit requirement for Oasis Venture to destroy (seal) one existing onsite well."

## Rainwater Harvesting Comment.

*The commenter is a resident of Doubletree Lane near the proposed project and notes:*

*"Drought has always been a concern for Doubletree residents, and there have been times when the wells supplying Doubletree have run dry. I believe the proposed grow facility would lower the water table even further and have a significant adverse impact on the people who live nearby.*

*Specifically, I have concerns about the facility's ability to collect rain water: The grow facility proposes to harvest 314,000 gallons of rain water per year. Livermore receives approximately 9.28 gallons/foot<sup>2</sup> annually. So 314,000 gallons / 9.28 gallons/foot<sup>2</sup> = 33,836 feet of collection area would be required. The proposed square footage of the grow facility is 37,040 feet<sup>2</sup>. Which means that the rain water collection system would require an efficiency of 91% (33,836 feet<sup>2</sup> / 37,040 feet<sup>2</sup> = 0.913). That is, of course, if all of the square footage is used to collect rain water. 91% efficiency seems incredibly optimistic, especially with the inherent losses of such systems."*

**Response:**

The commenter calculates the expected annual yield from the proposed rainwater harvesting system using a simplified method that, nonetheless, encompasses a number of variables used in preparing the site water balance as present in the August 23, 2019 Conceptual Water-Supply and Wastewater Plan. However, the commenter uses a number two factors, expected mean annual rainfall and total roof area that are not consistent with local climate data and the actual project plans.

With respect to rainfall, the commented value of 9.28 gallons/square foot is equivalent to a mean annual rainfall of 14.89 inches. The August 2019 report is based data from the PRISM Climate Group at Oregon State University for the period from 1981 to 2010, which identifies a mean annual rainfall of 15.77 inches at the site. This is equivalent to 9.83 gallons/square foot, nearly 6% higher than the value cited by the commenter.

Additionally, the comment references a total proposed roof area of 37,040 square feet. This is substantially lower that the currently proposed total of 40,000 square feet.

Using the actual anticipated rainfall and proposed roof area gives total annual rainfall volume as:

$$(9.83 \text{ gallons/square foot}) \times (40,000 \text{ square feet}) = 393,250 \text{ gallons}$$

The site water balance is based on a rainwater harvesting total of 314,000 gallons per year implying a capture efficiency of:

$$(314,000 \text{ gallons/year}) \div (393,250 \text{ gallons/year}) = 79.8\%$$

This value for a rainwater harvesting system is actually near the lowest cited ranges for capture efficiency and likely underestimates the true yield from roof surfaces on structures such as greenhouses.

## **Attachment 2**

### **Live Oak Associates, Inc. – Technical Responses Memorandum**





# LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

May 11, 2020

Rod Stinson  
Raney Management  
1501 Sports Drive, Suite A  
Sacramento, CA 95834

**SUBJECT: Response to Comments for the proposed Oasis Fund Grow Facility project at 7033 Morgan Territory Road in Livermore, Alameda County, California. (PN 2305-01)**

Dear Mr. Stinson:

At your request, Live Oak Associates, Inc. (LOA) has prepared this response to the comment letter from the California Department of Fish and Wildlife (CDFW) dated February 4, 2020 for the approximately 92.53-acre site located at 7033 Morgan Territory Road in Livermore, Alameda County, California (APN 903-0007-001-01).

The Biological Resources are discussed in Section G.IV. of the IS/MND. Live Oak Associates, Inc.'s Biological Evaluation for this project (dated October 24, 2018) is included as Appendix B of the IS/MND.

Comments within the comment letter are not numbered, however, we have numbered them here for easy reference; comments are summarized in black and responses are provided in [blue](#).

**Comment #1 East Alameda County Conservation Strategy:** “The IS/MND provides no mention of the East Alameda County Conservation Strategy (EACCS). ... Several of the species potentially impacted by this Project are included as focal species in the EACCS, such as California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytoni*), western burrowing owl (*Athene cunicularia*), and American badger (*Taxidea taxus*). None of the biological mitigation measures in the IS/MND require mitigation in the form of habitat conservation despite acknowledging there are several special-status species that may be present in the Project Area. ... To be consistent with the EACCS and to offset permanent habitat loss or conversion, the IS/MND should include permanent habitat conservation as an enforceable mitigation measure.”

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Response #1: The IS/MND discussed the EACCS in section G.IV.f. “The project site is located within the Livermore Watershed of Conservation Zone 4 of the East Alameda County Conservation Strategy (EACCS). The EACCS identifies the Foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, golden eagle, western burrowing owl, American badger, and San Joaquin kit fox as focal species that are protected under federal and state laws. Mitigation Measures IV-1 through IV-6 follow the guidelines of the EACCS in order to adequately mitigate impacts related to the foregoing species, as well as any other special-status species with potential to occur on-site. The mitigation measures identified in this IS/MND help achieve the goals and objectives defined in Section 3.5 and Tables 3-2 and 3-3 of the EACCS. Therefore, upon implementation of mitigation, the proposed project would not conflict with the provisions of the adopted EACCS, or other approved local, regional, or State habitat conservation plan, and a less-than-significant impact would occur.”

Additionally, the IS/MND also references the Biological Evaluation (BE), included as Appendix B, which adequately assessed the project’s impacts, including the EACCS and incorporated mitigation measures in the EACCS into the report.

- a. The EACCS is discussed in Section 2.2 of the BE “Movement Corridors”.
- b. An overview of the EACCS is given in Section 3.2.7.1 “East Alameda County Conservation Strategy” which is under Section 3.2.7 “Local Ordinances, Policies, and Habitat Conservation Plans”.
- c. Section 3.3.1 of the BE “Loss of Habitat for Special Status Plants” discusses the absence of focal plant species of EACCS.
- d. Section 3.3.3 of the BE “Impacts to Foothill Yellow-Legged Frogs” quotes specific Avoidance and Minimization Measures for the foothill yellow-legged frog reported in Table 3-3 of the EACCS and includes the compensation mitigation ratio (3:1) for the foothill yellow-legged frog, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the foothill yellow-legged frog.
- e. Section 3.3.4 of the BE “Impacts to California Red-Legged Frogs” quotes specific Avoidance and Minimization Measures for the California red-legged frog reported in Table 3-3 of the EACCS and includes the compensation mitigation ratio (3:1) for the California red-legged frog, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the California red-legged frog.
- f. Section 3.3.6 of the BE “Impacts to Alameda Whipsnake” quotes specific Avoidance and Minimization Measures for the Alameda whipsnake reported in Table 3-3 of the EACCS as well as additional goals and conservation actions and includes the compensation mitigation ratio (2.5:1 to 3:1 depending on where the mitigation area is) for the Alameda whipsnake, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the Alameda whipsnake.
- g. Section 3.3.8 of the BE “Impacts to Burrowing Owls” quotes specific Avoidance and Minimization Measures for the Burrowing Owl reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the

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compensation mitigation ratio (3:1) for the burrowing owl, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the burrowing owl.

- h. Section 3.3.9 of the BE “Impacts to Golden Eagle” quotes specific Avoidance and Minimization Measures for the golden eagle reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the compensation mitigation ratio (3:1) for the golden eagle, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the golden eagle.
- i. Section 3.3.10 of the BE “Impacts to American Badgers” quotes specific Avoidance and Minimization Measures for the American badgers reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the compensation mitigation ratio (3:1) for the American badger, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the American badger.
- j. Section 3.3.13 of the BE “Impacts to San Joaquin Kit Fox” quotes specific Avoidance and Minimization Measures for the San Joaquin kit fox reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the compensation mitigation ratio (3:1) for the San Joaquin kit fox, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the San Joaquin kit fox.
- k. Section 3.3.14 of the BE “Disturbance to Waters of the United States or Riparian Habitats” states that the mitigation measures “...would also be consistent with the EACCS and its objectives and goals for conservation of riparian forest and scrub habitats (Section 3.5.2.5 of the EACCS)”.
- l. Section 3.3.19 of the BE “Local Ordinances, Conservation Strategies, or Habitat Conservation Plans” states: “...the project is within the Livermore Watershed of Conservation Zone 4 of the East Alameda County Conservation Strategy for which a Programmatic Biological Opinion has been prepared (USFWS 2012) in which the project must follow guidelines for the Foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, golden eagle, western burrowing owl, American badger, and San Joaquin kit fox, as these species have the potential to occur onsite. Guidelines for these species have been included in the avoidance and minimization measures of the sections above. This project will follow mitigation measures identified in this document to help to achieve goals and objectives defined in Section 3.5 and Tables 3-2 and 3-3 of the Conservation Strategy (ICF 2010). The project will follow these measures as well as the additional measures in the Biological Opinion (USFWS 2012) which are attached as Appendix E.”

**Comment #2 Trees:** “The IS/MND, p. 33 states no trees will be removed as part of the Project yet Mitigation Measure IV- 3(a) recommends tree removal occur outside of the nesting season. Please clarify whether tree removal is part of the Project. If trees are proposed to be removed, the

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County should require additional mitigation, such as replacement planting with monitoring and success criteria.”

Response #2: As the need for bridge replacement was unknown at the time the BE was written, the BE provided measures should trees need to be removed during bridge replacement/widening.

**Comment #3a Nesting Birds:** “Avoidance and minimization measure IV-3(a), p. 36, specifies a 250-foot construction buffer for nesting birds and raptors. Depending on the species, nest stage, and site conditions, these distances may not be sufficient to prevent disturbance-related nest failure and subsequent take. The Project proponent is responsible for ensuring that the Project does not result in any violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes. If work will occur during nesting bird season (February 1 through August 31) no more than fourteen (14) days prior to work commencing, including staging, clearing and grubbing, a qualified biologist should survey a sufficient area around the Project site to identify any nests that are present and determine their status and an appropriate buffer. Once construction work begins, the survey effort should continue to identify any nest starts established after the work commences.

‘Sufficient’ in this context means any nest within an area that could potentially be affected by the Project. In addition to direct impacts, such as nest destruction, nesting birds might be affected by noise, vibration, odors, lighting, and movement of workers or equipment.”

Response 3a: Section 3.3.7 of the BE includes surveys for nesting migratory birds and raptors within 250 feet of the project site where accessible; this is a sufficient distance for all bird species known to be within the vicinity of the project site, as 250 feet is a maximum buffer expected for species known or expected to be in the vicinity of the project site. The only species for which the BE found a 250-foot survey area to be insufficient for is the Swainson’s hawk; Section 3.3.7 of the BE includes surveys for Swainson’s hawks to be conducted within a half-mile of the project site.

**Comment 3b Nesting Birds:** “Identified active nests should be surveyed for the first 24 hours prior to any construction-related activities to establish a behavioral baseline of the adults and any nestlings. Once work commences, all active nests should continue to be monitored by the qualified biologist to detect any signs of disturbance and behavioral changes as a result of the Project. If signs of disturbance and behavioral changes are observed, the biologist should reassess the appropriate buffer to prevent disturbance-related nest failure and subsequent take.”

Response 3b: So noted.

**Comment #4 Raptor Nests:** “A qualified biologist, experienced in raptor behavior, should be assigned to monitor the behavior of any raptors nesting within disturbance distance of Project activities. Even within species, disturbance distances can vary according to time of year or geographical location. The qualified biologist should have authority to order the cessation of all Project activities within disturbance distance of any raptor nest if the birds exhibit abnormal nesting behavior which may cause reproductive failure (nest abandonment and loss of eggs and/or young). Abnormal nesting behaviors which may cause reproductive harm include, but are not limited to: defensive flights/vocalizations directed towards project personnel, standing up from a brooding position, interrupted feeding patterns, and flying away from the nest. Project activities within line of sight of the nest should not resume until the qualified biologist has

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consulted with CDFW and both the qualified biologist and CDFW confirm that the bird's behavior has normalized or the young have left the nest.”

Response 4: So noted.

**Comment #5a Burrowing Owls:** “Please be advised that CDFW does not consider exclusion of burrowing owls or "passive relocation" as a "take" avoidance, minimization or mitigation method, and considers exclusion as a significant impact.”

Response #5a: So noted. The BE did not consider passive relocation as an avoidance, minimization, or mitigation method.

**Comment #5b Burrowing Owls:** “The CEQA document for the Project should also include measures to avoid or minimize loss of burrowing owl foraging habitat, and mitigation for loss of habitat that cannot be fully avoided. The EACCS Mitigation Guidance (p.3-66) for burrowing owl recommends mitigating the loss of habitat by protecting habitat in accordance with the mitigation guidelines outlined in Table 3-10 (BUOW-3) through acquiring parcels, through fee title purchase or conservation easement, where known nesting sites occur or where nesting sites have occurred in the previous three nesting seasons (BUOW-1 and BUOW-2).”

Response #5b: Section 3.3.8 of the BE “Impacts to Burrowing Owls” includes measures to avoid or minimize and mitigate for loss of burrowing owl foraging habitat, as it includes all aspects of and measures from the EACCS with regards to avoidance, minimization, and compensation.

**Comment #5c Burrowing Owls:** “Additionally, the Project applicant could work with the Implementation Committee to fund the implementation of an annual monitoring program in coordination with local conservation groups on all burrowing owl nest colonies on protected lands using monitoring protocols established by the California Burrowing Owl Consortium (1993). The results of these surveys would be submitted to the California Natural Diversity Database (CNDDB) and the Conservation Strategy database (BUOW-4 and BUOW-5). This would allow for informed avoidance of impacts in the future.”

Response #5c: So noted.

**Comment #6 Rodenticides:** “Use of rodenticides at the construction site and cannabis facility should be prohibited. ...”

Response #6: So noted. The BE includes the several references to the lack of use of rodenticides onsite as dictated by the EACCS, including quoting Conservation Actions BUOW-8 (Section 3.3.8 of the BE), GOEA-4 (Section 3.3.9 of the BE), AMB-7 (Section 3.3.10 of the BE), and SJKF-7 (Section 3.3.13 of the BE), which all include “...cease using rodenticides in protected areas and, when possible, outside protected areas. When rodent management is needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use IPM principles.”

**Comment #7a California Tiger Salamander:** “Although not mentioned in the IS/MND, the Project site is located within dispersal distance of at least four known and/or potential California tiger salamander breeding ponds. A known California tiger salamander occurrence (CDFW 2020) is less than 0.5 miles to the north along Morgan Territory Road near a stock pond. ...”

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Response #7a: So noted. As of the date of the BE (October 24, 2018), the California Natural Diversity Database (CNDDDB) did not show any records of California tiger salamanders within three miles of the site. These locations were added to the CNDDDB after the report was written, however, the BE did identify potential estivation habitat for California tiger salamanders onsite.

**Comment #7b California Tiger Salamander:** “California tiger salamander are known to be able to travel 1.3 miles from upland habitat to breeding ponds. Given the historical and extant California tiger salamander detections within 1.3 miles of the Project site, and without evidence such as protocol-level presence/negative finding surveys, the IS/MND should assume presence.

Response #7b: So noted. Avoidance, minimization, and compensation measures of the EACCS shall be adhered to as well. Therefore, the following mitigation measures apply:

The primary approach to mitigate impacts to CTS would be based upon 1) avoidance of riparian and aquatic resources to the maximum extent possible, 2) implementation of minimization measures.

*Avoidance.* Avoidance of a sensitive resource is usually considered the preferred mitigation for any project. Therefore, from a standpoint of avoiding impacts to CTS, the project is designed in ways that avoids impacts to riparian and upland habitats to the maximum extent practicable. The site currently is planned to be built outside of the riparian corridor except for the existing access road over the creek and, should the County require it, the potential for updating the culvert bridge over the creek.

*Minimization.* The project should be designed, built, and operated in ways that minimize both direct and indirect impacts to the CTS (both during and post-buildout). Implementation of the following measures, partially summarized below and described more fully in Appendix D, should be taken during construction to avoid take of individual CTS.

- Conduct protocol-level CTS surveys or assume presence onsite.
- Prior to the start of construction, an approved qualified biologist should train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices.
- Pre-construction surveys should be conducted to ensure that CTS are absent from the construction area. If CTS are present, they should be allowed to leave on their own.
- The construction zone should be cleared, and silt fencing should be erected and maintained around construction zones to prevent CTS from moving into these areas.
- A biological monitor should be present onsite during particular times of construction, such as if changes to the project require culvert bridge replacement, and when any removal of existing structures or containers currently in the Project Area occurs to ensure no CTS are harmed, injured, or killed during these construction activities.

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Specific Avoidance and Minimization Measures for the California tier salamander reported in Table 3-3 of the EACCS include:

- “If aquatic habitat is present, a qualified biologist will stake and flag an exclusion zone prior to activities. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone will encompass the maximum practicable distance from the work site and at least 500 feet from the aquatic feature wet or dry.
- A qualified biologist will conduct preconstruction surveys prior to activities define a time for the surveys (before ground breaking). If individuals are found, work will not begin until they are moved out of the construction zone to a USFWS/CDFG approved relocation site.
- A Service-approved biologist should be present for initial ground disturbing activities.
- If the work site is within the typical dispersal distance (contact USFWS/CDFG for latest research on this distance for species of interest) of potential breeding habitat, barrier fencing will be constructed around the worksite to prevent amphibians from entering the work area. Barrier fencing will be removed within 72 hours of completion of work.
- No monofilament plastic will be used for erosion control.
- Construction personnel will inspect open trenches in the morning and evening for trapped amphibians.
- A qualified biologist possessing a valid ESA Section 10(a)(1)(A) permit or Service approved under an active biological opinion, will be contracted to trap and to move amphibians to nearby suitable habitat if amphibians are found inside fenced area.
- Work will be avoided within suitable habitat from October 15 (or the first measurable fall rain of 1” or greater, to May 1.”

In addition, the EACCS specifies that a project should obtain an Incidental Take Permit if occupied habitat is adjacent to the site and suitable habitat is on the project site.

*Compensation: upland habitat.* Standardized mitigation ratios for the CTS, according to Table 3-8 in the EACCS, is 3:1 if the development area is within critical habitat and 2.5:1 if the development area is outside of critical habitat and north of 580. As the development area is outside of critical habitat, a mitigation ratio of 2.5:1 should be employed; mitigation lands may be onsite or mitigation credits can be purchased from a mitigation bank. To ensure that mitigation habitat meets or exceeds the value of the habitat lost to development, *Focal Species*

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*Impact/Mitigation Scoring Sheets* located in Appendix E of the EACCS (ICF International 2010) should be used as part of the assessment for suitability of any proposed mitigation lands for the CTS.

Should onsite mitigation occur, a Mitigation and Monitoring Plan should be prepared for the explicit purpose managing these lands. This plan should be submitted to the County for review and approval. At a minimum this plan should:

- Identify the approaches to be used and provide evidence that sufficient water budget exist for any proposed enhancement;
- Identify a suitable planting regime for restoring or enhancing riparian habitats;
- Identify success criteria for monitoring both the upland and riparian habitats that are consistent with similar habitats regionally;
- Monitor restored or enhanced riparian habitats for 5 years;
- Define and identify maintenance and management activities to manage the habitats to meet the stated goals of support habitat characteristics suitable for the CTS. This may include suitable fencing so as to control access, limited cattle grazing or other procedures to manage grass height and forage production at levels that benefit the CTS, removal of trash.
- Define and provide for a financial mechanism such as a non-wasting endowment or an assessment district that funds the management of the open space into perpetuity.

These measures would reduce impacts to CTS to a less-than-significant level.

**Comment #7c California Tiger Salamander:** “Mitigation Measure IV-2 also recommends installing silt fencing (exclusion fence) during construction. Please be advised that installing fencing around the Project site could be a form of "take" if California tiger salamander or other listed species are present. Any action that could cause take of California tiger salamander (such as trapping within an exclusion fence or relocation out of harm's way) must be authorized under appropriate federal and state permits.

The IS/MND as written, does not reduce the impacts to less-than significant levels as required by CEQA. Mitigation measures should include actions such as, preserving off-site habitat through either purchasing California tiger salamander habitat credits at a CDFW-approved conservation bank (see <https://www.wildlife.ca.gov/Conservation/Planning/Banking/Approved-Banks>), or by placing a conservation easement over lands providing habitat, including funding an endowment for managing the lands for the benefit of California tiger salamander in perpetuity, and preparation and implementation of a long-term management plan.

**Response #7c:** So noted. Avoidance, minimization, and compensation measures of the EACCS shall be adhered to as well.

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**Comment #7d California Tiger Salamander:** “CDFW advises that the Project proponent obtain a CESA Permit (pursuant to Fish and Game Code Section 2080 et seq.) in advance of Project implementation. Issuance of a CESA Permit is subject to CEQA documentation; therefore, the CEQA document should specify impacts; mitigation, and should fully describe a mitigation, monitoring and reporting program. As mentioned above, if the proposed Project will impact any CESA-listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit. More information on the CESA permitting process and protocol survey procedures can be found on the CDFW website at

<https://www.wildlife.ca.gov/Conservation/CESA> or

<https://www.wildlife.ca.gov/Conservation/Survey-Protocols>.”

Response #7d: So noted.

**Comment #8 California Red-legged Frog:** “Minimum distances around aquatic habitat should be determined by local known dispersal distances. Activities that will decrease ground squirrel populations, impede movement, or cause take of California red-legged frogs in uplands are advised to also be avoided. CDFW also recommends a qualified biological monitor experienced in the identification and life history of California red-legged frogs be on-site during any removal of existing structures or containers currently in the Project Area. Unless USFWS authorizes relocation, any frogs found on-site must be allowed to leave the area on their own.”

Response #8: So noted.

**Comment #9 Foothill Yellow-legged Frog:** “CDFW recommends the IS/MND require a qualified biologist conduct foothill yellow-legged frog surveys using a method approved by CDFW. Survey methodology should target all life stages and should include wet and dry stream surveys. Surveys within the Project Area should include searching cavities under rocks, within vegetation such as sedges and other clumped vegetation, and under undercut banks. Surveys should be conducted at different times of day and under variable weather conditions if possible.

CDFW advises that the Fish and Game Commission has determined that listing of the foothill yellow-legged frog is warranted under CESA as endangered in the West/Central Coast Clade including Alameda County. Presence of foothill yellow legged frogs may require a CESA Permit before Project activities may commence if those activities could cause take.”

Response #9: So noted. At the time the BE was written, the foothill yellow-legged frog was not yet considered for listing.

**Comment #10 Bioretention Basin:** “...The IS/MND should be revised to require that bioretention basins be designed to prevent amphibians from accessing the basin.”

Response #10: So noted.

**Comment #11 Lighting:** “...The IS/MND does not discuss the type or color of lighting that will be used outdoor, i.e. bright security lighting along the perimeter, white light, blue light, etc. ... To mitigate the potentially negative impacts of artificial light, light structures can be shielded and downward facing so that trespass of light is minimized. In addition, lights can be

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motion-activated, or turned off or dimmed during critical times of the year (e.g., migration) or during times of night that have the most significant impact on wildlife (i.e. dawn and dusk) (Gaston et al., 2012, 2013). Lights with wildlife-friendly spectral composition (i.e., minimize light avoidance/attraction) can also be used (Sweeney et al. 2011; Gaston et al. 2012, 2013). LED lights are well suited for operating at variable brightness and being switched off or dimmed during certain times of the year or during times of low demand, as they operate at full efficiency and have no "warm-up" time (Gaston et al., 2012, 2013). Vegetation may also be used to shield sensitive areas against light, and light-absorbent surfaces can be used in place of reflective surfaces (Gaston et al., 2012, 2013). In addition, all lights should be disposed of properly, as many contain mercury and other toxins.”

Response #11: So noted. Section 3.3.14 of the BE “Disturbance to Waters of the United States or Riparian Habitats” discusses lighting within the minimization measures of the mitigations. “As part of project build-out, all proposed lighting should be designed to avoid light and glare impacts to the riparian corridor to be avoided. Light sources should not be visible from riparian areas and should not illuminate riparian areas or cause glare on the opposite side of the channels (e.g., to neighboring properties).”

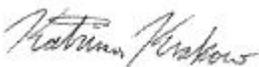
**Comment #12 Fencing:** “CDFW recommends that all hollow posts and pipes be capped to prevent wildlife entrapment and mortality because these structures mimic the natural cavities preferred by various bird species and other wildlife for shelter, nesting, and roosting. Raptor's talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality. Metal fence stakes used on the Project site should be plugged with bolts or other plugging materials to avoid this hazard. Further information on this subject may be found at:

<https://ca.audubon.org/conservation/protect-birds-danger-open-pipes>”

Response #12: So noted. Capping of pipes was included in Sections 3.3.10 “Impacts to Badgers” and 3.3.13 “Impacts to San Joaquin Kit fox” of the BE, as these are measures included in Avoidance and Minimization measures in the EACCS for these two species.

We thank you for using our firm to provide you these services and look forward to working with you. If you have any questions or concerns regarding this proposal, please contact me at (408) 281-5889, at your convenience.

Sincerely,



Katrina Krakow  
Project Manager  
Staff Ecologist

## **APPENDIX B**

### **AIR QUALITY MODELING AND GHG EMISSIONS**

**Oasis Grow Facility**  
**Bay Area AQMD Air District, Mitigation Report**

**Construction Mitigation Summary**

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**OFFROAD Equipment Mitigation**

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Excavators	Diesel	No Change	0	2	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	2	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	4	No Change	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	9	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	3.76000E-002	2.60530E-001	2.75230E-001	4.50000E-004	1.75800E-002	1.75800E-002	0.00000E+000	3.82988E+001	3.82988E+001	3.06000E-003	0.00000E+000	3.83753E+001
Cranes	6.20600E-002	7.38600E-001	2.86580E-001	7.60000E-004	3.08000E-002	2.83400E-002	0.00000E+000	6.71009E+001	6.71009E+001	2.15200E-002	0.00000E+000	6.76389E+001
Excavators	7.82000E-003	8.04600E-002	9.79000E-002	1.50000E-004	3.88000E-003	3.57000E-003	0.00000E+000	1.39106E+001	1.39106E+001	4.40000E-003	0.00000E+000	1.40206E+001
Forklifts	6.75500E-002	6.06440E-001	5.33520E-001	6.90000E-004	4.59100E-002	4.22400E-002	0.00000E+000	6.09459E+001	6.09459E+001	1.95400E-002	0.00000E+000	6.14345E+001
Generator Sets	6.24400E-002	5.39000E-001	5.56840E-001	9.90000E-004	3.11400E-002	3.11400E-002	0.00000E+000	8.47811E+001	8.47811E+001	5.00000E-003	0.00000E+000	8.49062E+001
Graders	7.30000E-003	9.86900E-002	2.75700E-002	1.00000E-004	3.17000E-003	2.91000E-003	0.00000E+000	8.94884E+000	8.94884E+000	2.83000E-003	0.00000E+000	9.01962E+000
Pavers	5.75000E-003	6.24900E-002	5.80300E-002	9.00000E-005	3.06000E-003	2.82000E-003	0.00000E+000	8.44586E+000	8.44586E+000	2.67000E-003	0.00000E+000	8.51266E+000
Paving Equipment	4.26000E-003	4.51300E-002	5.04700E-002	8.00000E-005	2.24000E-003	2.06000E-003	0.00000E+000	7.31770E+000	7.31770E+000	2.32000E-003	0.00000E+000	7.37558E+000
Rollers	4.53000E-003	4.48200E-002	3.81500E-002	5.00000E-005	2.95000E-003	2.71000E-003	0.00000E+000	4.71162E+000	4.71162E+000	1.49000E-003	0.00000E+000	4.74889E+000
Rubber Tired Dozers	3.40400E-002	3.62230E-001	1.28520E-001	2.60000E-004	1.76600E-002	1.62500E-002	0.00000E+000	2.30088E+001	2.30088E+001	7.28000E-003	0.00000E+000	2.31908E+001
Scrapers	3.19600E-002	3.87420E-001	2.41840E-001	4.50000E-004	1.51800E-002	1.39700E-002	0.00000E+000	4.08183E+001	4.08183E+001	1.29100E-002	0.00000E+000	4.11411E+001
Tractors/Loaders/Backhoes	9.76500E-002	9.80820E-001	1.01623E+000	1.38000E-003	6.36800E-002	5.85800E-002	0.00000E+000	1.22313E+002	1.22313E+002	3.91600E-002	0.00000E+000	1.23292E+002
Welders	5.37900E-002	2.38740E-001	2.67360E-001	3.80000E-004	1.37700E-002	1.37700E-002	0.00000E+000	2.82331E+001	2.82331E+001	4.38000E-003	0.00000E+000	2.83427E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	3.76000E-002	2.60530E-001	2.75230E-001	4.50000E-004	1.75800E-002	1.75800E-002	0.00000E+000	3.82988E+001	3.82988E+001	3.06000E-003	0.00000E+000	3.83753E+001
Cranes	6.20600E-002	7.38600E-001	2.86580E-001	7.60000E-004	3.08000E-002	2.83400E-002	0.00000E+000	6.71008E+001	6.71008E+001	2.15200E-002	0.00000E+000	6.76388E+001
Excavators	7.82000E-003	8.04600E-002	9.79000E-002	1.50000E-004	3.88000E-003	3.57000E-003	0.00000E+000	1.39105E+001	1.39105E+001	4.40000E-003	0.00000E+000	1.40206E+001
Forklifts	6.75500E-002	6.06440E-001	5.33520E-001	6.90000E-004	4.59100E-002	4.22400E-002	0.00000E+000	6.09458E+001	6.09458E+001	1.95400E-002	0.00000E+000	6.14344E+001
Generator Sets	6.24400E-002	5.39000E-001	5.56840E-001	9.90000E-004	3.11400E-002	3.11400E-002	0.00000E+000	8.47810E+001	8.47810E+001	5.00000E-003	0.00000E+000	8.49061E+001
Graders	7.30000E-003	9.86900E-002	2.75700E-002	1.00000E-004	3.17000E-003	2.91000E-003	0.00000E+000	8.94883E+000	8.94883E+000	2.83000E-003	0.00000E+000	9.01961E+000
Pavers	5.75000E-003	6.24900E-002	5.80300E-002	9.00000E-005	3.06000E-003	2.82000E-003	0.00000E+000	8.44585E+000	8.44585E+000	2.67000E-003	0.00000E+000	8.51265E+000
Paving Equipment	4.26000E-003	4.51300E-002	5.04700E-002	8.00000E-005	2.24000E-003	2.06000E-003	0.00000E+000	7.31769E+000	7.31769E+000	2.32000E-003	0.00000E+000	7.37557E+000
Rollers	4.53000E-003	4.48200E-002	3.81500E-002	5.00000E-005	2.95000E-003	2.71000E-003	0.00000E+000	4.71162E+000	4.71162E+000	1.49000E-003	0.00000E+000	4.74888E+000
Rubber Tired Dozers	3.40400E-002	3.62230E-001	1.28520E-001	2.60000E-004	1.76600E-002	1.62500E-002	0.00000E+000	2.30088E+001	2.30088E+001	7.28000E-003	0.00000E+000	2.31908E+001
Scrapers	3.19600E-002	3.87410E-001	2.41840E-001	4.50000E-004	1.51800E-002	1.39700E-002	0.00000E+000	4.08182E+001	4.08182E+001	1.29100E-002	0.00000E+000	4.11411E+001
Tractors/Loaders/Balckhoes	9.76500E-002	9.80820E-001	1.01623E+000	1.38000E-003	6.36800E-002	5.85800E-002	0.00000E+000	1.22313E+002	1.22313E+002	3.91600E-002	0.00000E+000	1.23292E+002
Welders	5.37900E-002	2.38740E-001	2.67360E-001	3.80000E-004	1.37700E-002	1.37700E-002	0.00000E+000	2.82331E+001	2.82331E+001	4.38000E-003	0.00000E+000	2.83426E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.30552E-006	1.30552E-006	0.00000E+000	0.00000E+000	1.30292E-006
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19223E-006	1.19223E-006	0.00000E+000	0.00000E+000	1.18275E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.43776E-006	1.43776E-006	0.00000E+000	0.00000E+000	1.42647E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.14856E-006	1.14856E-006	0.00000E+000	0.00000E+000	1.13943E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17951E-006	1.17951E-006	0.00000E+000	0.00000E+000	1.17777E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.11746E-006	1.11746E-006	0.00000E+000	0.00000E+000	1.10869E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18401E-006	1.18401E-006	0.00000E+000	0.00000E+000	1.17472E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.36655E-006	1.36655E-006	0.00000E+000	0.00000E+000	1.35583E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.10576E-006
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.69233E-007	8.69233E-007	0.00000E+000	0.00000E+000	1.29362E-006
Scrapers	0.00000E+000	2.58118E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	9.79954E-007	9.79954E-007	0.00000E+000	0.00000E+000	1.21533E-006
Tractors/Loaders/Balckhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.22636E-006	1.22636E-006	0.00000E+000	0.00000E+000	1.21662E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.06258E-006	1.06258E-006	0.00000E+000	0.00000E+000	1.05848E-006

**Fugitive Dust Mitigation**

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	PM2.5 Reduction	
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	PM2.5 Reduction	
No	Water Exposed Area	PM10 Reduction	PM2.5 Reduction	Frequency (per day)

No	Unpaved Road Mitigation	Moisture Content %		Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

Phase	Source	Unmitigated		Mitigated		Percent Reduction	
		PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.03	0.01	0.03	0.01	0.00	0.00
Grading	Fugitive Dust	0.10	0.05	0.10	0.05	0.00	0.00
Grading	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.09	0.05	0.09	0.05	0.00	0.00
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

**Operational Percent Reduction Summary**

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Operational Mobile Mitigation**

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.05	0.24		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		

No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

### Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	100.00
No	Use Low VOC Paint (Residential Exterior)	150.00
No	Use Low VOC Paint (Non-residential Interior)	100.00
No	Use Low VOC Paint (Non-residential Exterior)	150.00
No	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

### Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

### Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

### Solid Waste Mitigation

Mitigation Measures	Input Value
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Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

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**Oasis Grow Facility**  
**Bay Area AQMD Air District, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	32.00	1000sqft	14.69	32,000.00	0
General Light Industry	4.00	1000sqft	0.09	4,000.00	0
Parking Lot	25.00	Space	0.22	10,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	64
<b>Climate Zone</b>	5			<b>Operational Year</b>	2021
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	281.31	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - CO2 intensity factor updated based on PG&E progress towards RPS

Land Use - Calculated disturbance area

Construction Phase - \*

Grading - PProject Info

Vehicle Trips - Based on Information from TJKM

Stationary Sources - Emergency Generators and Fire Pumps -

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	300.00
tblGrading	AcresOfGrading	75.00	15.00
tblGrading	MaterialExported	0.00	165.00
tblLandUse	LotAcreage	0.73	14.69
tblProjectCharacteristics	CO2IntensityFactor	641.35	281.31
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	202.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.13
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblVehicleTrips	ST_TR	1.32	3.06
tblVehicleTrips	SU_TR	0.68	3.06
tblVehicleTrips	WD_TR	6.97	3.06

## 2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2019	7-31-2019	1.3825	1.3825
2	8-1-2019	10-31-2019	0.9110	0.9110
3	11-1-2019	1-31-2020	0.8922	0.8922
4	2-1-2020	4-30-2020	0.8210	0.8210
5	5-1-2020	7-31-2020	0.8387	0.8387
6	8-1-2020	9-30-2020	0.4354	0.4354
		Highest	1.3825	1.3825

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1603	1.0000e-005	5.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0900e-003	1.0900e-003	0.0000	0.0000	1.1600e-003
Energy	4.8000e-003	0.0437	0.0367	2.6000e-004		3.3200e-003	3.3200e-003		3.3200e-003	3.3200e-003	0.0000	82.7214	82.7214	4.5400e-003	1.6200e-003	83.3182
Mobile	0.0364	0.1945	0.4935	1.8300e-003	0.1584	1.6800e-003	0.1601	0.0425	1.5700e-003	0.0441	0.0000	167.8901	167.8901	5.7800e-003	0.0000	168.0347
Stationary	0.0166	0.0463	0.0423	8.0000e-005		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	7.6921	7.6921	1.0800e-003	0.0000	7.7191
Waste						0.0000	0.0000		0.0000	0.0000	9.0615	0.0000	9.0615	0.5355	0.0000	22.4495
Water						0.0000	0.0000		0.0000	0.0000	2.6411	5.7480	8.3891	0.2719	6.5300e-003	17.1310
<b>Total</b>	<b>0.2181</b>	<b>0.2845</b>	<b>0.5730</b>	<b>2.1700e-003</b>	<b>0.1584</b>	<b>7.4400e-003</b>	<b>0.1658</b>	<b>0.0425</b>	<b>7.3300e-003</b>	<b>0.0499</b>	<b>11.7027</b>	<b>264.0527</b>	<b>275.7553</b>	<b>0.8188</b>	<b>8.1500e-003</b>	<b>298.6535</b>

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**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1603	1.0000e-005	5.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0900e-003	1.0900e-003	0.0000	0.0000	1.1600e-003
Energy	4.8000e-003	0.0437	0.0367	2.6000e-004		3.3200e-003	3.3200e-003		3.3200e-003	3.3200e-003	0.0000	82.7214	82.7214	4.5400e-003	1.6200e-003	83.3182
Mobile	0.0364	0.1945	0.4935	1.8300e-003	0.1584	1.6800e-003	0.1601	0.0425	1.5700e-003	0.0441	0.0000	167.8901	167.8901	5.7800e-003	0.0000	168.0347
Stationary	0.0166	0.0463	0.0423	8.0000e-005		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	7.6921	7.6921	1.0800e-003	0.0000	7.7191
Waste						0.0000	0.0000		0.0000	0.0000	9.0615	0.0000	9.0615	0.5355	0.0000	22.4495
Water						0.0000	0.0000		0.0000	0.0000	2.6411	5.7480	8.3891	0.2719	6.5300e-003	17.1310
<b>Total</b>	<b>0.2181</b>	<b>0.2845</b>	<b>0.5730</b>	<b>2.1700e-003</b>	<b>0.1584</b>	<b>7.4400e-003</b>	<b>0.1658</b>	<b>0.0425</b>	<b>7.3300e-003</b>	<b>0.0499</b>	<b>11.7027</b>	<b>264.0527</b>	<b>275.7553</b>	<b>0.8188</b>	<b>8.1500e-003</b>	<b>298.6535</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail**

**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2019	5/14/2019	5	10	
2	Grading	Grading	5/15/2019	6/25/2019	5	30	
3	Paving	Paving	6/26/2019	7/23/2019	5	20	
4	Building Construction	Building Construction	7/24/2019	9/15/2020	5	300	
5	Architectural Coating	Architectural Coating	8/7/2019	9/29/2020	5	300	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 15**

**Acres of Paving: 0.22**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 54,000; Non-Residential Outdoor: 18,000; Striped Parking Area: 600 (Architectural Coating – sqft)**

**OffRoad Equipment**

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	21.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	19.00	8.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

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**3.1 Mitigation Measures Construction**

**3.2 Site Preparation - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
<b>Total</b>	<b>0.0217</b>	<b>0.2279</b>	<b>0.1103</b>	<b>1.9000e-004</b>	<b>0.0903</b>	<b>0.0120</b>	<b>0.1023</b>	<b>0.0497</b>	<b>0.0110</b>	<b>0.0607</b>	<b>0.0000</b>	<b>17.0843</b>	<b>17.0843</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>17.2195</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.4000e-004	2.4600e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6433	0.6433	2.0000e-005	0.0000	0.6437
<b>Total</b>	<b>3.3000e-004</b>	<b>2.4000e-004</b>	<b>2.4600e-003</b>	<b>1.0000e-005</b>	<b>7.1000e-004</b>	<b>0.0000</b>	<b>7.2000e-004</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.6433</b>	<b>0.6433</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.6437</b>

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**3.2 Site Preparation - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
<b>Total</b>	<b>0.0217</b>	<b>0.2279</b>	<b>0.1103</b>	<b>1.9000e-004</b>	<b>0.0903</b>	<b>0.0120</b>	<b>0.1023</b>	<b>0.0497</b>	<b>0.0110</b>	<b>0.0607</b>	<b>0.0000</b>	<b>17.0843</b>	<b>17.0843</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>17.2195</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.4000e-004	2.4600e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6433	0.6433	2.0000e-005	0.0000	0.6437
<b>Total</b>	<b>3.3000e-004</b>	<b>2.4000e-004</b>	<b>2.4600e-003</b>	<b>1.0000e-005</b>	<b>7.1000e-004</b>	<b>0.0000</b>	<b>7.2000e-004</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.6433</b>	<b>0.6433</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.6437</b>

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**3.3 Grading - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0711	0.8178	0.5007	9.3000e-004		0.0357	0.0357		0.0329	0.0329	0.0000	83.5520	83.5520	0.0264	0.0000	84.2129
<b>Total</b>	<b>0.0711</b>	<b>0.8178</b>	<b>0.5007</b>	<b>9.3000e-004</b>	<b>0.0983</b>	<b>0.0357</b>	<b>0.1340</b>	<b>0.0505</b>	<b>0.0329</b>	<b>0.0834</b>	<b>0.0000</b>	<b>83.5520</b>	<b>83.5520</b>	<b>0.0264</b>	<b>0.0000</b>	<b>84.2129</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	3.2900e-003	6.4000e-004	1.0000e-005	1.8000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8133	0.8133	4.0000e-005	0.0000	0.8143
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0900e-003	8.1000e-004	8.2200e-003	2.0000e-005	2.3700e-003	2.0000e-005	2.3900e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.1443	2.1443	6.0000e-005	0.0000	2.1458
<b>Total</b>	<b>1.1900e-003</b>	<b>4.1000e-003</b>	<b>8.8600e-003</b>	<b>3.0000e-005</b>	<b>2.5500e-003</b>	<b>3.0000e-005</b>	<b>2.5800e-003</b>	<b>6.8000e-004</b>	<b>3.0000e-005</b>	<b>7.1000e-004</b>	<b>0.0000</b>	<b>2.9576</b>	<b>2.9576</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>2.9601</b>

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**3.3 Grading - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0711	0.8178	0.5007	9.3000e-004		0.0357	0.0357		0.0329	0.0329	0.0000	83.5519	83.5519	0.0264	0.0000	84.2128
<b>Total</b>	<b>0.0711</b>	<b>0.8178</b>	<b>0.5007</b>	<b>9.3000e-004</b>	<b>0.0983</b>	<b>0.0357</b>	<b>0.1340</b>	<b>0.0505</b>	<b>0.0329</b>	<b>0.0834</b>	<b>0.0000</b>	<b>83.5519</b>	<b>83.5519</b>	<b>0.0264</b>	<b>0.0000</b>	<b>84.2128</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	3.2900e-003	6.4000e-004	1.0000e-005	1.8000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8133	0.8133	4.0000e-005	0.0000	0.8143
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0900e-003	8.1000e-004	8.2200e-003	2.0000e-005	2.3700e-003	2.0000e-005	2.3900e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.1443	2.1443	6.0000e-005	0.0000	2.1458
<b>Total</b>	<b>1.1900e-003</b>	<b>4.1000e-003</b>	<b>8.8600e-003</b>	<b>3.0000e-005</b>	<b>2.5500e-003</b>	<b>3.0000e-005</b>	<b>2.5800e-003</b>	<b>6.8000e-004</b>	<b>3.0000e-005</b>	<b>7.1000e-004</b>	<b>0.0000</b>	<b>2.9576</b>	<b>2.9576</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>2.9601</b>

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**3.4 Paving - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0145	0.1524	0.1467	2.3000e-004		8.2500e-003	8.2500e-003		7.5900e-003	7.5900e-003	0.0000	20.4752	20.4752	6.4800e-003	0.0000	20.6371
Paving	2.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0148</b>	<b>0.1524</b>	<b>0.1467</b>	<b>2.3000e-004</b>		<b>8.2500e-003</b>	<b>8.2500e-003</b>		<b>7.5900e-003</b>	<b>7.5900e-003</b>	<b>0.0000</b>	<b>20.4752</b>	<b>20.4752</b>	<b>6.4800e-003</b>	<b>0.0000</b>	<b>20.6371</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.0000e-004	4.1100e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0722	1.0722	3.0000e-005	0.0000	1.0729
<b>Total</b>	<b>5.4000e-004</b>	<b>4.0000e-004</b>	<b>4.1100e-003</b>	<b>1.0000e-005</b>	<b>1.1900e-003</b>	<b>1.0000e-005</b>	<b>1.1900e-003</b>	<b>3.2000e-004</b>	<b>1.0000e-005</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>1.0722</b>	<b>1.0722</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>1.0729</b>

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**3.4 Paving - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0145	0.1524	0.1467	2.3000e-004		8.2500e-003	8.2500e-003		7.5900e-003	7.5900e-003	0.0000	20.4752	20.4752	6.4800e-003	0.0000	20.6371
Paving	2.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0148</b>	<b>0.1524</b>	<b>0.1467</b>	<b>2.3000e-004</b>		<b>8.2500e-003</b>	<b>8.2500e-003</b>		<b>7.5900e-003</b>	<b>7.5900e-003</b>	<b>0.0000</b>	<b>20.4752</b>	<b>20.4752</b>	<b>6.4800e-003</b>	<b>0.0000</b>	<b>20.6371</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.0000e-004	4.1100e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0722	1.0722	3.0000e-005	0.0000	1.0729
<b>Total</b>	<b>5.4000e-004</b>	<b>4.0000e-004</b>	<b>4.1100e-003</b>	<b>1.0000e-005</b>	<b>1.1900e-003</b>	<b>1.0000e-005</b>	<b>1.1900e-003</b>	<b>3.2000e-004</b>	<b>1.0000e-005</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>1.0722</b>	<b>1.0722</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>1.0729</b>

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**3.5 Building Construction - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1358	1.2120	0.9869	1.5500e-003		0.0742	0.0742		0.0697	0.0697	0.0000	135.1849	135.1849	0.0329	0.0000	136.0082
<b>Total</b>	<b>0.1358</b>	<b>1.2120</b>	<b>0.9869</b>	<b>1.5500e-003</b>		<b>0.0742</b>	<b>0.0742</b>		<b>0.0697</b>	<b>0.0697</b>	<b>0.0000</b>	<b>135.1849</b>	<b>135.1849</b>	<b>0.0329</b>	<b>0.0000</b>	<b>136.0082</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0400e-003	0.0555	0.0143	1.2000e-004	2.7300e-003	3.6000e-004	3.0900e-003	7.9000e-004	3.5000e-004	1.1400e-003	0.0000	11.1850	11.1850	6.5000e-004	0.0000	11.2011
Worker	3.9600e-003	2.9300e-003	0.0299	9.0000e-005	8.6300e-003	6.0000e-005	8.6900e-003	2.3000e-003	5.0000e-005	2.3500e-003	0.0000	7.8089	7.8089	2.1000e-004	0.0000	7.8141
<b>Total</b>	<b>6.0000e-003</b>	<b>0.0584</b>	<b>0.0442</b>	<b>2.1000e-004</b>	<b>0.0114</b>	<b>4.2000e-004</b>	<b>0.0118</b>	<b>3.0900e-003</b>	<b>4.0000e-004</b>	<b>3.4900e-003</b>	<b>0.0000</b>	<b>18.9938</b>	<b>18.9938</b>	<b>8.6000e-004</b>	<b>0.0000</b>	<b>19.0152</b>

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**3.5 Building Construction - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1358	1.2120	0.9869	1.5500e-003		0.0742	0.0742		0.0697	0.0697	0.0000	135.1848	135.1848	0.0329	0.0000	136.0081
<b>Total</b>	<b>0.1358</b>	<b>1.2120</b>	<b>0.9869</b>	<b>1.5500e-003</b>		<b>0.0742</b>	<b>0.0742</b>		<b>0.0697</b>	<b>0.0697</b>	<b>0.0000</b>	<b>135.1848</b>	<b>135.1848</b>	<b>0.0329</b>	<b>0.0000</b>	<b>136.0081</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0400e-003	0.0555	0.0143	1.2000e-004	2.7300e-003	3.6000e-004	3.0900e-003	7.9000e-004	3.5000e-004	1.1400e-003	0.0000	11.1850	11.1850	6.5000e-004	0.0000	11.2011
Worker	3.9600e-003	2.9300e-003	0.0299	9.0000e-005	8.6300e-003	6.0000e-005	8.6900e-003	2.3000e-003	5.0000e-005	2.3500e-003	0.0000	7.8089	7.8089	2.1000e-004	0.0000	7.8141
<b>Total</b>	<b>6.0000e-003</b>	<b>0.0584</b>	<b>0.0442</b>	<b>2.1000e-004</b>	<b>0.0114</b>	<b>4.2000e-004</b>	<b>0.0118</b>	<b>3.0900e-003</b>	<b>4.0000e-004</b>	<b>3.4900e-003</b>	<b>0.0000</b>	<b>18.9938</b>	<b>18.9938</b>	<b>8.6000e-004</b>	<b>0.0000</b>	<b>19.0152</b>

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**3.5 Building Construction - 2020**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1961	1.7747	1.5585	2.4900e-003		0.1033	0.1033		0.0972	0.0972	0.0000	214.2392	214.2392	0.0523	0.0000	215.5459
<b>Total</b>	<b>0.1961</b>	<b>1.7747</b>	<b>1.5585</b>	<b>2.4900e-003</b>		<b>0.1033</b>	<b>0.1033</b>		<b>0.0972</b>	<b>0.0972</b>	<b>0.0000</b>	<b>214.2392</b>	<b>214.2392</b>	<b>0.0523</b>	<b>0.0000</b>	<b>215.5459</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-003	0.0815	0.0205	1.9000e-004	4.3900e-003	3.8000e-004	4.7700e-003	1.2700e-003	3.6000e-004	1.6300e-003	0.0000	17.8812	17.8812	9.6000e-004	0.0000	17.9053
Worker	5.8300e-003	4.1700e-003	0.0432	1.3000e-004	0.0139	9.0000e-005	0.0140	3.6900e-003	9.0000e-005	3.7800e-003	0.0000	12.1668	12.1668	2.9000e-004	0.0000	12.1742
<b>Total</b>	<b>8.5300e-003</b>	<b>0.0857</b>	<b>0.0637</b>	<b>3.2000e-004</b>	<b>0.0183</b>	<b>4.7000e-004</b>	<b>0.0188</b>	<b>4.9600e-003</b>	<b>4.5000e-004</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>30.0481</b>	<b>30.0481</b>	<b>1.2500e-003</b>	<b>0.0000</b>	<b>30.0795</b>

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**3.5 Building Construction - 2020**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1961	1.7747	1.5585	2.4900e-003		0.1033	0.1033		0.0972	0.0972	0.0000	214.2390	214.2390	0.0523	0.0000	215.5457
<b>Total</b>	<b>0.1961</b>	<b>1.7747</b>	<b>1.5585</b>	<b>2.4900e-003</b>		<b>0.1033</b>	<b>0.1033</b>		<b>0.0972</b>	<b>0.0972</b>	<b>0.0000</b>	<b>214.2390</b>	<b>214.2390</b>	<b>0.0523</b>	<b>0.0000</b>	<b>215.5457</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-003	0.0815	0.0205	1.9000e-004	4.3900e-003	3.8000e-004	4.7700e-003	1.2700e-003	3.6000e-004	1.6300e-003	0.0000	17.8812	17.8812	9.6000e-004	0.0000	17.9053
Worker	5.8300e-003	4.1700e-003	0.0432	1.3000e-004	0.0139	9.0000e-005	0.0140	3.6900e-003	9.0000e-005	3.7800e-003	0.0000	12.1668	12.1668	2.9000e-004	0.0000	12.1742
<b>Total</b>	<b>8.5300e-003</b>	<b>0.0857</b>	<b>0.0637</b>	<b>3.2000e-004</b>	<b>0.0183</b>	<b>4.7000e-004</b>	<b>0.0188</b>	<b>4.9600e-003</b>	<b>4.5000e-004</b>	<b>5.4100e-003</b>	<b>0.0000</b>	<b>30.0481</b>	<b>30.0481</b>	<b>1.2500e-003</b>	<b>0.0000</b>	<b>30.0795</b>

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**3.6 Architectural Coating - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0664					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0140	0.0964	0.0967	1.6000e-004		6.7600e-003	6.7600e-003		6.7600e-003	6.7600e-003	0.0000	13.4046	13.4046	1.1300e-003	0.0000	13.4329
<b>Total</b>	<b>0.0804</b>	<b>0.0964</b>	<b>0.0967</b>	<b>1.6000e-004</b>		<b>6.7600e-003</b>	<b>6.7600e-003</b>		<b>6.7600e-003</b>	<b>6.7600e-003</b>	<b>0.0000</b>	<b>13.4046</b>	<b>13.4046</b>	<b>1.1300e-003</b>	<b>0.0000</b>	<b>13.4329</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.6000e-004	5.6000e-004	5.7500e-003	2.0000e-005	1.6600e-003	1.0000e-005	1.6700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5010	1.5010	4.0000e-005	0.0000	1.5020
<b>Total</b>	<b>7.6000e-004</b>	<b>5.6000e-004</b>	<b>5.7500e-003</b>	<b>2.0000e-005</b>	<b>1.6600e-003</b>	<b>1.0000e-005</b>	<b>1.6700e-003</b>	<b>4.4000e-004</b>	<b>1.0000e-005</b>	<b>4.5000e-004</b>	<b>0.0000</b>	<b>1.5010</b>	<b>1.5010</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>1.5020</b>

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**3.6 Architectural Coating - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0664					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0140	0.0964	0.0967	1.6000e-004		6.7600e-003	6.7600e-003		6.7600e-003	6.7600e-003	0.0000	13.4046	13.4046	1.1300e-003	0.0000	13.4329
<b>Total</b>	<b>0.0804</b>	<b>0.0964</b>	<b>0.0967</b>	<b>1.6000e-004</b>		<b>6.7600e-003</b>	<b>6.7600e-003</b>		<b>6.7600e-003</b>	<b>6.7600e-003</b>	<b>0.0000</b>	<b>13.4046</b>	<b>13.4046</b>	<b>1.1300e-003</b>	<b>0.0000</b>	<b>13.4329</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.6000e-004	5.6000e-004	5.7500e-003	2.0000e-005	1.6600e-003	1.0000e-005	1.6700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5010	1.5010	4.0000e-005	0.0000	1.5020
<b>Total</b>	<b>7.6000e-004</b>	<b>5.6000e-004</b>	<b>5.7500e-003</b>	<b>2.0000e-005</b>	<b>1.6600e-003</b>	<b>1.0000e-005</b>	<b>1.6700e-003</b>	<b>4.4000e-004</b>	<b>1.0000e-005</b>	<b>4.5000e-004</b>	<b>0.0000</b>	<b>1.5010</b>	<b>1.5010</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>1.5020</b>

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**3.6 Architectural Coating - 2020**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1234					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.1642	0.1786	2.9000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	24.8942	24.8942	1.9300e-003	0.0000	24.9424
<b>Total</b>	<b>0.1470</b>	<b>0.1642</b>	<b>0.1786</b>	<b>2.9000e-004</b>		<b>0.0108</b>	<b>0.0108</b>		<b>0.0108</b>	<b>0.0108</b>	<b>0.0000</b>	<b>24.8942</b>	<b>24.8942</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>24.9424</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	9.2000e-004	9.5800e-003	3.0000e-005	3.0800e-003	2.0000e-005	3.1000e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.6999	2.6999	7.0000e-005	0.0000	2.7015
<b>Total</b>	<b>1.2900e-003</b>	<b>9.2000e-004</b>	<b>9.5800e-003</b>	<b>3.0000e-005</b>	<b>3.0800e-003</b>	<b>2.0000e-005</b>	<b>3.1000e-003</b>	<b>8.2000e-004</b>	<b>2.0000e-005</b>	<b>8.4000e-004</b>	<b>0.0000</b>	<b>2.6999</b>	<b>2.6999</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>2.7015</b>

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**3.6 Architectural Coating - 2020**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1234					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0236	0.1642	0.1786	2.9000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	24.8942	24.8942	1.9300e-003	0.0000	24.9424
<b>Total</b>	<b>0.1470</b>	<b>0.1642</b>	<b>0.1786</b>	<b>2.9000e-004</b>		<b>0.0108</b>	<b>0.0108</b>		<b>0.0108</b>	<b>0.0108</b>	<b>0.0000</b>	<b>24.8942</b>	<b>24.8942</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>24.9424</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	9.2000e-004	9.5800e-003	3.0000e-005	3.0800e-003	2.0000e-005	3.1000e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.6999	2.6999	7.0000e-005	0.0000	2.7015
<b>Total</b>	<b>1.2900e-003</b>	<b>9.2000e-004</b>	<b>9.5800e-003</b>	<b>3.0000e-005</b>	<b>3.0800e-003</b>	<b>2.0000e-005</b>	<b>3.1000e-003</b>	<b>8.2000e-004</b>	<b>2.0000e-005</b>	<b>8.4000e-004</b>	<b>0.0000</b>	<b>2.6999</b>	<b>2.6999</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>2.7015</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0364	0.1945	0.4935	1.8300e-003	0.1584	1.6800e-003	0.1601	0.0425	1.5700e-003	0.0441	0.0000	167.8901	167.8901	5.7800e-003	0.0000	168.0347
Unmitigated	0.0364	0.1945	0.4935	1.8300e-003	0.1584	1.6800e-003	0.1601	0.0425	1.5700e-003	0.0441	0.0000	167.8901	167.8901	5.7800e-003	0.0000	168.0347

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	97.92	97.92	97.92	378,311	378,311
General Light Industry	12.24	12.24	12.24	47,289	47,289
Parking Lot	0.00	0.00	0.00		
<b>Total</b>	<b>110.16</b>	<b>110.16</b>	<b>110.16</b>	<b>425,599</b>	<b>425,599</b>

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

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**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Parking Lot	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	35.1742	35.1742	3.6300e-003	7.5000e-004	35.4885
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	35.1742	35.1742	3.6300e-003	7.5000e-004	35.4885
NaturalGas Mitigated	4.8000e-003	0.0437	0.0367	2.6000e-004		3.3200e-003	3.3200e-003		3.3200e-003	3.3200e-003	0.0000	47.5472	47.5472	9.1000e-004	8.7000e-004	47.8297
NaturalGas Unmitigated	4.8000e-003	0.0437	0.0367	2.6000e-004		3.3200e-003	3.3200e-003		3.3200e-003	3.3200e-003	0.0000	47.5472	47.5472	9.1000e-004	8.7000e-004	47.8297

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**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	792000	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2641	42.2641	8.1000e-004	7.7000e-004	42.5153
General Light Industry	99000	5.3000e-004	4.8500e-003	4.0800e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.2830	5.2830	1.0000e-004	1.0000e-004	5.3144
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>4.8000e-003</b>	<b>0.0437</b>	<b>0.0367</b>	<b>2.6000e-004</b>		<b>3.3200e-003</b>	<b>3.3200e-003</b>		<b>3.3200e-003</b>	<b>3.3200e-003</b>	<b>0.0000</b>	<b>47.5472</b>	<b>47.5472</b>	<b>9.1000e-004</b>	<b>8.7000e-004</b>	<b>47.8297</b>

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	792000	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2641	42.2641	8.1000e-004	7.7000e-004	42.5153
General Light Industry	99000	5.3000e-004	4.8500e-003	4.0800e-003	3.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.2830	5.2830	1.0000e-004	1.0000e-004	5.3144
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>4.8000e-003</b>	<b>0.0437</b>	<b>0.0367</b>	<b>2.6000e-004</b>		<b>3.3200e-003</b>	<b>3.3200e-003</b>		<b>3.3200e-003</b>	<b>3.3200e-003</b>	<b>0.0000</b>	<b>47.5472</b>	<b>47.5472</b>	<b>9.1000e-004</b>	<b>8.7000e-004</b>	<b>47.8297</b>

Oasis Grow Facility - Bay Area AQMD Air District, Annual

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

Land Use	Electricity Use kWh/yr	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
General Light Industry	241920	30.8690	3.1800e-003	6.6000e-004	31.1448
General Light Industry	30240	3.8586	4.0000e-004	8.0000e-005	3.8931
Parking Lot	3500	0.4466	5.0000e-005	1.0000e-005	0.4506
<b>Total</b>		<b>35.1742</b>	<b>3.6300e-003</b>	<b>7.5000e-004</b>	<b>35.4885</b>

**Mitigated**

Land Use	Electricity Use kWh/yr	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
General Light Industry	241920	30.8690	3.1800e-003	6.6000e-004	31.1448
General Light Industry	30240	3.8586	4.0000e-004	8.0000e-005	3.8931
Parking Lot	3500	0.4466	5.0000e-005	1.0000e-005	0.4506
<b>Total</b>		<b>35.1742</b>	<b>3.6300e-003</b>	<b>7.5000e-004</b>	<b>35.4885</b>

**6.0 Area Detail**

Oasis Grow Facility - Bay Area AQMD Air District, Annual

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1603	1.0000e-005	5.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0900e-003	1.0900e-003	0.0000	0.0000	1.1600e-003
Unmitigated	0.1603	1.0000e-005	5.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0900e-003	1.0900e-003	0.0000	0.0000	1.1600e-003

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0190					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1412					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	1.0000e-005	5.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0900e-003	1.0900e-003	0.0000	0.0000	1.1600e-003
<b>Total</b>	<b>0.1603</b>	<b>1.0000e-005</b>	<b>5.6000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.1600e-003</b>

Oasis Grow Facility - Bay Area AQMD Air District, Annual

**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0190					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1412					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	1.0000e-005	5.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0900e-003	1.0900e-003	0.0000	0.0000	1.1600e-003
<b>Total</b>	<b>0.1603</b>	<b>1.0000e-005</b>	<b>5.6000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.1600e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Oasis Grow Facility - Bay Area AQMD Air District, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.3891	0.2719	6.5300e-003	17.1310
Unmitigated	8.3891	0.2719	6.5300e-003	17.1310

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	8.325 / 0	8.3891	0.2719	6.5300e-003	17.1310
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>8.3891</b>	<b>0.2719</b>	<b>6.5300e-003</b>	<b>17.1310</b>

Oasis Grow Facility - Bay Area AQMD Air District, Annual

**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	8.325 / 0	8.3891	0.2719	6.5300e-003	17.1310
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>8.3891</b>	<b>0.2719</b>	<b>6.5300e-003</b>	<b>17.1310</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9.0615	0.5355	0.0000	22.4495
Unmitigated	9.0615	0.5355	0.0000	22.4495

Oasis Grow Facility - Bay Area AQMD Air District, Annual

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	44.64	9.0615	0.5355	0.0000	22.4495
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>9.0615</b>	<b>0.5355</b>	<b>0.0000</b>	<b>22.4495</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	44.64	9.0615	0.5355	0.0000	22.4495
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>9.0615</b>	<b>0.5355</b>	<b>0.0000</b>	<b>22.4495</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Oasis Grow Facility - Bay Area AQMD Air District, Annual

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	2	0.13	50	202	0.73	Diesel

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**10.1 Stationary Sources**

**Unmitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (175 - 300 HP)	0.0166	0.0463	0.0423	8.0000e-005		2.4400e-003	2.4400e-003		2.4400e-003	2.4400e-003	0.0000	7.6921	7.6921	1.0800e-003	0.0000	7.7191
<b>Total</b>	<b>0.0166</b>	<b>0.0463</b>	<b>0.0423</b>	<b>8.0000e-005</b>		<b>2.4400e-003</b>	<b>2.4400e-003</b>		<b>2.4400e-003</b>	<b>2.4400e-003</b>	<b>0.0000</b>	<b>7.6921</b>	<b>7.6921</b>	<b>1.0800e-003</b>	<b>0.0000</b>	<b>7.7191</b>

**11.0 Vegetation**

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**Oasis Grow Facility**  
**Bay Area AQMD Air District, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	32.00	1000sqft	14.69	32,000.00	0
General Light Industry	4.00	1000sqft	0.09	4,000.00	0
Parking Lot	25.00	Space	0.22	10,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	64
<b>Climate Zone</b>	5			<b>Operational Year</b>	2021
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	281.31	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - CO2 intensity factor updated based on PG&E progress towards RPS

Land Use - Calculated disturbance area

Construction Phase - \*

Grading - PProject Info

Vehicle Trips - Based on Information from TJKM

Stationary Sources - Emergency Generators and Fire Pumps -

## Oasis Grow Facility - Bay Area AQMD Air District, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	300.00
tblGrading	AcresOfGrading	75.00	15.00
tblGrading	MaterialExported	0.00	165.00
tblLandUse	LotAcreage	0.73	14.69
tblProjectCharacteristics	CO2IntensityFactor	641.35	281.31
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	202.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.13
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblVehicleTrips	ST_TR	1.32	3.06
tblVehicleTrips	SU_TR	0.68	3.06
tblVehicleTrips	WD_TR	6.97	3.06

## 2.0 Emissions Summary

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Oasis Grow Facility - Bay Area AQMD Air District, Summer

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8785	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142
Energy	0.0263	0.2393	0.2010	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.1878	287.1878	5.5000e-003	5.2700e-003	288.8944
Mobile	0.2244	1.0273	2.8925	0.0107	0.9043	9.2000e-003	0.9134	0.2419	8.6200e-003	0.2506		1,077.0364	1,077.0364	0.0357		1,077.9292
Stationary	0.0862	0.2409	0.2198	4.1000e-004		0.0127	0.0127		0.0127	0.0127		44.0913	44.0913	6.1800e-003		44.2458
<b>Total</b>	<b>1.2154</b>	<b>1.5075</b>	<b>3.3195</b>	<b>0.0125</b>	<b>0.9043</b>	<b>0.0401</b>	<b>0.9443</b>	<b>0.2419</b>	<b>0.0395</b>	<b>0.2815</b>		<b>1,408.3288</b>	<b>1,408.3288</b>	<b>0.0474</b>	<b>5.2700e-003</b>	<b>1,411.0836</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8785	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142
Energy	0.0263	0.2393	0.2010	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.1878	287.1878	5.5000e-003	5.2700e-003	288.8944
Mobile	0.2244	1.0273	2.8925	0.0107	0.9043	9.2000e-003	0.9134	0.2419	8.6200e-003	0.2506		1,077.0364	1,077.0364	0.0357		1,077.9292
Stationary	0.0862	0.2409	0.2198	4.1000e-004		0.0127	0.0127		0.0127	0.0127		44.0913	44.0913	6.1800e-003		44.2458
<b>Total</b>	<b>1.2154</b>	<b>1.5075</b>	<b>3.3195</b>	<b>0.0125</b>	<b>0.9043</b>	<b>0.0401</b>	<b>0.9443</b>	<b>0.2419</b>	<b>0.0395</b>	<b>0.2815</b>		<b>1,408.3288</b>	<b>1,408.3288</b>	<b>0.0474</b>	<b>5.2700e-003</b>	<b>1,411.0836</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail**

**Construction Phase**

## Oasis Grow Facility - Bay Area AQMD Air District, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2019	5/14/2019	5	10	
2	Grading	Grading	5/15/2019	6/25/2019	5	30	
3	Paving	Paving	6/26/2019	7/23/2019	5	20	
4	Building Construction	Building Construction	7/24/2019	9/15/2020	5	300	
5	Architectural Coating	Architectural Coating	8/7/2019	9/29/2020	5	300	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 15**

**Acres of Paving: 0.22**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 54,000; Non-Residential Outdoor: 18,000; Striped Parking Area: 600 (Architectural Coating – sqft)**

**OffRoad Equipment**

Oasis Grow Facility - Bay Area AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	21.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	19.00	8.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.1 Mitigation Measures Construction**

**3.2 Site Preparation - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
<b>Total</b>	<b>4.3350</b>	<b>45.5727</b>	<b>22.0630</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.3904</b>	<b>20.4566</b>	<b>9.9307</b>	<b>2.1991</b>	<b>12.1298</b>		<b>3,766.4529</b>	<b>3,766.4529</b>	<b>1.1917</b>		<b>3,796.2445</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0685	0.0429	0.5367	1.5300e-003	0.1479	9.8000e-004	0.1488	0.0392	9.0000e-004	0.0401		152.5352	152.5352	4.0600e-003		152.6366
<b>Total</b>	<b>0.0685</b>	<b>0.0429</b>	<b>0.5367</b>	<b>1.5300e-003</b>	<b>0.1479</b>	<b>9.8000e-004</b>	<b>0.1488</b>	<b>0.0392</b>	<b>9.0000e-004</b>	<b>0.0401</b>		<b>152.5352</b>	<b>152.5352</b>	<b>4.0600e-003</b>		<b>152.6366</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.2 Site Preparation - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
<b>Total</b>	<b>4.3350</b>	<b>45.5727</b>	<b>22.0630</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.3904</b>	<b>20.4566</b>	<b>9.9307</b>	<b>2.1991</b>	<b>12.1298</b>	<b>0.0000</b>	<b>3,766.4529</b>	<b>3,766.4529</b>	<b>1.1917</b>		<b>3,796.2445</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0685	0.0429	0.5367	1.5300e-003	0.1479	9.8000e-004	0.1488	0.0392	9.0000e-004	0.0401		152.5352	152.5352	4.0600e-003		152.6366
<b>Total</b>	<b>0.0685</b>	<b>0.0429</b>	<b>0.5367</b>	<b>1.5300e-003</b>	<b>0.1479</b>	<b>9.8000e-004</b>	<b>0.1488</b>	<b>0.0392</b>	<b>9.0000e-004</b>	<b>0.0401</b>		<b>152.5352</b>	<b>152.5352</b>	<b>4.0600e-003</b>		<b>152.6366</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.3 Grading - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5530	0.0000	6.5530	3.3676	0.0000	3.3676			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
<b>Total</b>	<b>4.7389</b>	<b>54.5202</b>	<b>33.3768</b>	<b>0.0620</b>	<b>6.5530</b>	<b>2.3827</b>	<b>8.9356</b>	<b>3.3676</b>	<b>2.1920</b>	<b>5.5596</b>		<b>6,140.0195</b>	<b>6,140.0195</b>	<b>1.9426</b>		<b>6,188.5854</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.3100e-003	0.2146	0.0414	5.6000e-004	0.0122	8.3000e-004	0.0131	3.3500e-003	7.9000e-004	4.1400e-003		60.1803	60.1803	3.0800e-003		60.2572
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0761	0.0476	0.5964	1.7000e-003	0.1643	1.0900e-003	0.1654	0.0436	1.0000e-003	0.0446		169.4836	169.4836	4.5100e-003		169.5962
<b>Total</b>	<b>0.0824</b>	<b>0.2623</b>	<b>0.6378</b>	<b>2.2600e-003</b>	<b>0.1765</b>	<b>1.9200e-003</b>	<b>0.1784</b>	<b>0.0469</b>	<b>1.7900e-003</b>	<b>0.0487</b>		<b>229.6638</b>	<b>229.6638</b>	<b>7.5900e-003</b>		<b>229.8534</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.3 Grading - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5530	0.0000	6.5530	3.3676	0.0000	3.3676			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
<b>Total</b>	<b>4.7389</b>	<b>54.5202</b>	<b>33.3768</b>	<b>0.0620</b>	<b>6.5530</b>	<b>2.3827</b>	<b>8.9356</b>	<b>3.3676</b>	<b>2.1920</b>	<b>5.5596</b>	<b>0.0000</b>	<b>6,140.0195</b>	<b>6,140.0195</b>	<b>1.9426</b>		<b>6,188.5854</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.3100e-003	0.2146	0.0414	5.6000e-004	0.0122	8.3000e-004	0.0131	3.3500e-003	7.9000e-004	4.1400e-003		60.1803	60.1803	3.0800e-003		60.2572
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0761	0.0476	0.5964	1.7000e-003	0.1643	1.0900e-003	0.1654	0.0436	1.0000e-003	0.0446		169.4836	169.4836	4.5100e-003		169.5962
<b>Total</b>	<b>0.0824</b>	<b>0.2623</b>	<b>0.6378</b>	<b>2.2600e-003</b>	<b>0.1765</b>	<b>1.9200e-003</b>	<b>0.1784</b>	<b>0.0469</b>	<b>1.7900e-003</b>	<b>0.0487</b>		<b>229.6638</b>	<b>229.6638</b>	<b>7.5900e-003</b>		<b>229.8534</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.4 Paving - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.4833</b>	<b>15.2441</b>	<b>14.6648</b>	<b>0.0228</b>		<b>0.8246</b>	<b>0.8246</b>		<b>0.7586</b>	<b>0.7586</b>		<b>2,257.0025</b>	<b>2,257.0025</b>	<b>0.7141</b>		<b>2,274.8548</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0570	0.0357	0.4473	1.2800e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		127.1127	127.1127	3.3800e-003		127.1972
<b>Total</b>	<b>0.0570</b>	<b>0.0357</b>	<b>0.4473</b>	<b>1.2800e-003</b>	<b>0.1232</b>	<b>8.2000e-004</b>	<b>0.1240</b>	<b>0.0327</b>	<b>7.5000e-004</b>	<b>0.0334</b>		<b>127.1127</b>	<b>127.1127</b>	<b>3.3800e-003</b>		<b>127.1972</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.4 Paving - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.4833</b>	<b>15.2441</b>	<b>14.6648</b>	<b>0.0228</b>		<b>0.8246</b>	<b>0.8246</b>		<b>0.7586</b>	<b>0.7586</b>	<b>0.0000</b>	<b>2,257.0025</b>	<b>2,257.0025</b>	<b>0.7141</b>		<b>2,274.8548</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0570	0.0357	0.4473	1.2800e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		127.1127	127.1127	3.3800e-003		127.1972
<b>Total</b>	<b>0.0570</b>	<b>0.0357</b>	<b>0.4473</b>	<b>1.2800e-003</b>	<b>0.1232</b>	<b>8.2000e-004</b>	<b>0.1240</b>	<b>0.0327</b>	<b>7.5000e-004</b>	<b>0.0334</b>		<b>127.1127</b>	<b>127.1127</b>	<b>3.3800e-003</b>		<b>127.1972</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.5 Building Construction - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.580 2	2,591.580 2	0.6313		2,607.363 5
<b>Total</b>	<b>2.3612</b>	<b>21.0788</b>	<b>17.1638</b>	<b>0.0269</b>		<b>1.2899</b>	<b>1.2899</b>		<b>1.2127</b>	<b>1.2127</b>		<b>2,591.580 2</b>	<b>2,591.580 2</b>	<b>0.6313</b>		<b>2,607.363 5</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0348	0.9522	0.2321	2.0500e-003	0.0490	6.2900e-003	0.0553	0.0141	6.0200e-003	0.0201		216.8778	216.8778	0.0120		217.1766
Worker	0.0723	0.0453	0.5666	1.6200e-003	0.1561	1.0300e-003	0.1571	0.0414	9.5000e-004	0.0424		161.0094	161.0094	4.2800e-003		161.1164
<b>Total</b>	<b>0.1070</b>	<b>0.9975</b>	<b>0.7986</b>	<b>3.6700e-003</b>	<b>0.2051</b>	<b>7.3200e-003</b>	<b>0.2124</b>	<b>0.0555</b>	<b>6.9700e-003</b>	<b>0.0625</b>		<b>377.8871</b>	<b>377.8871</b>	<b>0.0162</b>		<b>378.2930</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.5 Building Construction - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5
<b>Total</b>	<b>2.3612</b>	<b>21.0788</b>	<b>17.1638</b>	<b>0.0269</b>		<b>1.2899</b>	<b>1.2899</b>		<b>1.2127</b>	<b>1.2127</b>	<b>0.0000</b>	<b>2,591.580 2</b>	<b>2,591.580 2</b>	<b>0.6313</b>		<b>2,607.363 5</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0348	0.9522	0.2321	2.0500e-003	0.0490	6.2900e-003	0.0553	0.0141	6.0200e-003	0.0201		216.8778	216.8778	0.0120		217.1766
Worker	0.0723	0.0453	0.5666	1.6200e-003	0.1561	1.0300e-003	0.1571	0.0414	9.5000e-004	0.0424		161.0094	161.0094	4.2800e-003		161.1164
<b>Total</b>	<b>0.1070</b>	<b>0.9975</b>	<b>0.7986</b>	<b>3.6700e-003</b>	<b>0.2051</b>	<b>7.3200e-003</b>	<b>0.2124</b>	<b>0.0555</b>	<b>6.9700e-003</b>	<b>0.0625</b>		<b>377.8871</b>	<b>377.8871</b>	<b>0.0162</b>		<b>378.2930</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.5 Building Construction - 2020**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
<b>Total</b>	<b>2.1198</b>	<b>19.1860</b>	<b>16.8485</b>	<b>0.0269</b>		<b>1.1171</b>	<b>1.1171</b>		<b>1.0503</b>	<b>1.0503</b>		<b>2,553.0631</b>	<b>2,553.0631</b>	<b>0.6229</b>		<b>2,568.6345</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0285	0.8717	0.2071	2.0400e-003	0.0490	4.0700e-003	0.0530	0.0141	3.8900e-003	0.0180		215.5698	215.5698	0.0111		215.8460
Worker	0.0660	0.0400	0.5098	1.5600e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		155.9476	155.9476	3.7600e-003		156.0415
<b>Total</b>	<b>0.0946</b>	<b>0.9117</b>	<b>0.7168</b>	<b>3.6000e-003</b>	<b>0.2051</b>	<b>5.0800e-003</b>	<b>0.2101</b>	<b>0.0555</b>	<b>4.8200e-003</b>	<b>0.0603</b>		<b>371.5173</b>	<b>371.5173</b>	<b>0.0148</b>		<b>371.8875</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.5 Building Construction - 2020**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
<b>Total</b>	<b>2.1198</b>	<b>19.1860</b>	<b>16.8485</b>	<b>0.0269</b>		<b>1.1171</b>	<b>1.1171</b>		<b>1.0503</b>	<b>1.0503</b>	<b>0.0000</b>	<b>2,553.063 1</b>	<b>2,553.063 1</b>	<b>0.6229</b>		<b>2,568.634 5</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0285	0.8717	0.2071	2.0400e-003	0.0490	4.0700e-003	0.0530	0.0141	3.8900e-003	0.0180		215.5698	215.5698	0.0111		215.8460
Worker	0.0660	0.0400	0.5098	1.5600e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		155.9476	155.9476	3.7600e-003		156.0415
<b>Total</b>	<b>0.0946</b>	<b>0.9117</b>	<b>0.7168</b>	<b>3.6000e-003</b>	<b>0.2051</b>	<b>5.0800e-003</b>	<b>0.2101</b>	<b>0.0555</b>	<b>4.8200e-003</b>	<b>0.0603</b>		<b>371.5173</b>	<b>371.5173</b>	<b>0.0148</b>		<b>371.8875</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.6 Architectural Coating - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.2654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
<b>Total</b>	<b>1.5318</b>	<b>1.8354</b>	<b>1.8413</b>	<b>2.9700e-003</b>		<b>0.1288</b>	<b>0.1288</b>		<b>0.1288</b>	<b>0.1288</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0238</b>		<b>282.0423</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0152	9.5300e-003	0.1193	3.4000e-004	0.0329	2.2000e-004	0.0331	8.7200e-003	2.0000e-004	8.9200e-003		33.8967	33.8967	9.0000e-004		33.9192
<b>Total</b>	<b>0.0152</b>	<b>9.5300e-003</b>	<b>0.1193</b>	<b>3.4000e-004</b>	<b>0.0329</b>	<b>2.2000e-004</b>	<b>0.0331</b>	<b>8.7200e-003</b>	<b>2.0000e-004</b>	<b>8.9200e-003</b>		<b>33.8967</b>	<b>33.8967</b>	<b>9.0000e-004</b>		<b>33.9192</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.6 Architectural Coating - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.2654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
<b>Total</b>	<b>1.5318</b>	<b>1.8354</b>	<b>1.8413</b>	<b>2.9700e-003</b>		<b>0.1288</b>	<b>0.1288</b>		<b>0.1288</b>	<b>0.1288</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0238</b>		<b>282.0423</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0152	9.5300e-003	0.1193	3.4000e-004	0.0329	2.2000e-004	0.0331	8.7200e-003	2.0000e-004	8.9200e-003		33.8967	33.8967	9.0000e-004		33.9192
<b>Total</b>	<b>0.0152</b>	<b>9.5300e-003</b>	<b>0.1193</b>	<b>3.4000e-004</b>	<b>0.0329</b>	<b>2.2000e-004</b>	<b>0.0331</b>	<b>8.7200e-003</b>	<b>2.0000e-004</b>	<b>8.9200e-003</b>		<b>33.8967</b>	<b>33.8967</b>	<b>9.0000e-004</b>		<b>33.9192</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.6 Architectural Coating - 2020**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.2654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
<b>Total</b>	<b>1.5075</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>		<b>281.9928</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0139	8.4200e-003	0.1073	3.3000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		32.8311	32.8311	7.9000e-004		32.8508
<b>Total</b>	<b>0.0139</b>	<b>8.4200e-003</b>	<b>0.1073</b>	<b>3.3000e-004</b>	<b>0.0329</b>	<b>2.1000e-004</b>	<b>0.0331</b>	<b>8.7200e-003</b>	<b>2.0000e-004</b>	<b>8.9100e-003</b>		<b>32.8311</b>	<b>32.8311</b>	<b>7.9000e-004</b>		<b>32.8508</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**3.6 Architectural Coating - 2020**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.2654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
<b>Total</b>	<b>1.5075</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>		<b>281.9928</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0139	8.4200e-003	0.1073	3.3000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		32.8311	32.8311	7.9000e-004		32.8508
<b>Total</b>	<b>0.0139</b>	<b>8.4200e-003</b>	<b>0.1073</b>	<b>3.3000e-004</b>	<b>0.0329</b>	<b>2.1000e-004</b>	<b>0.0331</b>	<b>8.7200e-003</b>	<b>2.0000e-004</b>	<b>8.9100e-003</b>		<b>32.8311</b>	<b>32.8311</b>	<b>7.9000e-004</b>		<b>32.8508</b>

**4.0 Operational Detail - Mobile**

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Oasis Grow Facility - Bay Area AQMD Air District, Summer

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2244	1.0273	2.8925	0.0107	0.9043	9.2000e-003	0.9134	0.2419	8.6200e-003	0.2506		1,077.0364	1,077.0364	0.0357		1,077.9292
Unmitigated	0.2244	1.0273	2.8925	0.0107	0.9043	9.2000e-003	0.9134	0.2419	8.6200e-003	0.2506		1,077.0364	1,077.0364	0.0357		1,077.9292

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	97.92	97.92	97.92	378,311	378,311
General Light Industry	12.24	12.24	12.24	47,289	47,289
Parking Lot	0.00	0.00	0.00		
Total	110.16	110.16	110.16	425,599	425,599

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Parking Lot	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0263	0.2393	0.2010	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.1878	287.1878	5.5000e-003	5.2700e-003	288.8944
NaturalGas Unmitigated	0.0263	0.2393	0.2010	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.1878	287.1878	5.5000e-003	5.2700e-003	288.8944

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	2169.86	0.0234	0.2127	0.1787	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.2780	255.2780	4.8900e-003	4.6800e-003	256.7950
General Light Industry	271.233	2.9300e-003	0.0266	0.0223	1.6000e-004		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003		31.9098	31.9098	6.1000e-004	5.9000e-004	32.0994
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0263</b>	<b>0.2393</b>	<b>0.2010</b>	<b>1.4400e-003</b>		<b>0.0182</b>	<b>0.0182</b>		<b>0.0182</b>	<b>0.0182</b>		<b>287.1878</b>	<b>287.1878</b>	<b>5.5000e-003</b>	<b>5.2700e-003</b>	<b>288.8944</b>

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.271233	2.9300e-003	0.0266	0.0223	1.6000e-004		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003		31.9098	31.9098	6.1000e-004	5.9000e-004	32.0994
General Light Industry	2.16986	0.0234	0.2127	0.1787	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.2780	255.2780	4.8900e-003	4.6800e-003	256.7950
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0263</b>	<b>0.2393</b>	<b>0.2010</b>	<b>1.4400e-003</b>		<b>0.0182</b>	<b>0.0182</b>		<b>0.0182</b>	<b>0.0182</b>		<b>287.1878</b>	<b>287.1878</b>	<b>5.5000e-003</b>	<b>5.2700e-003</b>	<b>288.8944</b>

**6.0 Area Detail**

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8785	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142
Unmitigated	0.8785	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1040					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.8000e-004	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142
<b>Total</b>	<b>0.8785</b>	<b>6.0000e-005</b>	<b>6.2500e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0134</b>	<b>0.0134</b>	<b>4.0000e-005</b>		<b>0.0142</b>

Oasis Grow Facility - Bay Area AQMD Air District, Summer

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1040					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.8000e-004	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142
<b>Total</b>	<b>0.8785</b>	<b>6.0000e-005</b>	<b>6.2500e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0134</b>	<b>0.0134</b>	<b>4.0000e-005</b>		<b>0.0142</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

Fire Pumps and Emergency Generators

Oasis Grow Facility - Bay Area AQMD Air District, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	2	0.13	50	202	0.73	Diesel

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**10.1 Stationary Sources**

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (175 - 300 HP)	0.0862	0.2409	0.2198	4.1000e-004		0.0127	0.0127		0.0127	0.0127		44.0913	44.0913	6.1800e-003		44.2458
<b>Total</b>	<b>0.0862</b>	<b>0.2409</b>	<b>0.2198</b>	<b>4.1000e-004</b>		<b>0.0127</b>	<b>0.0127</b>		<b>0.0127</b>	<b>0.0127</b>		<b>44.0913</b>	<b>44.0913</b>	<b>6.1800e-003</b>		<b>44.2458</b>

**11.0 Vegetation**

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## Oasis Grow Facility - Bay Area AQMD Air District, Winter

**Oasis Grow Facility**  
**Bay Area AQMD Air District, Winter**

**1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	32.00	1000sqft	14.69	32,000.00	0
General Light Industry	4.00	1000sqft	0.09	4,000.00	0
Parking Lot	25.00	Space	0.22	10,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	64
<b>Climate Zone</b>	5			<b>Operational Year</b>	2021
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	281.31	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - CO2 intensity factor updated based on PG&E progress towards RPS

Land Use - Calculated disturbance area

Construction Phase - \*

Grading - PProject Info

Vehicle Trips - Based on Information from TJKM

Stationary Sources - Emergency Generators and Fire Pumps -

## Oasis Grow Facility - Bay Area AQMD Air District, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	300.00
tblGrading	AcresOfGrading	75.00	15.00
tblGrading	MaterialExported	0.00	165.00
tblLandUse	LotAcreage	0.73	14.69
tblProjectCharacteristics	CO2IntensityFactor	641.35	281.31
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	202.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.13
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblVehicleTrips	ST_TR	1.32	3.06
tblVehicleTrips	SU_TR	0.68	3.06
tblVehicleTrips	WD_TR	6.97	3.06

## 2.0 Emissions Summary

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Oasis Grow Facility - Bay Area AQMD Air District, Winter

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8785	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142
Energy	0.0263	0.2393	0.2010	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.1878	287.1878	5.5000e-003	5.2700e-003	288.8944
Mobile	0.1995	1.0948	2.8065	9.9800e-003	0.9043	9.2400e-003	0.9135	0.2419	8.6700e-003	0.2506		1,008.6580	1,008.6580	0.0357		1,009.5492
Stationary	0.0862	0.2409	0.2198	4.1000e-004		0.0127	0.0127		0.0127	0.0127		44.0913	44.0913	6.1800e-003		44.2458
<b>Total</b>	<b>1.1906</b>	<b>1.5751</b>	<b>3.2336</b>	<b>0.0118</b>	<b>0.9043</b>	<b>0.0401</b>	<b>0.9444</b>	<b>0.2419</b>	<b>0.0396</b>	<b>0.2815</b>		<b>1,339.9504</b>	<b>1,339.9504</b>	<b>0.0474</b>	<b>5.2700e-003</b>	<b>1,342.7036</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8785	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142
Energy	0.0263	0.2393	0.2010	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.1878	287.1878	5.5000e-003	5.2700e-003	288.8944
Mobile	0.1995	1.0948	2.8065	9.9800e-003	0.9043	9.2400e-003	0.9135	0.2419	8.6700e-003	0.2506		1,008.6580	1,008.6580	0.0357		1,009.5492
Stationary	0.0862	0.2409	0.2198	4.1000e-004		0.0127	0.0127		0.0127	0.0127		44.0913	44.0913	6.1800e-003		44.2458
<b>Total</b>	<b>1.1906</b>	<b>1.5751</b>	<b>3.2336</b>	<b>0.0118</b>	<b>0.9043</b>	<b>0.0401</b>	<b>0.9444</b>	<b>0.2419</b>	<b>0.0396</b>	<b>0.2815</b>		<b>1,339.9504</b>	<b>1,339.9504</b>	<b>0.0474</b>	<b>5.2700e-003</b>	<b>1,342.7036</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail**

**Construction Phase**

## Oasis Grow Facility - Bay Area AQMD Air District, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2019	5/14/2019	5	10	
2	Grading	Grading	5/15/2019	6/25/2019	5	30	
3	Paving	Paving	6/26/2019	7/23/2019	5	20	
4	Building Construction	Building Construction	7/24/2019	9/15/2020	5	300	
5	Architectural Coating	Architectural Coating	8/7/2019	9/29/2020	5	300	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 15**

**Acres of Paving: 0.22**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 54,000; Non-Residential Outdoor: 18,000; Striped Parking Area: 600 (Architectural Coating – sqft)**

**OffRoad Equipment**

Oasis Grow Facility - Bay Area AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	21.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	19.00	8.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.1 Mitigation Measures Construction**

**3.2 Site Preparation - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
<b>Total</b>	<b>4.3350</b>	<b>45.5727</b>	<b>22.0630</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.3904</b>	<b>20.4566</b>	<b>9.9307</b>	<b>2.1991</b>	<b>12.1298</b>		<b>3,766.4529</b>	<b>3,766.4529</b>	<b>1.1917</b>		<b>3,796.2445</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0724	0.0530	0.5068	1.4100e-003	0.1479	9.8000e-004	0.1488	0.0392	9.0000e-004	0.0401		140.5138	140.5138	3.8200e-003		140.6092
<b>Total</b>	<b>0.0724</b>	<b>0.0530</b>	<b>0.5068</b>	<b>1.4100e-003</b>	<b>0.1479</b>	<b>9.8000e-004</b>	<b>0.1488</b>	<b>0.0392</b>	<b>9.0000e-004</b>	<b>0.0401</b>		<b>140.5138</b>	<b>140.5138</b>	<b>3.8200e-003</b>		<b>140.6092</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.2 Site Preparation - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
<b>Total</b>	<b>4.3350</b>	<b>45.5727</b>	<b>22.0630</b>	<b>0.0380</b>	<b>18.0663</b>	<b>2.3904</b>	<b>20.4566</b>	<b>9.9307</b>	<b>2.1991</b>	<b>12.1298</b>	<b>0.0000</b>	<b>3,766.4529</b>	<b>3,766.4529</b>	<b>1.1917</b>		<b>3,796.2445</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0724	0.0530	0.5068	1.4100e-003	0.1479	9.8000e-004	0.1488	0.0392	9.0000e-004	0.0401		140.5138	140.5138	3.8200e-003		140.6092
<b>Total</b>	<b>0.0724</b>	<b>0.0530</b>	<b>0.5068</b>	<b>1.4100e-003</b>	<b>0.1479</b>	<b>9.8000e-004</b>	<b>0.1488</b>	<b>0.0392</b>	<b>9.0000e-004</b>	<b>0.0401</b>		<b>140.5138</b>	<b>140.5138</b>	<b>3.8200e-003</b>		<b>140.6092</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.3 Grading - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5530	0.0000	6.5530	3.3676	0.0000	3.3676			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
<b>Total</b>	<b>4.7389</b>	<b>54.5202</b>	<b>33.3768</b>	<b>0.0620</b>	<b>6.5530</b>	<b>2.3827</b>	<b>8.9356</b>	<b>3.3676</b>	<b>2.1920</b>	<b>5.5596</b>		<b>6,140.0195</b>	<b>6,140.0195</b>	<b>1.9426</b>		<b>6,188.5854</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.4900e-003	0.2201	0.0448	5.5000e-004	0.0122	8.4000e-004	0.0131	3.3500e-003	8.1000e-004	4.1600e-003		59.1911	59.1911	3.2400e-003		59.2722
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0804	0.0589	0.5631	1.5700e-003	0.1643	1.0900e-003	0.1654	0.0436	1.0000e-003	0.0446		156.1264	156.1264	4.2400e-003		156.2324
<b>Total</b>	<b>0.0869</b>	<b>0.2790</b>	<b>0.6079</b>	<b>2.1200e-003</b>	<b>0.1765</b>	<b>1.9300e-003</b>	<b>0.1785</b>	<b>0.0469</b>	<b>1.8100e-003</b>	<b>0.0487</b>		<b>215.3175</b>	<b>215.3175</b>	<b>7.4800e-003</b>		<b>215.5045</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.3 Grading - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5530	0.0000	6.5530	3.3676	0.0000	3.3676			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
<b>Total</b>	<b>4.7389</b>	<b>54.5202</b>	<b>33.3768</b>	<b>0.0620</b>	<b>6.5530</b>	<b>2.3827</b>	<b>8.9356</b>	<b>3.3676</b>	<b>2.1920</b>	<b>5.5596</b>	<b>0.0000</b>	<b>6,140.0195</b>	<b>6,140.0195</b>	<b>1.9426</b>		<b>6,188.5854</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.4900e-003	0.2201	0.0448	5.5000e-004	0.0122	8.4000e-004	0.0131	3.3500e-003	8.1000e-004	4.1600e-003		59.1911	59.1911	3.2400e-003		59.2722
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0804	0.0589	0.5631	1.5700e-003	0.1643	1.0900e-003	0.1654	0.0436	1.0000e-003	0.0446		156.1264	156.1264	4.2400e-003		156.2324
<b>Total</b>	<b>0.0869</b>	<b>0.2790</b>	<b>0.6079</b>	<b>2.1200e-003</b>	<b>0.1765</b>	<b>1.9300e-003</b>	<b>0.1785</b>	<b>0.0469</b>	<b>1.8100e-003</b>	<b>0.0487</b>		<b>215.3175</b>	<b>215.3175</b>	<b>7.4800e-003</b>		<b>215.5045</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.4 Paving - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.4833</b>	<b>15.2441</b>	<b>14.6648</b>	<b>0.0228</b>		<b>0.8246</b>	<b>0.8246</b>		<b>0.7586</b>	<b>0.7586</b>		<b>2,257.0025</b>	<b>2,257.0025</b>	<b>0.7141</b>		<b>2,274.8548</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0603	0.0442	0.4223	1.1800e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		117.0948	117.0948	3.1800e-003		117.1743
<b>Total</b>	<b>0.0603</b>	<b>0.0442</b>	<b>0.4223</b>	<b>1.1800e-003</b>	<b>0.1232</b>	<b>8.2000e-004</b>	<b>0.1240</b>	<b>0.0327</b>	<b>7.5000e-004</b>	<b>0.0334</b>		<b>117.0948</b>	<b>117.0948</b>	<b>3.1800e-003</b>		<b>117.1743</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.4 Paving - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.0288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.4833</b>	<b>15.2441</b>	<b>14.6648</b>	<b>0.0228</b>		<b>0.8246</b>	<b>0.8246</b>		<b>0.7586</b>	<b>0.7586</b>	<b>0.0000</b>	<b>2,257.0025</b>	<b>2,257.0025</b>	<b>0.7141</b>		<b>2,274.8548</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0603	0.0442	0.4223	1.1800e-003	0.1232	8.2000e-004	0.1240	0.0327	7.5000e-004	0.0334		117.0948	117.0948	3.1800e-003		117.1743
<b>Total</b>	<b>0.0603</b>	<b>0.0442</b>	<b>0.4223</b>	<b>1.1800e-003</b>	<b>0.1232</b>	<b>8.2000e-004</b>	<b>0.1240</b>	<b>0.0327</b>	<b>7.5000e-004</b>	<b>0.0334</b>		<b>117.0948</b>	<b>117.0948</b>	<b>3.1800e-003</b>		<b>117.1743</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.5 Building Construction - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.580 2	2,591.580 2	0.6313		2,607.363 5
<b>Total</b>	<b>2.3612</b>	<b>21.0788</b>	<b>17.1638</b>	<b>0.0269</b>		<b>1.2899</b>	<b>1.2899</b>		<b>1.2127</b>	<b>1.2127</b>		<b>2,591.580 2</b>	<b>2,591.580 2</b>	<b>0.6313</b>		<b>2,607.363 5</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0365	0.9630	0.2668	2.0000e-003	0.0490	6.4000e-003	0.0554	0.0141	6.1200e-003	0.0202		211.0353	211.0353	0.0130		211.3600
Worker	0.0764	0.0559	0.5349	1.4900e-003	0.1561	1.0300e-003	0.1571	0.0414	9.5000e-004	0.0424		148.3201	148.3201	4.0300e-003		148.4208
<b>Total</b>	<b>0.1129</b>	<b>1.0190</b>	<b>0.8018</b>	<b>3.4900e-003</b>	<b>0.2051</b>	<b>7.4300e-003</b>	<b>0.2125</b>	<b>0.0555</b>	<b>7.0700e-003</b>	<b>0.0626</b>		<b>359.3554</b>	<b>359.3554</b>	<b>0.0170</b>		<b>359.7808</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.5 Building Construction - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5
<b>Total</b>	<b>2.3612</b>	<b>21.0788</b>	<b>17.1638</b>	<b>0.0269</b>		<b>1.2899</b>	<b>1.2899</b>		<b>1.2127</b>	<b>1.2127</b>	<b>0.0000</b>	<b>2,591.580 2</b>	<b>2,591.580 2</b>	<b>0.6313</b>		<b>2,607.363 5</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0365	0.9630	0.2668	2.0000e-003	0.0490	6.4000e-003	0.0554	0.0141	6.1200e-003	0.0202		211.0353	211.0353	0.0130		211.3600
Worker	0.0764	0.0559	0.5349	1.4900e-003	0.1561	1.0300e-003	0.1571	0.0414	9.5000e-004	0.0424		148.3201	148.3201	4.0300e-003		148.4208
<b>Total</b>	<b>0.1129</b>	<b>1.0190</b>	<b>0.8018</b>	<b>3.4900e-003</b>	<b>0.2051</b>	<b>7.4300e-003</b>	<b>0.2125</b>	<b>0.0555</b>	<b>7.0700e-003</b>	<b>0.0626</b>		<b>359.3554</b>	<b>359.3554</b>	<b>0.0170</b>		<b>359.7808</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.5 Building Construction - 2020**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
<b>Total</b>	<b>2.1198</b>	<b>19.1860</b>	<b>16.8485</b>	<b>0.0269</b>		<b>1.1171</b>	<b>1.1171</b>		<b>1.0503</b>	<b>1.0503</b>		<b>2,553.0631</b>	<b>2,553.0631</b>	<b>0.6229</b>		<b>2,568.6345</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0301	0.8796	0.2386	1.9800e-003	0.0490	4.1400e-003	0.0531	0.0141	3.9600e-003	0.0181		209.6651	209.6651	0.0120		209.9649
Worker	0.0699	0.0494	0.4788	1.4400e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		143.6524	143.6524	3.5100e-003		143.7403
<b>Total</b>	<b>0.0999</b>	<b>0.9290</b>	<b>0.7174</b>	<b>3.4200e-003</b>	<b>0.2051</b>	<b>5.1500e-003</b>	<b>0.2102</b>	<b>0.0555</b>	<b>4.8900e-003</b>	<b>0.0604</b>		<b>353.3175</b>	<b>353.3175</b>	<b>0.0155</b>		<b>353.7052</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.5 Building Construction - 2020**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
<b>Total</b>	<b>2.1198</b>	<b>19.1860</b>	<b>16.8485</b>	<b>0.0269</b>		<b>1.1171</b>	<b>1.1171</b>		<b>1.0503</b>	<b>1.0503</b>	<b>0.0000</b>	<b>2,553.063 1</b>	<b>2,553.063 1</b>	<b>0.6229</b>		<b>2,568.634 5</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0301	0.8796	0.2386	1.9800e-003	0.0490	4.1400e-003	0.0531	0.0141	3.9600e-003	0.0181		209.6651	209.6651	0.0120		209.9649
Worker	0.0699	0.0494	0.4788	1.4400e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		143.6524	143.6524	3.5100e-003		143.7403
<b>Total</b>	<b>0.0999</b>	<b>0.9290</b>	<b>0.7174</b>	<b>3.4200e-003</b>	<b>0.2051</b>	<b>5.1500e-003</b>	<b>0.2102</b>	<b>0.0555</b>	<b>4.8900e-003</b>	<b>0.0604</b>		<b>353.3175</b>	<b>353.3175</b>	<b>0.0155</b>		<b>353.7052</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.6 Architectural Coating - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.2654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
<b>Total</b>	<b>1.5318</b>	<b>1.8354</b>	<b>1.8413</b>	<b>2.9700e-003</b>		<b>0.1288</b>	<b>0.1288</b>		<b>0.1288</b>	<b>0.1288</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0238</b>		<b>282.0423</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0161	0.0118	0.1126	3.1000e-004	0.0329	2.2000e-004	0.0331	8.7200e-003	2.0000e-004	8.9200e-003		31.2253	31.2253	8.5000e-004		31.2465
<b>Total</b>	<b>0.0161</b>	<b>0.0118</b>	<b>0.1126</b>	<b>3.1000e-004</b>	<b>0.0329</b>	<b>2.2000e-004</b>	<b>0.0331</b>	<b>8.7200e-003</b>	<b>2.0000e-004</b>	<b>8.9200e-003</b>		<b>31.2253</b>	<b>31.2253</b>	<b>8.5000e-004</b>		<b>31.2465</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.6 Architectural Coating - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.2654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
<b>Total</b>	<b>1.5318</b>	<b>1.8354</b>	<b>1.8413</b>	<b>2.9700e-003</b>		<b>0.1288</b>	<b>0.1288</b>		<b>0.1288</b>	<b>0.1288</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0238</b>		<b>282.0423</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0161	0.0118	0.1126	3.1000e-004	0.0329	2.2000e-004	0.0331	8.7200e-003	2.0000e-004	8.9200e-003		31.2253	31.2253	8.5000e-004		31.2465
<b>Total</b>	<b>0.0161</b>	<b>0.0118</b>	<b>0.1126</b>	<b>3.1000e-004</b>	<b>0.0329</b>	<b>2.2000e-004</b>	<b>0.0331</b>	<b>8.7200e-003</b>	<b>2.0000e-004</b>	<b>8.9200e-003</b>		<b>31.2253</b>	<b>31.2253</b>	<b>8.5000e-004</b>		<b>31.2465</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.6 Architectural Coating - 2020**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.2654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
<b>Total</b>	<b>1.5075</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>		<b>281.9928</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0147	0.0104	0.1008	3.0000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		30.2426	30.2426	7.4000e-004		30.2611
<b>Total</b>	<b>0.0147</b>	<b>0.0104</b>	<b>0.1008</b>	<b>3.0000e-004</b>	<b>0.0329</b>	<b>2.1000e-004</b>	<b>0.0331</b>	<b>8.7200e-003</b>	<b>2.0000e-004</b>	<b>8.9100e-003</b>		<b>30.2426</b>	<b>30.2426</b>	<b>7.4000e-004</b>		<b>30.2611</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**3.6 Architectural Coating - 2020**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.2654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
<b>Total</b>	<b>1.5075</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>		<b>281.9928</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0147	0.0104	0.1008	3.0000e-004	0.0329	2.1000e-004	0.0331	8.7200e-003	2.0000e-004	8.9100e-003		30.2426	30.2426	7.4000e-004		30.2611
<b>Total</b>	<b>0.0147</b>	<b>0.0104</b>	<b>0.1008</b>	<b>3.0000e-004</b>	<b>0.0329</b>	<b>2.1000e-004</b>	<b>0.0331</b>	<b>8.7200e-003</b>	<b>2.0000e-004</b>	<b>8.9100e-003</b>		<b>30.2426</b>	<b>30.2426</b>	<b>7.4000e-004</b>		<b>30.2611</b>

**4.0 Operational Detail - Mobile**

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Oasis Grow Facility - Bay Area AQMD Air District, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1995	1.0948	2.8065	9.9800e-003	0.9043	9.2400e-003	0.9135	0.2419	8.6700e-003	0.2506		1,008.6580	1,008.6580	0.0357		1,009.5492
Unmitigated	0.1995	1.0948	2.8065	9.9800e-003	0.9043	9.2400e-003	0.9135	0.2419	8.6700e-003	0.2506		1,008.6580	1,008.6580	0.0357		1,009.5492

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	97.92	97.92	97.92	378,311	378,311
General Light Industry	12.24	12.24	12.24	47,289	47,289
Parking Lot	0.00	0.00	0.00		
Total	110.16	110.16	110.16	425,599	425,599

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3
General Light Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789
Parking Lot	0.575198	0.040076	0.193827	0.113296	0.016988	0.005361	0.017552	0.025197	0.002581	0.002349	0.005904	0.000881	0.000789

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0263	0.2393	0.2010	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.1878	287.1878	5.5000e-003	5.2700e-003	288.8944
NaturalGas Unmitigated	0.0263	0.2393	0.2010	1.4400e-003		0.0182	0.0182		0.0182	0.0182		287.1878	287.1878	5.5000e-003	5.2700e-003	288.8944

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	2169.86	0.0234	0.2127	0.1787	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.2780	255.2780	4.8900e-003	4.6800e-003	256.7950
General Light Industry	271.233	2.9300e-003	0.0266	0.0223	1.6000e-004		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003		31.9098	31.9098	6.1000e-004	5.9000e-004	32.0994
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0263</b>	<b>0.2393</b>	<b>0.2010</b>	<b>1.4400e-003</b>		<b>0.0182</b>	<b>0.0182</b>		<b>0.0182</b>	<b>0.0182</b>		<b>287.1878</b>	<b>287.1878</b>	<b>5.5000e-003</b>	<b>5.2700e-003</b>	<b>288.8944</b>

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.271233	2.9300e-003	0.0266	0.0223	1.6000e-004		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003		31.9098	31.9098	6.1000e-004	5.9000e-004	32.0994
General Light Industry	2.16986	0.0234	0.2127	0.1787	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.2780	255.2780	4.8900e-003	4.6800e-003	256.7950
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0263</b>	<b>0.2393</b>	<b>0.2010</b>	<b>1.4400e-003</b>		<b>0.0182</b>	<b>0.0182</b>		<b>0.0182</b>	<b>0.0182</b>		<b>287.1878</b>	<b>287.1878</b>	<b>5.5000e-003</b>	<b>5.2700e-003</b>	<b>288.8944</b>

**6.0 Area Detail**

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8785	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142
Unmitigated	0.8785	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1040					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.8000e-004	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142
<b>Total</b>	<b>0.8785</b>	<b>6.0000e-005</b>	<b>6.2500e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0134</b>	<b>0.0134</b>	<b>4.0000e-005</b>		<b>0.0142</b>

Oasis Grow Facility - Bay Area AQMD Air District, Winter

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1040					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7739					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.8000e-004	6.0000e-005	6.2500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0134	0.0134	4.0000e-005		0.0142
<b>Total</b>	<b>0.8785</b>	<b>6.0000e-005</b>	<b>6.2500e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>0.0134</b>	<b>0.0134</b>	<b>4.0000e-005</b>		<b>0.0142</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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Fire Pumps and Emergency Generators

Oasis Grow Facility - Bay Area AQMD Air District, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	2	0.13	50	202	0.73	Diesel

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**10.1 Stationary Sources**

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (175 - 300 HP)	0.0862	0.2409	0.2198	4.1000e-004		0.0127	0.0127		0.0127	0.0127		44.0913	44.0913	6.1800e-003		44.2458
<b>Total</b>	<b>0.0862</b>	<b>0.2409</b>	<b>0.2198</b>	<b>4.1000e-004</b>		<b>0.0127</b>	<b>0.0127</b>		<b>0.0127</b>	<b>0.0127</b>		<b>44.0913</b>	<b>44.0913</b>	<b>6.1800e-003</b>		<b>44.2458</b>

**11.0 Vegetation**

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## **APPENDIX C**

### **BIOLOGICAL EVALUATION**



# LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

May 11, 2020

Rod Stinson  
Raney Management  
1501 Sports Drive, Suite A  
Sacramento, CA 95834

**SUBJECT: Response to Comments for the proposed Oasis Fund Grow Facility project at 7033 Morgan Territory Road in Livermore, Alameda County, California. (PN 2305-01)**

Dear Mr. Stinson:

At your request, Live Oak Associates, Inc. (LOA) has prepared this response to the comment letter from the California Department of Fish and Wildlife (CDFW) dated February 4, 2020 for the approximately 92.53-acre site located at 7033 Morgan Territory Road in Livermore, Alameda County, California (APN 903-0007-001-01).

The Biological Resources are discussed in Section G.IV. of the IS/MND. Live Oak Associates, Inc.'s Biological Evaluation for this project (dated October 24, 2018) is included as Appendix B of the IS/MND.

Comments within the comment letter are not numbered, however, we have numbered them here for easy reference; comments are summarized in black and responses are provided in [blue](#).

**Comment #1 East Alameda County Conservation Strategy:** “The IS/MND provides no mention of the East Alameda County Conservation Strategy (EACCS). ... Several of the species potentially impacted by this Project are included as focal species in the EACCS, such as California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytoni*), western burrowing owl (*Athene cunicularia*), and American badger (*Taxidea taxus*). None of the biological mitigation measures in the IS/MND require mitigation in the form of habitat conservation despite acknowledging there are several special-status species that may be present in the Project Area. ... To be consistent with the EACCS and to offset permanent habitat loss or conversion, the IS/MND should include permanent habitat conservation as an enforceable mitigation measure.”

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Response #1: The IS/MND discussed the EACCS in section G.IV.f. “The project site is located within the Livermore Watershed of Conservation Zone 4 of the East Alameda County Conservation Strategy (EACCS). The EACCS identifies the Foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, golden eagle, western burrowing owl, American badger, and San Joaquin kit fox as focal species that are protected under federal and state laws. Mitigation Measures IV-1 through IV-6 follow the guidelines of the EACCS in order to adequately mitigate impacts related to the foregoing species, as well as any other special-status species with potential to occur on-site. The mitigation measures identified in this IS/MND help achieve the goals and objectives defined in Section 3.5 and Tables 3-2 and 3-3 of the EACCS. Therefore, upon implementation of mitigation, the proposed project would not conflict with the provisions of the adopted EACCS, or other approved local, regional, or State habitat conservation plan, and a less-than-significant impact would occur.”

Additionally, the IS/MND also references the Biological Evaluation (BE), included as Appendix B, which adequately assessed the project’s impacts, including the EACCS and incorporated mitigation measures in the EACCS into the report.

- a. The EACCS is discussed in Section 2.2 of the BE “Movement Corridors”.
- b. An overview of the EACCS is given in Section 3.2.7.1 “East Alameda County Conservation Strategy” which is under Section 3.2.7 “Local Ordinances, Policies, and Habitat Conservation Plans”.
- c. Section 3.3.1 of the BE “Loss of Habitat for Special Status Plants” discusses the absence of focal plant species of EACCS.
- d. Section 3.3.3 of the BE “Impacts to Foothill Yellow-Legged Frogs” quotes specific Avoidance and Minimization Measures for the foothill yellow-legged frog reported in Table 3-3 of the EACCS and includes the compensation mitigation ratio (3:1) for the foothill yellow-legged frog, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the foothill yellow-legged frog.
- e. Section 3.3.4 of the BE “Impacts to California Red-Legged Frogs” quotes specific Avoidance and Minimization Measures for the California red-legged frog reported in Table 3-3 of the EACCS and includes the compensation mitigation ratio (3:1) for the California red-legged frog, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the California red-legged frog.
- f. Section 3.3.6 of the BE “Impacts to Alameda Whipsnake” quotes specific Avoidance and Minimization Measures for the Alameda whipsnake reported in Table 3-3 of the EACCS as well as additional goals and conservation actions and includes the compensation mitigation ratio (2.5:1 to 3:1 depending on where the mitigation area is) for the Alameda whipsnake, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the Alameda whipsnake.
- g. Section 3.3.8 of the BE “Impacts to Burrowing Owls” quotes specific Avoidance and Minimization Measures for the Burrowing Owl reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the

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compensation mitigation ratio (3:1) for the burrowing owl, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the burrowing owl.

- h. Section 3.3.9 of the BE “Impacts to Golden Eagle” quotes specific Avoidance and Minimization Measures for the golden eagle reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the compensation mitigation ratio (3:1) for the golden eagle, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the golden eagle.
- i. Section 3.3.10 of the BE “Impacts to American Badgers” quotes specific Avoidance and Minimization Measures for the American badgers reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the compensation mitigation ratio (3:1) for the American badger, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the American badger.
- j. Section 3.3.13 of the BE “Impacts to San Joaquin Kit Fox” quotes specific Avoidance and Minimization Measures for the San Joaquin kit fox reported in Table 3-3 of the EACCS as well as additional goals, objectives, and conservation actions and includes the compensation mitigation ratio (3:1) for the San Joaquin kit fox, as well as instructions that the *Focal Species Impact/Mitigation Scoring Sheets* of the EACCS should be used as part of the assessment for suitability of any proposed mitigation lands for the San Joaquin kit fox.
- k. Section 3.3.14 of the BE “Disturbance to Waters of the United States or Riparian Habitats” states that the mitigation measures “...would also be consistent with the EACCS and its objectives and goals for conservation of riparian forest and scrub habitats (Section 3.5.2.5 of the EACCS)”.
- l. Section 3.3.19 of the BE “Local Ordinances, Conservation Strategies, or Habitat Conservation Plans” states: “...the project is within the Livermore Watershed of Conservation Zone 4 of the East Alameda County Conservation Strategy for which a Programmatic Biological Opinion has been prepared (USFWS 2012) in which the project must follow guidelines for the Foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, golden eagle, western burrowing owl, American badger, and San Joaquin kit fox, as these species have the potential to occur onsite. Guidelines for these species have been included in the avoidance and minimization measures of the sections above. This project will follow mitigation measures identified in this document to help to achieve goals and objectives defined in Section 3.5 and Tables 3-2 and 3-3 of the Conservation Strategy (ICF 2010). The project will follow these measures as well as the additional measures in the Biological Opinion (USFWS 2012) which are attached as Appendix E.”

**Comment #2 Trees:** “The IS/MND, p. 33 states no trees will be removed as part of the Project yet Mitigation Measure IV- 3(a) recommends tree removal occur outside of the nesting season. Please clarify whether tree removal is part of the Project. If trees are proposed to be removed, the

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County should require additional mitigation, such as replacement planting with monitoring and success criteria.”

Response #2: As the need for bridge replacement was unknown at the time the BE was written, the BE provided measures should trees need to be removed during bridge replacement/widening.

**Comment #3a Nesting Birds:** “Avoidance and minimization measure IV-3(a), p. 36, specifies a 250-foot construction buffer for nesting birds and raptors. Depending on the species, nest stage, and site conditions, these distances may not be sufficient to prevent disturbance-related nest failure and subsequent take. The Project proponent is responsible for ensuring that the Project does not result in any violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes. If work will occur during nesting bird season (February 1 through August 31) no more than fourteen (14) days prior to work commencing, including staging, clearing and grubbing, a qualified biologist should survey a sufficient area around the Project site to identify any nests that are present and determine their status and an appropriate buffer. Once construction work begins, the survey effort should continue to identify any nest starts established after the work commences.

‘Sufficient’ in this context means any nest within an area that could potentially be affected by the Project. In addition to direct impacts, such as nest destruction, nesting birds might be affected by noise, vibration, odors, lighting, and movement of workers or equipment.”

Response 3a: Section 3.3.7 of the BE includes surveys for nesting migratory birds and raptors within 250 feet of the project site where accessible; this is a sufficient distance for all bird species known to be within the vicinity of the project site, as 250 feet is a maximum buffer expected for species known or expected to be in the vicinity of the project site. The only species for which the BE found a 250-foot survey area to be insufficient for is the Swainson’s hawk; Section 3.3.7 of the BE includes surveys for Swainson’s hawks to be conducted within a half-mile of the project site.

**Comment 3b Nesting Birds:** “Identified active nests should be surveyed for the first 24 hours prior to any construction-related activities to establish a behavioral baseline of the adults and any nestlings. Once work commences, all active nests should continue to be monitored by the qualified biologist to detect any signs of disturbance and behavioral changes as a result of the Project. If signs of disturbance and behavioral changes are observed, the biologist should reassess the appropriate buffer to prevent disturbance-related nest failure and subsequent take.”

Response 3b: So noted.

**Comment #4 Raptor Nests:** “A qualified biologist, experienced in raptor behavior, should be assigned to monitor the behavior of any raptors nesting within disturbance distance of Project activities. Even within species, disturbance distances can vary according to time of year or geographical location. The qualified biologist should have authority to order the cessation of all Project activities within disturbance distance of any raptor nest if the birds exhibit abnormal nesting behavior which may cause reproductive failure (nest abandonment and loss of eggs and/or young). Abnormal nesting behaviors which may cause reproductive harm include, but are not limited to: defensive flights/vocalizations directed towards project personnel, standing up from a brooding position, interrupted feeding patterns, and flying away from the nest. Project activities within line of sight of the nest should not resume until the qualified biologist has

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consulted with CDFW and both the qualified biologist and CDFW confirm that the bird's behavior has normalized or the young have left the nest.”

Response 4: So noted.

**Comment #5a Burrowing Owls:** “Please be advised that CDFW does not consider exclusion of burrowing owls or "passive relocation" as a "take" avoidance, minimization or mitigation method, and considers exclusion as a significant impact.”

Response #5a: So noted. The BE did not consider passive relocation as an avoidance, minimization, or mitigation method.

**Comment #5b Burrowing Owls:** “The CEQA document for the Project should also include measures to avoid or minimize loss of burrowing owl foraging habitat, and mitigation for loss of habitat that cannot be fully avoided. The EACCS Mitigation Guidance (p.3-66) for burrowing owl recommends mitigating the loss of habitat by protecting habitat in accordance with the mitigation guidelines outlined in Table 3-10 (BUOW-3) through acquiring parcels, through fee title purchase or conservation easement, where known nesting sites occur or where nesting sites have occurred in the previous three nesting seasons (BUOW-1 and BUOW-2).”

Response #5b: Section 3.3.8 of the BE “Impacts to Burrowing Owls” includes measures to avoid or minimize and mitigate for loss of burrowing owl foraging habitat, as it includes all aspects of and measures from the EACCS with regards to avoidance, minimization, and compensation.

**Comment #5c Burrowing Owls:** “Additionally, the Project applicant could work with the Implementation Committee to fund the implementation of an annual monitoring program in coordination with local conservation groups on all burrowing owl nest colonies on protected lands using monitoring protocols established by the California Burrowing Owl Consortium (1993). The results of these surveys would be submitted to the California Natural Diversity Database (CNDDB) and the Conservation Strategy database (BUOW-4 and BUOW-5). This would allow for informed avoidance of impacts in the future.”

Response #5c: So noted.

**Comment #6 Rodenticides:** “Use of rodenticides at the construction site and cannabis facility should be prohibited. ...”

Response #6: So noted. The BE includes the several references to the lack of use of rodenticides onsite as dictated by the EACCS, including quoting Conservation Actions BUOW-8 (Section 3.3.8 of the BE), GOEA-4 (Section 3.3.9 of the BE), AMB-7 (Section 3.3.10 of the BE), and SJKF-7 (Section 3.3.13 of the BE), which all include “...cease using rodenticides in protected areas and, when possible, outside protected areas. When rodent management is needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use IPM principles.”

**Comment #7a California Tiger Salamander:** “Although not mentioned in the IS/MND, the Project site is located within dispersal distance of at least four known and/or potential California tiger salamander breeding ponds. A known California tiger salamander occurrence (CDFW 2020) is less than 0.5 miles to the north along Morgan Territory Road near a stock pond. ...”

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Response #7a: So noted. As of the date of the BE (October 24, 2018), the California Natural Diversity Database (CNDDDB) did not show any records of California tiger salamanders within three miles of the site. These locations were added to the CNDDDB after the report was written, however, the BE did identify potential estivation habitat for California tiger salamanders onsite.

**Comment #7b California Tiger Salamander:** “California tiger salamander are known to be able to travel 1.3 miles from upland habitat to breeding ponds. Given the historical and extant California tiger salamander detections within 1.3 miles of the Project site, and without evidence such as protocol-level presence/negative finding surveys, the IS/MND should assume presence.

Response #7b: So noted. Avoidance, minimization, and compensation measures of the EACCS shall be adhered to as well. Therefore, the following mitigation measures apply:

The primary approach to mitigate impacts to CTS would be based upon 1) avoidance of riparian and aquatic resources to the maximum extent possible, 2) implementation of minimization measures.

*Avoidance.* Avoidance of a sensitive resource is usually considered the preferred mitigation for any project. Therefore, from a standpoint of avoiding impacts to CTS, the project is designed in ways that avoids impacts to riparian and upland habitats to the maximum extent practicable. The site currently is planned to be built outside of the riparian corridor except for the existing access road over the creek and, should the County require it, the potential for updating the culvert bridge over the creek.

*Minimization.* The project should be designed, built, and operated in ways that minimize both direct and indirect impacts to the CTS (both during and post-buildout). Implementation of the following measures, partially summarized below and described more fully in Appendix D, should be taken during construction to avoid take of individual CTS.

- Conduct protocol-level CTS surveys or assume presence onsite.
- Prior to the start of construction, an approved qualified biologist should train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices.
- Pre-construction surveys should be conducted to ensure that CTS are absent from the construction area. If CTS are present, they should be allowed to leave on their own.
- The construction zone should be cleared, and silt fencing should be erected and maintained around construction zones to prevent CTS from moving into these areas.
- A biological monitor should be present onsite during particular times of construction, such as if changes to the project require culvert bridge replacement, and when any removal of existing structures or containers currently in the Project Area occurs to ensure no CTS are harmed, injured, or killed during these construction activities.

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Specific Avoidance and Minimization Measures for the California tier salamander reported in Table 3-3 of the EACCS include:

- “If aquatic habitat is present, a qualified biologist will stake and flag an exclusion zone prior to activities. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone will encompass the maximum practicable distance from the work site and at least 500 feet from the aquatic feature wet or dry.
- A qualified biologist will conduct preconstruction surveys prior to activities define a time for the surveys (before ground breaking). If individuals are found, work will not begin until they are moved out of the construction zone to a USFWS/CDFG approved relocation site.
- A Service-approved biologist should be present for initial ground disturbing activities.
- If the work site is within the typical dispersal distance (contact USFWS/CDFG for latest research on this distance for species of interest) of potential breeding habitat, barrier fencing will be constructed around the worksite to prevent amphibians from entering the work area. Barrier fencing will be removed within 72 hours of completion of work.
- No monofilament plastic will be used for erosion control.
- Construction personnel will inspect open trenches in the morning and evening for trapped amphibians.
- A qualified biologist possessing a valid ESA Section 10(a)(1)(A) permit or Service approved under an active biological opinion, will be contracted to trap and to move amphibians to nearby suitable habitat if amphibians are found inside fenced area.
- Work will be avoided within suitable habitat from October 15 (or the first measurable fall rain of 1” or greater, to May 1.”

In addition, the EACCS specifies that a project should obtain an Incidental Take Permit if occupied habitat is adjacent to the site and suitable habitat is on the project site.

*Compensation: upland habitat.* Standardized mitigation ratios for the CTS, according to Table 3-8 in the EACCS, is 3:1 if the development area is within critical habitat and 2.5:1 if the development area is outside of critical habitat and north of 580. As the development area is outside of critical habitat, a mitigation ratio of 2.5:1 should be employed; mitigation lands may be onsite or mitigation credits can be purchased from a mitigation bank. To ensure that mitigation habitat meets or exceeds the value of the habitat lost to development, *Focal Species*

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*Impact/Mitigation Scoring Sheets* located in Appendix E of the EACCS (ICF International 2010) should be used as part of the assessment for suitability of any proposed mitigation lands for the CTS.

Should onsite mitigation occur, a Mitigation and Monitoring Plan should be prepared for the explicit purpose managing these lands. This plan should be submitted to the County for review and approval. At a minimum this plan should:

- Identify the approaches to be used and provide evidence that sufficient water budget exist for any proposed enhancement;
- Identify a suitable planting regime for restoring or enhancing riparian habitats;
- Identify success criteria for monitoring both the upland and riparian habitats that are consistent with similar habitats regionally;
- Monitor restored or enhanced riparian habitats for 5 years;
- Define and identify maintenance and management activities to manage the habitats to meet the stated goals of support habitat characteristics suitable for the CTS. This may include suitable fencing so as to control access, limited cattle grazing or other procedures to manage grass height and forage production at levels that benefit the CTS, removal of trash.
- Define and provide for a financial mechanism such as a non-wasting endowment or an assessment district that funds the management of the open space into perpetuity.

These measures would reduce impacts to CTS to a less-than-significant level.

**Comment #7c California Tiger Salamander:** “Mitigation Measure IV-2 also recommends installing silt fencing (exclusion fence) during construction. Please be advised that installing fencing around the Project site could be a form of "take" if California tiger salamander or other listed species are present. Any action that could cause take of California tiger salamander (such as trapping within an exclusion fence or relocation out of harm's way) must be authorized under appropriate federal and state permits.

The IS/MND as written, does not reduce the impacts to less-than significant levels as required by CEQA. Mitigation measures should include actions such as, preserving off-site habitat through either purchasing California tiger salamander habitat credits at a CDFW-approved conservation bank (see <https://www.wildlife.ca.gov/Conservation/Planning/Banking/Approved-Banks>), or by placing a conservation easement over lands providing habitat, including funding an endowment for managing the lands for the benefit of California tiger salamander in perpetuity, and preparation and implementation of a long-term management plan.

**Response #7c:** So noted. Avoidance, minimization, and compensation measures of the EACCS shall be adhered to as well.

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**Comment #7d California Tiger Salamander:** “CDFW advises that the Project proponent obtain a CESA Permit (pursuant to Fish and Game Code Section 2080 et seq.) in advance of Project implementation. Issuance of a CESA Permit is subject to CEQA documentation; therefore, the CEQA document should specify impacts; mitigation, and should fully describe a mitigation, monitoring and reporting program. As mentioned above, if the proposed Project will impact any CESA-listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit. More information on the CESA permitting process and protocol survey procedures can be found on the CDFW website at

<https://www.wildlife.ca.gov/Conservation/CESA> or

<https://www.wildlife.ca.gov/Conservation/Survey-Protocols>.”

Response #7d: So noted.

**Comment #8 California Red-legged Frog:** “Minimum distances around aquatic habitat should be determined by local known dispersal distances. Activities that will decrease ground squirrel populations, impede movement, or cause take of California red-legged frogs in uplands are advised to also be avoided. CDFW also recommends a qualified biological monitor experienced in the identification and life history of California red-legged frogs be on-site during any removal of existing structures or containers currently in the Project Area. Unless USFWS authorizes relocation, any frogs found on-site must be allowed to leave the area on their own.”

Response #8: So noted.

**Comment #9 Foothill Yellow-legged Frog:** “CDFW recommends the IS/MND require a qualified biologist conduct foothill yellow-legged frog surveys using a method approved by CDFW. Survey methodology should target all life stages and should include wet and dry stream surveys. Surveys within the Project Area should include searching cavities under rocks, within vegetation such as sedges and other clumped vegetation, and under undercut banks. Surveys should be conducted at different times of day and under variable weather conditions if possible.

CDFW advises that the Fish and Game Commission has determined that listing of the foothill yellow-legged frog is warranted under CESA as endangered in the West/Central Coast Clade including Alameda County. Presence of foothill yellow legged frogs may require a CESA Permit before Project activities may commence if those activities could cause take.”

Response #9: So noted. At the time the BE was written, the foothill yellow-legged frog was not yet considered for listing.

**Comment #10 Bioretention Basin:** “...The IS/MND should be revised to require that bioretention basins be designed to prevent amphibians from accessing the basin.”

Response #10: So noted.

**Comment #11 Lighting:** “...The IS/MND does not discuss the type or color of lighting that will be used outdoor, i.e. bright security lighting along the perimeter, white light, blue light, etc. ... To mitigate the potentially negative impacts of artificial light, light structures can be shielded and downward facing so that trespass of light is minimized. In addition, lights can be

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motion-activated, or turned off or dimmed during critical times of the year (e.g., migration) or during times of night that have the most significant impact on wildlife (i.e. dawn and dusk) (Gaston et al., 2012, 2013). Lights with wildlife-friendly spectral composition (i.e., minimize light avoidance/attraction) can also be used (Sweeney et al. 2011; Gaston et al. 2012, 2013). LED lights are well suited for operating at variable brightness and being switched off or dimmed during certain times of the year or during times of low demand, as they operate at full efficiency and have no "warm-up" time (Gaston et al., 2012, 2013). Vegetation may also be used to shield sensitive areas against light, and light-absorbent surfaces can be used in place of reflective surfaces (Gaston et al., 2012, 2013). In addition, all lights should be disposed of properly, as many contain mercury and other toxins.”

Response #11: So noted. Section 3.3.14 of the BE “Disturbance to Waters of the United States or Riparian Habitats” discusses lighting within the minimization measures of the mitigations. “As part of project build-out, all proposed lighting should be designed to avoid light and glare impacts to the riparian corridor to be avoided. Light sources should not be visible from riparian areas and should not illuminate riparian areas or cause glare on the opposite side of the channels (e.g., to neighboring properties).”

**Comment #12 Fencing:** “CDFW recommends that all hollow posts and pipes be capped to prevent wildlife entrapment and mortality because these structures mimic the natural cavities preferred by various bird species and other wildlife for shelter, nesting, and roosting. Raptor's talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality. Metal fence stakes used on the Project site should be plugged with bolts or other plugging materials to avoid this hazard. Further information on this subject may be found at:

<https://ca.audubon.org/conservation/protect-birds-danger-open-pipes>”

Response #12: So noted. Capping of pipes was included in Sections 3.3.10 “Impacts to Badgers” and 3.3.13 “Impacts to San Joaquin Kit fox” of the BE, as these are measures included in Avoidance and Minimization measures in the EACCS for these two species.

We thank you for using our firm to provide you these services and look forward to working with you. If you have any questions or concerns regarding this proposal, please contact me at (408) 281-5889, at your convenience.

Sincerely,



Katrina Krakow  
Project Manager  
Staff Ecologist



# LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

## OASIS GROW FACILITY PROPERTY BIOLOGICAL EVALUATION ALAMEDA COUNTY, CALIFORNIA

Prepared by

LIVE OAK ASSOCIATES, INC.

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Katrina Krakow, M.S., Project Manager and Staff Ecologist  
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October 24, 2018

PN 2305-01

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## EXECUTIVE SUMMARY

Live Oak Associates, Inc., conducted an investigation of the biological resources of the approximately 92.53-acre property located at site located at 7033 Morgan Territory Road in Livermore, Alameda County, California (APN 903-0007-001-01).

The proposed project includes a cannabis grow house (32,000 square-foot greenhouse building with 22,000 square-feet of canopy) and one processing building with associated security fencing and parking lot. A leach field and well(s) are also planned. The existing barn is not proposed to be part of the cannabis cultivation facility, and is not planned for removal as a part of this project. Although current plans are not impacting the existing creek crossing, this report takes into consideration the potential for plans to change to replace the culvert bridge, should replacement become necessary.

The site consists of California annual grassland with a Cayetano Creek supporting riparian vegetation running through it as well as small developed areas including a barn, pumphouse, shipping container, well, and dumpster area.

The Foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, white-tailed kite, Swainson's hawk, northern harrier, American peregrine falcon, golden eagle, burrowing owl, loggerhead shrike, grasshopper sparrow, Townsend's big-eared bat, western red bat, pallid bat, San Francisco dusky-footed woodrat, American badger, ringtail, and San Joaquin kit fox have the potential to occur onsite. Rare plant surveys for large-flowered fiddleneck and bent-flowered fiddleneck should be conducted as well.

Jurisdictional waters are present on the site in the form of Cayetano Canyon Creek. This feature is regulated by the U.S. Army Corps of Engineers and the Regional Water Quality Control Board and by the California Department of Fish and Wildlife. Impacts or fill of this feature, including culvert bridge replacement would require permits from all three agencies. Cayetano Creek will not be impacted by the project unless the County requires updates to the culvert bridge. Suitable avoidance, minimization and compensation measures would be required to accommodate any impacts to these jurisdictional features. Acceptable mitigation measures include the creation of replacement habitat, habitat enhancement and/or the preservation of existing habitat via a conservation easement at a replacement-to-disturbance ratio that replaces lost functions and values.

The removal of trees should be mitigated for according to the formula provided in the City's tree ordinance. Trees to be retained onsite should be protected pursuant to tree preservation guidelines.

Impacts to habitat for special status plants, native wildlife, and wildlife movements would be less-than-significant once mitigation measures are in place. as the conservation of approximately 103 acres of high quality habitat offsets any potential loss of habitat for these species or ecological processes including both EBRPD and onsite open space lands. The project would implement standard BMPs during construction and design the project so as not to result in any significant degradation of water quality in seasonal creeks, reservoirs, and downstream waters would be considered less-than-significant.

Impacts to the special status species would be offset by avoidance and minimization measures aimed at reducing or eliminating harm, injury, or death of individuals during construction. The

U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife may require endangered species consultation for authorizing any “take” of federal and/or state listed species.

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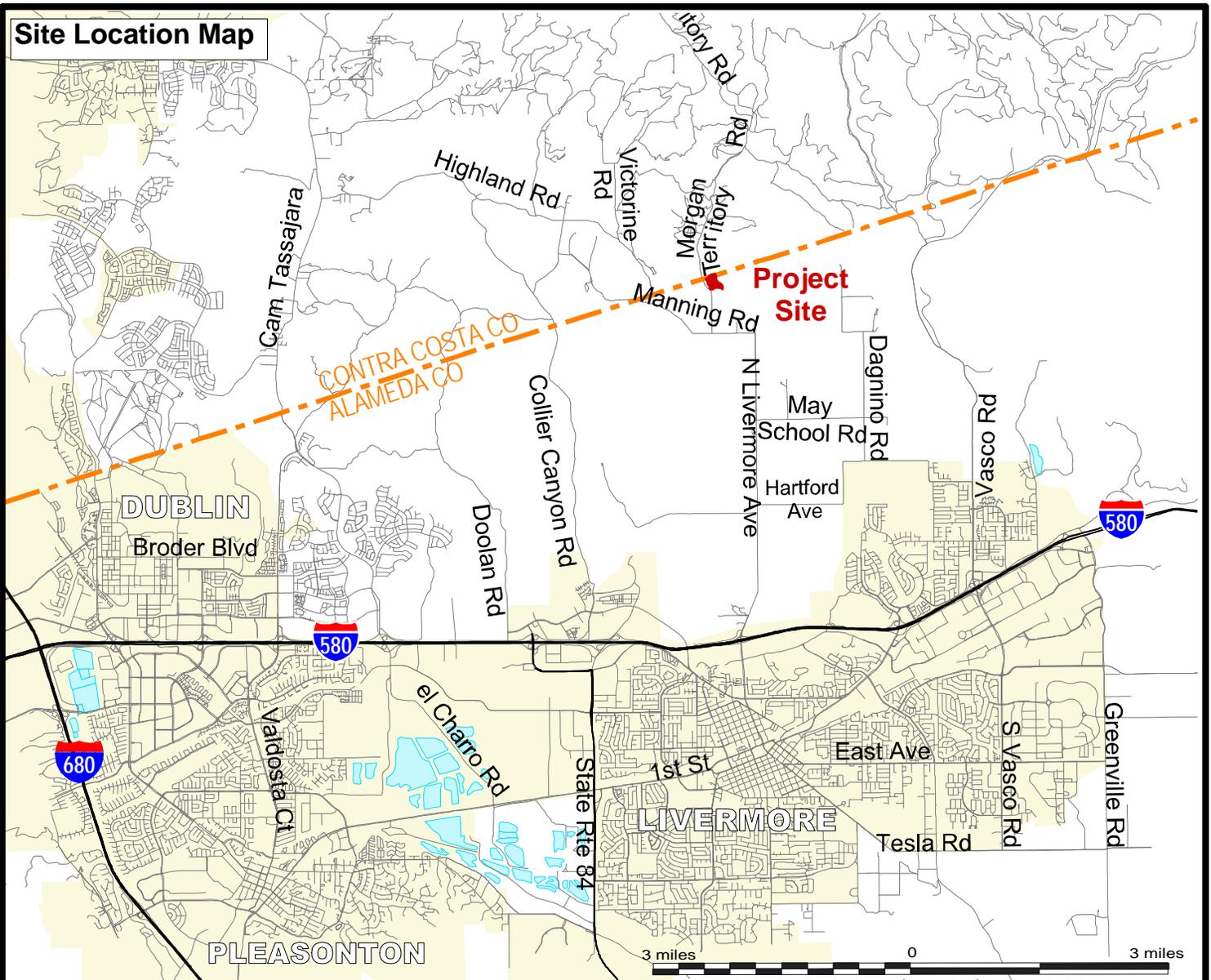
## **1 INTRODUCTION**

Live Oak Associates, Inc. (LOA), has prepared the following report, which describes the biotic resources of the approximately 92.53-acre property located at 7033 Morgan Territory Road in Livermore, Alameda County, California (APN 903-0007-001-01), and evaluates likely impacts to these resources resulting from site development. The project site is located in the Tassajara 7.5" U.S. Geological Survey (USGS) quadrangle, and is described by the Public Land Survey system as being in Section 7, Township 2 South, Range 2 East.

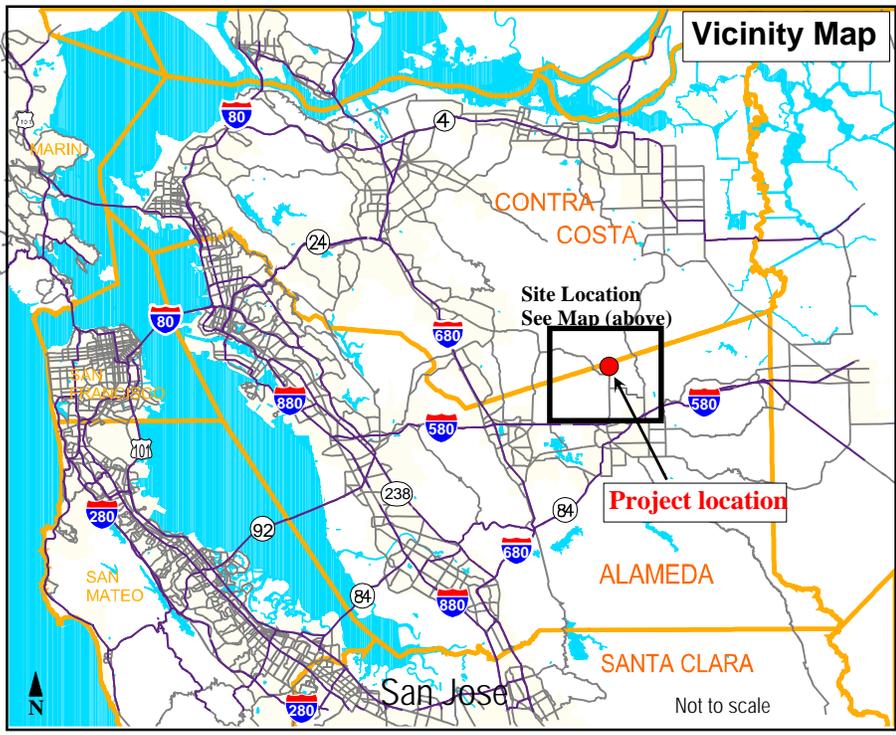
Development activities can damage or modify biotic habitats used by sensitive plant and wildlife species. In such cases, these activities may be regulated by state or federal agencies, subject to provisions of the California Environmental Quality Act (CEQA), and/or covered by policies and ordinances of the Alameda County. This report addresses issues related to: 1) sensitive biotic resources occurring on the site; 2) the federal, state, and local laws regulating such resources, and 3) mitigation measures which may be required to reduce the magnitude of anticipated impacts. As such, the objectives of this report are to:

- Summarize all site-specific information related to existing biological resources;
- Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range;
- Summarize all state and federal natural resource protection laws that may be relevant to possible future site development;
- Identify and discuss project impacts to biological resources likely to occur on the site within the context of CEQA or any state or federal laws; and
- Identify avoidance and mitigation measures that would reduce impacts to a less-than-significant level as identified by CEQA and that are generally consistent with recommendations of the resource agencies for affected biological resources.

**Site Location Map**



**Vicinity Map**



**Regional Map**



 <b>Live Oak Associates, Inc.</b>		
<b>Oasis Fund Grow Facility</b> Site / Vicinity Map		
Date	Project #	Figure #
10/03/2018	2305-01	1

The analysis of impacts, as discussed in Section 3.0 of this report, is based on the known and potential biotic resources of the site, discussed in Section 2.0. Sources of information used in the preparation of this analysis included: 1) the *California Natural Diversity Data Base* (CDFW 2018), 2) the *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2018), and 3) the *East Alameda County Conservation Strategy* (EACCS), and 4) manuals and references related to plants and animals of Alameda County. A reconnaissance-level field survey of the study area was conducted on October 15, 2018, by LOA ecologists Katrina Krakow and Pamela Peterson, at which time the principal biotic habitats of the site were identified, and the constituent plants and animals of each were noted.

### **1.1 PROJECT DESCRIPTION**

The proposed project includes a cannabis grow house (32,000 square-foot greenhouse building with 22,000 square-feet of canopy) and one processing building with associated security fencing and parking lot. A leach field and well(s) are also planned. The existing barn is not proposed to be part of the cannabis cultivation facility, and is not planned for removal as a part of this project. Although current plans are not impacting the existing creek crossing, this report takes into consideration the potential for plans to change to replace the culvert bridge, should replacement become necessary. Site plans are included as Appendix C.

## **2 EXISTING CONDITIONS**

The project site is located at 7033 Morgan Territory Road in Livermore, Alameda County, California (APN 903-0007-001-01). The site is surrounded by open space and pasture land with scattered residences and barns. The site is generally level in elevation from approximately 200 feet (60 m) National Geodetic Vertical Datum (NGVD) at the southwest end of the site to approximately 220 feet (67 m) NGVD in the northeast end of the site. The site consists non-native California grassland with a barn and wellhouse with Cayetano Creek running along the western boundary of the site paralleling Morgan Territory Road. Surrounding land uses are primarily open space and rural residential.

Two soil types from two soil series— Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14 and Diablo clay, 9 to 15 percent slopes—were identified on the project site (NRCS 2018). Both soil types are considered to be hydric. Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. Under sufficiently wet conditions, hydric soils support the growth and regeneration of hydrophytic vegetation. Soils of the site are not serpentine soils, therefore, the site would not support special status plant species that are endemic to serpentine soils. Diablo soils are considered to be mildly alkaline, however, other soils of the site are not known to support conditions suitable for special status plant species specifically endemic on alkaline soils.

The East Bay has a Mediterranean climate with warm to hot, dry summers and cool winters. Annual precipitation in the general vicinity of the site is highly variable from year to year. Average annual rainfall is approximately 16 inches, most of which falls between October and April.

<b>Table 1. Soils occurring on the Oasis Grow Facility property (NRCS 2018).</b>					
<b>Soil Series/Soil</b>	<b>Map Symbol</b>	<b>Parent Material</b>	<b>Surface Permeability</b>	<b>Hardpan/Duripan</b>	<b>Hydric</b>
Clear Lake Series Clear Lake clay, drained, 0 to 2 percent slopes, MLRA 14	CdB	Fine textured alluvium derived from sandstone and shale	Slow to very slow	No	Yes
Diablo Series Diablo clay, 9 to 15% slopes	DbD	Alluvium derived from shale and siltstone	Slow	No	Yes

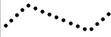
## 2.1 BIOTIC HABITATS

Two biotic habitats were identified on the project site (Figure 2), and for the purposes of this report, these habitats have been classified as California annual grassland and mixed riparian woodland. Development on the site is limited to a barn, a small stucco structure which is presumed to be an old pumphouse, and a well. A large metal storage container also is present on the site. A list of the vascular plant species observed on the project site and the terrestrial vertebrates using, or potentially using, the site are provided in Appendices A and B, respectively.

### 2.1.1 California Annual Grassland

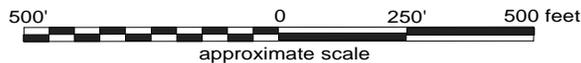
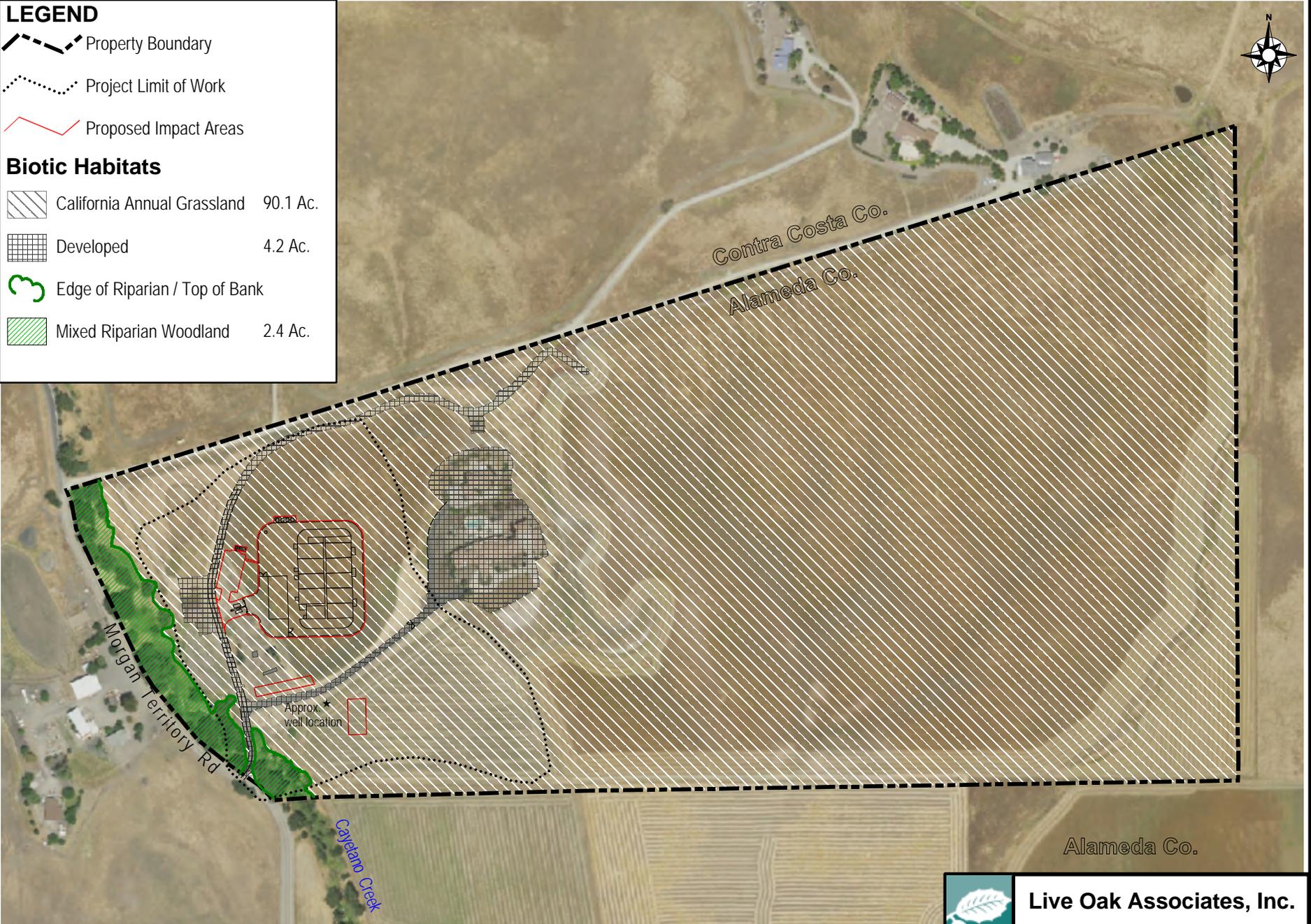
The site primarily supports California annual grassland habitat (90.1 acres) dominated by annual grasses and forbs of European origin. At the time of the October 2018 survey, most of the grasslands of the site appeared to have been recently mowed and vegetation height in these mowed areas was generally less than 4 inches in height. A small test pit was also observed within this habitat. Annual grasses within this habitat were mostly senescent. The dominant grass observed within this habitat was wild oats (*Avena* sp.), although other grasses observed included ripgut brome (*Bromus diandrus*), farmer's foxtail (*Hordeum murinum*), soft chess (*Bromus hordeaceus*), and perennial wild-rye (*Festuca perennis*). Forbs observed to be present within the grasslands included, but were not limited to, black mustard (*Brassica nigra*), horehound (*Marrubium vulgare*), Italian thistle (*Carduus pycnocephalus*), bristly oxtongue (*Helminthotheca echioides*), bindweed (*Convolvulus arvensis*), burclover (*Medicago polymorpha*), yellow star thistle (*Centaurea solstitialis*), Russian thistle (*Kali tragus*), and curly dock (*Rumex crispus*). Trees present within this habitat included Monterey cypress (*Cupressus macrocarpa*) and olive (*Olea europaea*).

**LEGEND**

-  Property Boundary
-  Project Limit of Work
-  Proposed Impact Areas

**Biotic Habitats**

-  California Annual Grassland 90.1 Ac.
-  Developed 4.2 Ac.
-  Edge of Riparian / Top of Bank
-  Mixed Riparian Woodland 2.4 Ac.



**Sources:**  
Aerial Photograph Courtesy of USDA FSA APFO Aerial Photography Field Office, 9/28/2016



**Live Oak Associates, Inc.**

**Oasis Fund Grow Facility**  
Biotic Habitats

Date	Project #	Figure #
10/23/2018	2305-01	2

Several amphibian and reptile species forage in grasslands for insects, birds, and small mammals. These include the Pacific chorus frog (*Pseudacris regilla*), western toad (*Anaxyrus boreas*), western fence lizard (*Sceloporus occidentalis*), which was observed during the October site visit, California alligator lizard (*Elgaria multicarinata*), gopher snake (*Pituophis catenifer*), California kingsnake (*Lampropeltis californiae*), and northern Pacific rattlesnake (*Crotalus oreganus oreganus*). It is possible that the Foothill yellow-legged frog (*Rana boylei*), California red-legged frog (*Rana draytonii*), may use the riparian corridor and upland habitat and that the Alameda whipsnake (*Masticophis lateralis euryxanthus*) may use this habitat, as it may use grasslands of the site for movement from the riparian habitat and for foraging.

Numerous resident and migratory birds breed and forage in grassland habitats. Avian species observed in this habitat during the October 2018 site visit include the turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), wild turkey feathers (*Meleagris gallopavo*), rock pigeon (*Columba livia*), mourning dove (*Zenaida macroura*), Say's phoebe (*Sayornis saya*), song sparrow (*Melospiza melodia*), western meadowlark (*Sturnella neglecta*).

Mammals observed or evidence of their presence (scat, tracks, etc.) during the October 2018 site visit was limited to California ground squirrel (*Otospermophilus beecheyi*) burrows and black-tailed deer (*Odocoileus hemionus columbianus*). Other small mammals that may occur in this habitat (but evidence was not observed) include the western harvest mouse (*Reithrodontomys megalotis*) and California meadow vole (*Microtus californicus*).

The occurrence of small mammals usually attracts predators, including reptiles (e.g., snakes) and birds (e.g., raptors and loggerhead shrike) previously discussed. Medium and larger mammalian predators are also expected to occur due to available prey, including gray foxes (*Urocyon cinereoargenteus*), coyotes (*Canis latrans*), bobcats (*Lynx rufus*), and cougars (*Puma concolor*).

### **2.1.2 Mixed Riparian Woodland**

Mixed riparian woodland habitat (2.4 acres) is associated with Cayetano Creek along the western boundary of the site. Dominant native riparian trees in this habitat included valley oak (*Quercus lobata*) and coast live oak (*Quercus agrifolia*). Other trees and shrubs observed in this habitat included black walnut (*Juglans hindsii*), blue gum (*Eucalyptus globulus*), blue elderberry

(*Sambucus cerulea*), and poison oak (*Toxicodendron diversilobum*). The riparian woodland habitat supported a generally sparse growth of herbaceous understory. Plant species observed in the understory of this habitat included grass species similar to those within the annual grasslands of the site, as well as mugwort (*Baccharis douglasiana*), umbrella sedge (*Cyperus eragrostis*), narrowleaf milkweed (*Asclepias fascicularis*), pricklyseed buttercup (*Ranunculus muricatus*), and California fuchsia (*Epilobium canum*).

At the time of the October survey, the creek was completely dry. The width between the top of the banks was estimated at more than 100 feet and the width between the Ordinary High Water marks on opposing banks was estimated between 10 to 12 feet. The access driveway for the property traverses the creek from Morgan Territory Road via a culvert bridge. The width of the culvert was estimated at 6 feet.

Riparian systems serve as dispersal corridors and islands of habitat for a number of wildlife species, particularly for smaller vertebrates such as amphibians and reptiles. This creek conveys water to provide a seasonal source of drinking water for species occurring in the surrounding habitats and, when wet, also provides potential breeding habitat for Pacific chorus frogs, Foothill yellow-legged frogs, and potential movement habitat for the California red-legged frog. The creek may also support suitable habitat for the slender salamander (*Batrachoseps attenuatus*), arboreal salamander (*Aneides lugubris*), California newt (*Taricha torosa*), and yellow-eyed ensatina (*Ensatina eschscholtzii xanthoptica*). Reptiles that may utilize riparian systems include the skilton skink (*Eumeces skiltonianus skiltonianus*), California alligator lizard, gopher snake, and California kingsnake.

Many resident and migratory bird species occur in riparian habitats. Birds observed in the riparian woodland during the October 2018 site visit was limited to the wild turkey (feathers), common raven (*Corvus corax*), western scrub jay (*Aphelocoma californica*), California towhee (*Melospiza crissalis*), song sparrow, and European starling (*Sturnus vulgaris*). Other species expected to occur in this habitat include the Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), great horned owl (*Bubo virginianus*), Anna's hummingbird (*Calypte anna*), downy woodpecker (*Picoides pubescens*), Nuttall's woodpecker (*Picoides nuttallii*), and Bullock's oriole, as well as species expected to occur in the surrounding habitats. Suitable

roosting habitat for bats such as the western red bat may occur in the blue gum and oak trees within the riparian habitat.

### **2.1.3 Developed**

As indicated above, developed areas of the site (4.2 acres) were limited to a barn, a small stucco building presumed to be a pumphouse, the access driveway, a well, and a storage area for the dumpster. A large metal cargo container is also present on the site. The barn and pumphouse do not support suitable habitat for roosting bats. As the roof of the barn is metal with open-air sides and the pumphouse appears to have had a fire in the past which severely damaged the roof of the structure.

Wildlife inhabiting the surrounding grasslands and riparian woodlands would also be expected to occur within this habitat.

## **2.2 MOVEMENT CORRIDORS**

Habitat corridors are vital to terrestrial animals for connectivity between core habitat areas (i.e., larger intact habitat areas where species make their living). Connections between two or more core habitat areas help ensure that genetic diversity is maintained, thereby diminishing the probability of inbreeding depression and geographic extinctions. This is especially true in fragmented landscapes and the surrounding urbanized areas as found in the rural/urban matrix along the edges of the Cities of Dublin and Livermore.

The quality of habitat within the corridors is important. “Better” habitat consists of an area with minimal human interference (e.g., roads, homes, etc.) and is more desirable to more species than areas with sparse vegetation and high-density roads. Movement corridors in California are typically associated with valleys, rivers and creeks supporting riparian vegetation, and ridgelines. With increasing encroachment of humans on wildlife habitats, it has become important to establish and maintain linkages, or movement corridors, that allow animals to access locations containing various biotic resources essential to maintaining their life cycles.

Healthy riparian areas that support structural diversity, (i.e., understory species to saplings to mature riparian trees) have a high biological value. They not only support a rich and diverse wildlife community but have also been shown to facilitate regional wildlife movement. Riparian areas can vary from tributaries winding through scrubland to densely vegetated riparian forests.

A riparian zone can be defined as an area that has a source of fresh water (e.g., rill, stream, river), a defined bank, and upland areas consisting of moist soils (e.g., wetter than would be expected from seasonal rainfall). These areas support a characteristic suite of vegetative species, many of which are woody, that are adapted to more moist soils. Such vegetation in the area surrounding Dublin and Livermore include California buckeye (*Aesculus californica*), elderberry (*Sambucus* sp.), walnut (*Juglans* sp.), California laurel (*Umbellularia californica*), toyon (*Heteromeles arbutifolia*), oaks (*Quercus* sp.), and willow (*Salix* sp.).

Five functions of corridors, rather than physical traits, are relevant when analyzing the value of linkages (Beier and Loe, 1992). These five functions used to evaluate the suitability of a given property for use as a habitat corridor are as follows:

1. Wide ranging mammals can migrate and find mates;
2. Plants can propagate within the corridor and beyond;
3. Genetic integrity can be maintained;
4. Animals can use the corridor in response to environmental changes or a catastrophic event;
5. Individuals can recolonize areas where local extinctions have occurred.

A corridor is “wide enough” when it meets these functions for the suite of animals in the area. It is important to note that landscape linkages are used differently by different species. For instance, medium to large mammals (or some bird species) may traverse a corridor in a matter of minutes or hours, while smaller mammals or other species may take a longer period of time to move through the same corridor (e.g., measured in days, weeks and even years). Landscape linkages are not simply highways that animals use to move back and forth. While linkages may serve this purpose, they also allow for slower or more infrequent movement. Width and length must be considered in evaluating the value of a landscape linkage. A long narrow corridor would most likely only be useful to wide ranging animals such as cougars and coyotes when moving between core habitat areas. To the extent practicable, conservation of linkages should address the needs of “passage species” (those species that typically use a corridor for the express purpose of moving from one intact area to another) and “corridor dwellers” (slow moving species such as plants and some amphibians and reptiles that require days or generations to move through the corridor).

Cayetano Creek and its riparian habitat will be avoided by the project and is consistent with habitats typically identified as wildlife corridors. Section 2.4.4 in the EACCS discusses three types of habitat connectivity and wildlife linkages: 1) grassland corridors in east Alameda County; 2) aquatic-upland connectivity throughout the study area; and 3) riparian/stream connectivity throughout the study area.

*Grassland Corridors:* The EACCS mainly discusses grasslands on the eastern side of the county as being important for wildlife movement, specifically grasslands along I-580. As I-580 acts as a barrier for some species, it is important to maintain connectivity of grasslands in the region for species using this habitat to maintain “populations and genetic integrity” (ICF International 2010). The EACCS (ICF International 2010) identifies species that may use this type of corridor as California red-legged frog (*Rana draytonii*; in some instances), California ground squirrel (*Otospermophilus beecheyi*), American badger (*Taxidea taxus*), San Joaquin kit fox (*Vulpes macrotis*), mule deer (*Odocoileus hemionus columbianus*), and other generalist wildlife species.

*Aquatic-Upland Corridors:* The EACCS discusses aquatic-upland connectivity mainly as a function of the connectivity of ponds to upland habitat and to each other. The site does not support ponds, however, potential habitat for California red-legged frogs exists within the onsite creek, which holds water intermittently; for any California red-legged frogs occurring in these areas, upland habitat of the site may be an important aspect of their overall habitat use.

*Riparian/Stream Corridors:* The site is east of Cayetano Creek within the Livermore Watershed as shown in Figure 2-7 of the EACCS (ICF International 2010). The EACCS identifies species that may use riparian/stream corridors for movement and foraging as the Alameda whipsnake, San Joaquin kit fox, and California tiger salamander, and breeding habitat as the California red-legged frog, foothill yellow-legged frog, and Central Coast steelhead.

Although the EACCS does not identify landscape-level linkage corridors in the region, the Conservation Lands Network (accessed September 4, 2018), which provides GIS data regarding critical linkages for wildlife, does not identify the site to be within a Critical Linkage.

Many wildlife linkages are broad areas of regional movement corridors for wildlife that generally includes a wide swath of land used for movement between two or more core areas for multiple regional species.

### 2.3 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats these species occupy are converted to agricultural, urban, and other uses. As described more fully in Section 3.2, state and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as “threatened” or “endangered” under state and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as “species of special concern” by the CDFW. The CDFW and California Native Plant Society (CNPS) have developed their own set of lists (i.e., California Rare Plant Ranks, or CRPR) of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as “special status species.”

A number of special status plants and animals occur in the site’s vicinity (Figure 4). These species and their potential to occur in the study area are listed in Table 2 on the following pages. Sources of information for this table included *California Natural Diversity Data Base* (CDFW 2018), *Listed Plants* and *Listed Animals* (USFWS 2018), *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2018), *The California Native Plant Society’s Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2018), *California Bird Species of Special Concern* (Shuford and Gardall 2008), and *California Amphibian and Reptile Species of Special Concern* (Thompson et al. 2016). This information was used to evaluate the potential for special status plant and animal species that occur on the site. Figures 3a, 3b, 3c, and 4 depicts the location of special status species found by the California Natural Diversity Data Base (CNDDB).

A search of published accounts for all relevant special status plant and animal species was conducted for the Tassajara USGS 7.5” quadrangle in which the project site occurs and for the eight surrounding quadrangles (Clayton, Antioch South, Brentwood, Diablo, Byron Hot Springs, Dublin, Livermore, and Altamont) using the California Natural Diversity Data Base Rarefind5

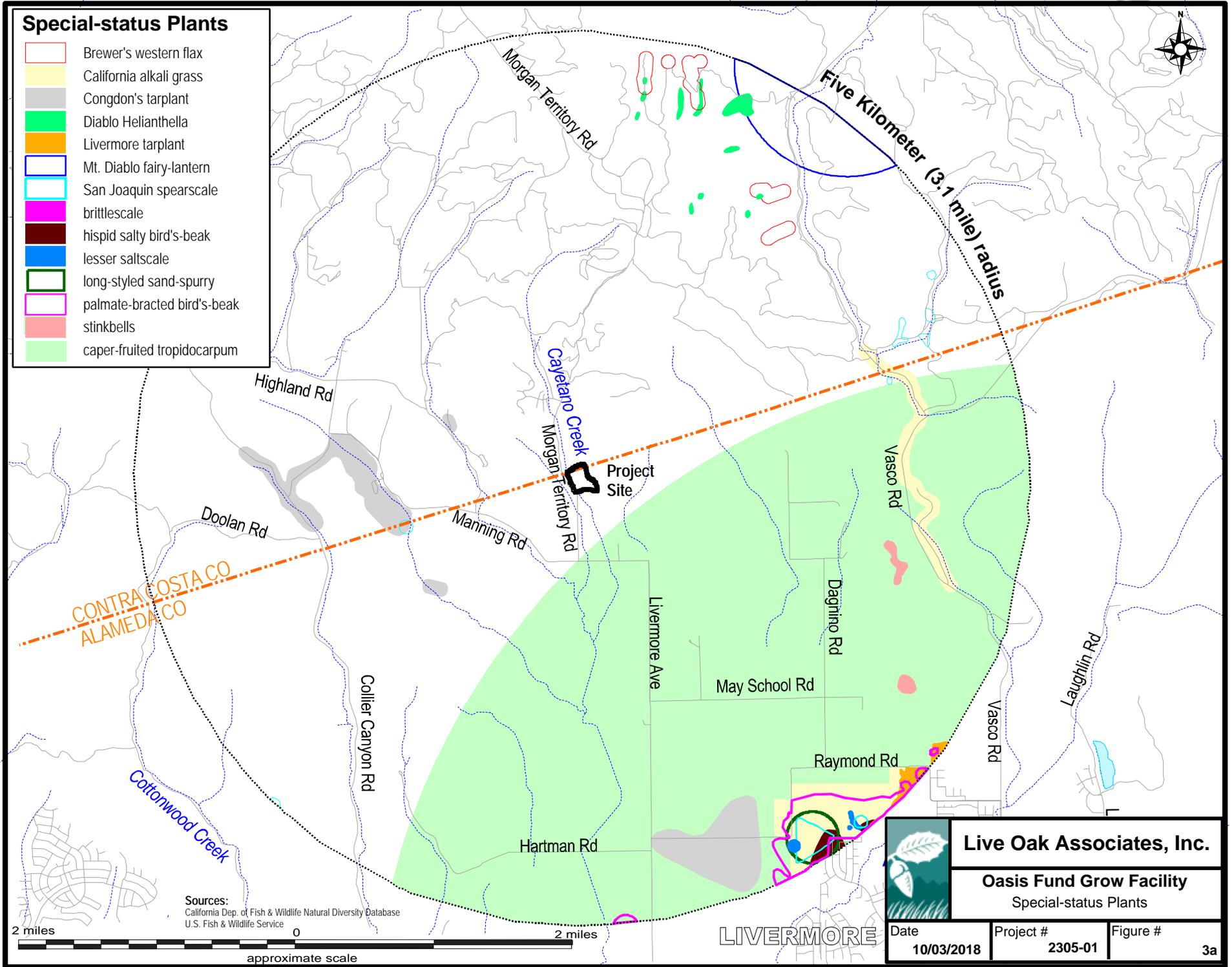
(CDFW 2018). All species listed as occurring in these quadrangles on CRPR Lists 1A, 1B, 2, 3, or 4 were also reviewed.

Because serpentine and alkaline soils are absent from the site, those species that are uniquely adapted to serpentine or alkaline conditions, such as the alkali milk-vetch (*Astragalus tener* var. *tener*), Oakland star-tulip (*Calochortus umbellatus*), chaparral harebell (*Campanula exigua*), serpentine collomia (*Collomia diversifolia*), Mt. Diablo bird's-beak (*Cordylanthus nidularius*), phlox-leaf serpentine bedstraw (*Galium andrewsii* ssp. *gatense*), woodland woollythreads (*Monolopia gracilens*), most beautiful jewel-flower (*Streptanthus albidus* ssp. *peramoenus*) and caper-fruited tropidocarpum (*Tropidocarpum capparideum*) are considered absent from the site. Other plant species occur in habitats not present in the study area (e.g., brackish and freshwater marshes, coastal scrub, etc.), outside the range of the project site, or significantly above or below elevations of the site (60 to 67 meters), and, therefore, are also considered absent from the site. These species include the California androsace (*Androsace elongata* ssp. *acuta*), slender silver moss (*Anomobryum julaceum*), coast rockcress (*Arabis blepharophylla*), Mt. Diablo manzanita (*Arctostaphylos auriculata*), Contra Costa manzanita (*Arctostaphylos manzanita* ssp. *laevigata*), Brewer's calandrinia (*Calandrinia breweri*), Bolander's water hemlock (*Cicuta maculate* var. *bolanderi*), Hospital Canyon larkspur (*Delphinium californicum* ssp. *interius*), Lime Ridge eriastrum (*Eriastrum erterae*), Toren's grimmia (*Grimmia torenii*), Hall's bush mallow (*Malacothamnus hallii*), Lime Ridge navarretia (*Navarretia gowenii*), Antioch Dunes evening primrose (*Oenothera deltoids* ssp. *howellii*), Mt. Diablo phacelia (*Phacelia phacelioides*), hairless popcorn-flower (*Plagiobothrys glaber*), Oregon polemonium (*Polemonium carneum*), California alkali grass (*Puccinellia simplex*), rock sanicle (*Sanicula saxatilis*), chaparral ragwort (*Senecio aphanactis*), Mt. Diablo jewel-flower (*Streptanthus hispidus*), slender-leaved pondweed (*Stuckenia filiformis*) Suisun Marsh aster (*Symphyotrichum lentum*), and coastal triquetrella (*Triquetrella californica*).

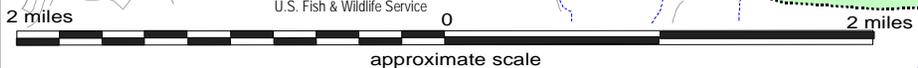
Animals that would also be absent from the site due to unsuitable habitat conditions include the San Bruno elfin butterfly (*Callophrys mossii bayensis*).

### Special-status Plants

- Brewer's western flax
- California alkali grass
- Congdon's tarplant
- Diablo Helianthella
- Livermore tarplant
- Mt. Diablo fairy-lantern
- San Joaquin spearscale
- brittlescale
- hispid salty bird's-beak
- lesser saltscale
- long-styled sand-spurry
- palmate-bracted bird's-beak
- stinkbells
- caper-fruited tropidocarpum



Sources:  
California Dep. of Fish & Wildlife Natural Diversity Database  
U.S. Fish & Wildlife Service



**Live Oak Associates, Inc.**

**Oasis Fund Grow Facility**

Special-status Plants

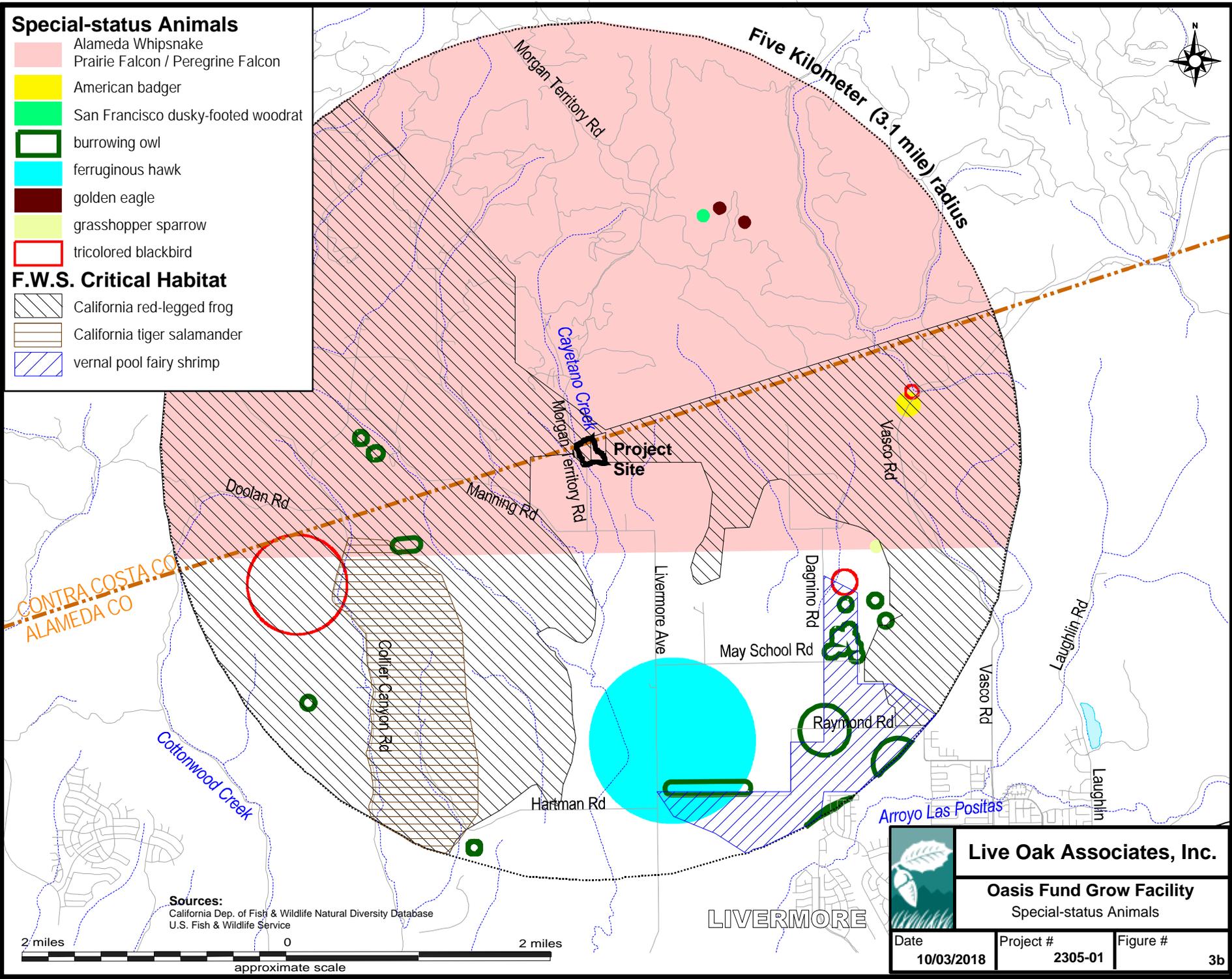
Date	Project #	Figure #
10/03/2018	2305-01	3a

**Special-status Animals**

- Alameda Whipsnake
- Prairie Falcon / Peregrine Falcon
- American badger
- San Francisco dusky-footed woodrat
- burrowing owl
- ferruginous hawk
- golden eagle
- grasshopper sparrow
- tricolored blackbird

**F.W.S. Critical Habitat**

- California red-legged frog
- California tiger salamander
- vernal pool fairy shrimp



**Sources:**  
 California Dep. of Fish & Wildlife Natural Diversity Database  
 U.S. Fish & Wildlife Service

	<b>Live Oak Associates, Inc.</b>		
	<b>Oasis Fund Grow Facility</b> Special-status Animals		
Date	Project #	Figure #	
10/03/2018	2305-01	3b	

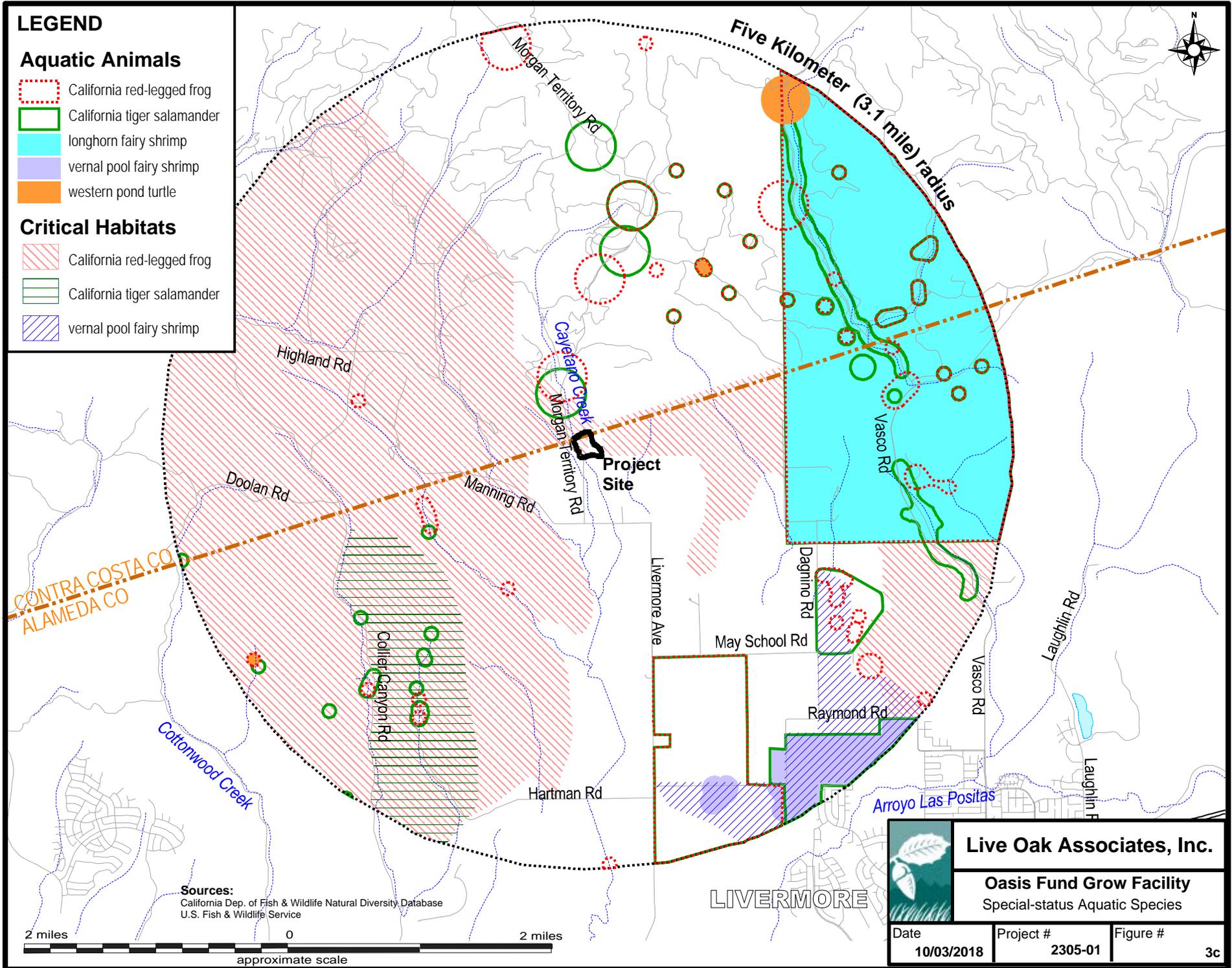
**LEGEND**

**Aquatic Animals**

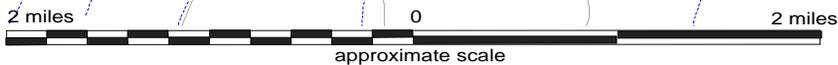
-  California red-legged frog
-  California tiger salamander
-  longhorn fairy shrimp
-  vernal pool fairy shrimp
-  western pond turtle

**Critical Habitats**

-  California red-legged frog
-  California tiger salamander
-  vernal pool fairy shrimp



**Sources:**  
 California Dep. of Fish & Wildlife Natural Diversity Database  
 U.S. Fish & Wildlife Service



**Live Oak Associates, Inc.**

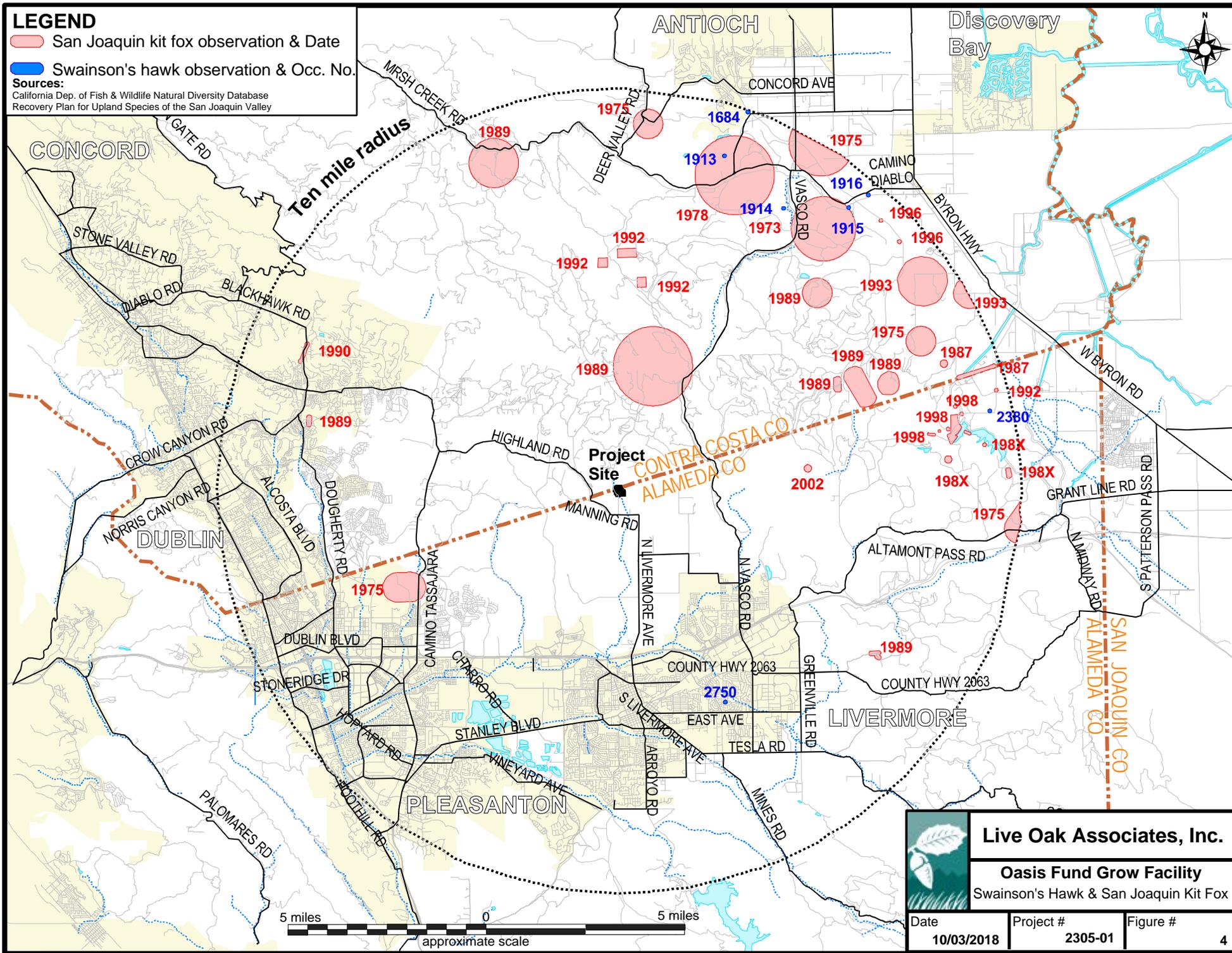
**Oasis Fund Grow Facility**  
 Special-status Aquatic Species

Date	Project #	Figure #
10/03/2018	2305-01	3c

**LEGEND**

- San Joaquin kit fox observation & Date
- Swainson's hawk observation & Occ. No.

Sources:  
 California Dep. of Fish & Wildlife Natural Diversity Database  
 Recovery Plan for Upland Species of the San Joaquin Valley



**Live Oak Associates, Inc.**

**Oasis Fund Grow Facility**  
 Swainson's Hawk & San Joaquin Kit Fox

Date	Project #	Figure #
10/03/2018	2305-01	4

**Table 2: Special status species that could occur in the project vicinity.****PLANTS (adapted from CDFW 2018 and CRPR 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Large-flowered fiddleneck ( <i>Amsinckia grandiflora</i> )	FE, CE, CRPR 1B	<u>Habitat</u> : Cismontane woodland and valley and foothill grasslands. <u>Elevation</u> : 275-550 meters. <u>Blooms</u> : Annual herb; April–May.	<b>Possible.</b> Grasslands of the site provide potentially suitable habitat. However, the closest known occurrence of this species is approximately four miles southeast of the site, last observed in 2005 in the Springtown Wetlands Preserve.
Palmate-bracted bird's-beak ( <i>Chloropyron palmatum</i> )	FE, CE, CRPR 1B	<u>Habitat</u> : Alkaline soils of chenopod scrub and valley and foothill grasslands. <u>Elevation</u> : 5-155 meters. <u>Blooms</u> : Annual herb; May–October.	<b>Absent.</b> Habitat for this species is absent from the site.
Livermore tarplant ( <i>Deinandra bacigalupii</i> )	CE CRPR 1B	<u>Habitats</u> : Occurs in alkaline soils in meadows and seeps. <u>Elevation</u> : 150-185 meters. <u>Blooms</u> : Annual herb; June–October.	<b>Unlikely.</b> The grasslands of the site provide marginal habitat for this species due to an absence of highly alkaline and mesic soils. The closest documented population of this species is approximately three miles southeast of the site.
Contra Costa goldfields ( <i>Lasthenia conjugens</i> )	FE, CRPR 1B	<u>Habitat</u> : Alkaline soils in mesic valley and foothill grasslands and vernal pools. <u>Elevation</u> : 0-470 meters. <u>Blooms</u> : Annual herb; March–June.	<b>Absent.</b> Habitat for this species is absent from the site.

**Table 2: Special status species that could occur in the project vicinity. (Cont'd.)****PLANTS (adapted from CDFW 2018 and CRPR 2018)****Other special status plants listed by CRPR**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Bent-flowered fiddleneck ( <i>Amsinckia lunaris</i> )	CRPR 1B	<u>Habitat</u> : Coastal bluff scrub, cismontane woodland, and valley and foothill grasslands. <u>Elevation</u> : 3-500 meters. <u>Blooms</u> : Annual herb; March–June.	<b>Possible.</b> Grasslands of the site provide potentially suitable habitat. However, there are no known occurrences of this species within three miles of the site.
Heartscale ( <i>Atriplex cordulata</i> )	CRPR 1B	<u>Habitat</u> : Occurs in saline or alkaline soils of chenopod scrub, meadows and seeps, and sandy valley and foothill grassland. <u>Elevation</u> : 0-560 meters. <u>Blooms</u> : Annual herb; April–October.	<b>Absent.</b> Habitat for this species is absent from the site.

**Table 2: Special status species that could occur in the project vicinity. (Cont'd.)****PLANTS (adapted from CDFW 2018 and CRPR 2018)****Other special status plants listed by CRPR**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Crownscale ( <i>Atriplex coronata</i> var. <i>coronata</i> )	CRPR 4	<u>Habitat</u> : Occurs in alkaline soils, often clay, in chenopod scrub, Valley and foothill grasslands, and vernal pools. <u>Elevation</u> : 1-590 meters. <u>Blooms</u> : Annual herb; March-October.	<b>Absent.</b> Habitat for this species is absent from the site.
Brittlescale ( <i>Atriplex depressa</i> )	CRPR 1B	<u>Habitat</u> : Occurs on alkaline clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grasslands, and vernal pools. <u>Elevation</u> : 1-320 meters. <u>Blooms</u> : Annual herb; April-October.	<b>Absent.</b> Habitat for this species is absent from the site.
Lesser saltscale ( <i>Atriplex minuscula</i> )	CRPR 1B	<u>Habitat</u> : Occurs in alkaline and sandy soils in chenopod scrub, playas, and valley and foothill grasslands. <u>Elevation</u> : 15-200 meters <u>Blooms</u> : Annual herb; May-October.	<b>Absent.</b> Habitat for this species is absent from the site.
Big-scale balsamroot ( <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i> )	CRPR 1B	<u>Habitat</u> : Chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentine. <u>Elevation</u> : 90-1555 meters. <u>Blooms</u> : Perennial herb; March-June.	<b>Absent.</b> Although potentially suitable habitat is present on the site, this perennial species would have been identifiable during the October survey if it was present and it was not observed.
Big tarplant ( <i>Blepharizonia plumosa</i> )	CNPS 1B	<u>Habitats</u> : Found in Valley and foothill grassland, usually on clay soil. <u>Elevation</u> : 30-505 meters. <u>Blooms</u> : Annual herb; July-October.	<b>Absent.</b> Grasslands of the site provide potential habitat for this species, however, the October survey occurred during this species' blooming season, and if present, it would have been identifiable with flower or fruit and no tarplant species were observed.
Mt. Diablo fairy lantern ( <i>Calochortus pulchellus</i> )	CRPR 1B	<u>Habitat</u> : On woody and brushy slopes within chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. <u>Elevation</u> : 45-840 meters. <u>Blooms</u> : Bulbiferous herb; April-June.	<b>Unlikely.</b> Riparian habitat of the site would provide very marginal habitat for this species. The closest recorded observance of this species is approximately two miles northeast of the site, last observed in 2010.
Congdon's tarplant ( <i>Centromadia parryi</i> ssp. <i>congdonii</i> )	CRPR 1B	<u>Habitat</u> : Occurs on valley and foothill grasslands on alkaline soils. <u>Elevation</u> : 0-230 meters. <u>Blooms</u> : Annual herb; May-November.	<b>Absent.</b> Grasslands of the site provide potential habitat for this species, however, the October survey occurred during this species' blooming season, and if present, it would have been identifiable with flower or fruit and no tarplant species were observed.

**Table 2: Special status species that could occur in the project vicinity. (Cont'd.)****PLANTS (adapted from CDFW 2018 and CRPR 2018)****Other special status plants listed by CRPR**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Hispid bird's-beak ( <i>Chloropyron mole ssp. hispidum</i> )	CRPR 1B	<u>Habitat</u> : Alkaline soils within meadows and seeps, playas, and valley and foothill grasslands. <u>Elevation</u> : 1-155 meters. <u>Blooms</u> : Annual herb; June-September.	<b>Absent.</b> Habitat for this species is absent from the site.
Santa Clara red ribbons ( <i>Clarkia concinna ssp. automixa</i> )	CRPR 4	<u>Habitat</u> : Chaparral and cismontane woodland. <u>Elevation</u> : 90-1500 meters. <u>Blooms</u> : Annual herb; April-July.	<b>Absent.</b> Habitat for this species is absent from the site.
Small-flowered morning-glory ( <i>Convolvulus simulans</i> )	CRPR 4.2	<u>Habitat</u> : Occurs in clay and serpentine seeps in chaparral openings, coastal scrub, and Valley and foothill grasslands. <u>Elevation</u> : 30-740 meters. <u>Blooms</u> : Annual herb; March-July.	<b>Absent.</b> Habitat for this species is absent from the site.
Hoover's cryptantha ( <i>Cryptantha hooveri</i> )	CRPR 1A	<u>Habitat</u> : Occurs in inland dunes and sandy Valley and foothill grasslands. <u>Elevation</u> : 9-150 meters. <u>Blooms</u> : Annual herb; April-May.	<b>Absent.</b> Habitat for this species is absent from the site.
Recurved larkspur ( <i>Delphinium recurvatum</i> )	CRPR 1B	<u>Habitat</u> : Occurs in chenopod scrub, cismontane woodland, and valley and foothill grasslands. <u>Elevation</u> : 3-750 meters. <u>Blooms</u> : Perennial herb; March-June.	<b>Unlikely.</b> Although the grassland and riparian woodland of the site would provide marginal habitat for this species, leaves of this perennial species would have been identifiable during the October survey if it were present and it was not observed. The closest occurrence is more than five miles east of the site.
Western leatherwood ( <i>Dirca occidentalis</i> )	CRPR 1B	<u>Habitat</u> : Found in mesic habitats such as broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, north coast coniferous forest, riparian forest, and riparian woodland. <u>Elevation</u> : 30-395 meters. <u>Blooms</u> : Perennial deciduous shrub; January-April.	<b>Absent.</b> Although potential habitat occurs in the riparian woodland on the site, this perennial shrub would have been observed if present and it was not observed.
Mt. Diablo buckwheat ( <i>Eriogonum truncatum</i> )	CRPR 1A	<u>Habitat</u> : Sandy soils of chaparral, coastal scrub, valley and foothill grassland. <u>Elevation</u> : 3-350 meters. <u>Blooms</u> : Annual herb; April-September.	<b>Absent.</b> Habitat for this species is absent from the site.

**Table 2: Special status species that could occur in the project vicinity. (Cont'd.)****PLANTS (adapted from CDFW 2018 and CRPR 2018)****Other special status plants listed by CRPR**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Jepson's woolly sunflower ( <i>Eriophyllum jepsonii</i> )	CRPR 4	<u>Habitat</u> : Chaparral, cismontane woodland, coastal scrub, sometimes on serpentine. <u>Elevation</u> : 200-1025 meters. <u>Blooms</u> : Perennial herb; April-June.	<b>Absent.</b> Habitat for this species is absent from the site.
Jepson's coyote-thistle ( <i>Eryngium jepsonii</i> )	CRPR 1B	<u>Habitat</u> : Occurs in valley and foothill grassland and vernal pools on clay soils. <u>Elevation</u> : 3-300 meters. <u>Blooms</u> : Perennial herb; April-August.	<b>Absent.</b> Habitat for this species is absent from the site.
Spiny-sepaled button-celery ( <i>Eryngium spinosepalum</i> )	CRPR 1B	<u>Habitat</u> : Occurs in valley and foothill grasslands and vernal pools. <u>Elevation</u> : 80-975 meters. <u>Blooms</u> : Annual/Perennial herb; April-June.	<b>Unlikely.</b> Grasslands of the site provide marginal habitat for this species and there is only one occurrence documented in Alameda County which was in 1972 approximately 10 miles northeast of the site. .
Diamond-petaled California poppy ( <i>Eschscholzia rhombipetala</i> )	CRPR 1B	<u>Habitat</u> : Occurs in valley and foothill grassland with alkali and clay soils. <u>Elevation</u> : 0-975 meters. <u>Blooms</u> : Annual herb; March-April.	<b>Absent.</b> Habitat for this species is absent from the site.
San Joaquin spearscale ( <i>Extriplex joaquinana</i> )	CRPR 1B	<u>Habitat</u> : Occurs in chenopod scrub, meadows and seeps, playas, and valley and foothill grasslands on alkaline soils. <u>Elevation</u> : 1-835 meters. <u>Blooms</u> : Annual herb; April-October.	<b>Absent.</b> Habitat for this species is absent from the site.
Stinkbells ( <i>Fritillaria agrestis</i> )	CRPR 4	<u>Habitats</u> : Occurs in chaparral, valley grassland, foothill woodland, wetland, and riparian habitats, and can be associated with serpentine soils. <u>Elevation</u> : 10-1555 meters. <u>Blooms</u> : Bulbiferous herb; March-June.	<b>Unlikely.</b> Habitats of the site are marginal for this species and serpentine soils are absent. The closest known occurrences of this species are approximately 2 to 2 ½ miles southeast of the site.
Fragrant fritillary ( <i>Fritillaria liliacea</i> )	CRPR 1B	<u>Habitat</u> : Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grasslands. Often occurs on serpentinite. <u>Elevation</u> : 3-410 meters. <u>Blooms</u> : Bulbiferous herb; February-April.	<b>Unlikely.</b> Habitats of the site are marginal for this species and serpentine soils are absent. The closest known occurrences of this species are approximately 15 miles west of the site.

**Table 2: Special status species that could occur in the project vicinity. (Cont'd.)****PLANTS (adapted from CDFW 2018 and CRPR 2018)****Other special status plants listed by CRPR**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Diablo helianthella ( <i>Helianthella castanea</i> )	CRPR 1B	<u>Habitat</u> : Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. <u>Elevation</u> : 60-1300 meters. <u>Blooms</u> : Perennial herb; March–June.	<b>Absent.</b> Although potentially suitable habitat is present on the site, this perennial species would have been identifiable during the October survey if it was present and it was not observed.
Hogwallow starfish ( <i>Hesperexav caulescens</i> )	CRPR 4	<u>Habitat</u> : Mesic/clay soils within valley and foothill grasslands, shallow vernal pools. Sometimes alkaline. <u>Elevation</u> : 0-505 meters. <u>Blooms</u> : Annual herb; March–June.	<b>Absent.</b> Habitat for this species is absent from the site.
Brewer's western flax ( <i>Hesperolinon breweri</i> )	CRPR 1B	<u>Habitat</u> : Usually occurs on serpentine soils of chaparral, cismontane woodland, and valley and foothill grassland. <u>Elevation</u> : 30-900 meters. <u>Blooms</u> : Annual herb; May–July.	<b>Absent.</b> Habitats of the site are extremely marginal for this species and serpentine soils are absent from the site. The nearest documented occurrences of this species are more than three miles northwest and northeast of the site.
Woolly rose-mallow ( <i>Hibiscus lasiocarpus var. occidentalis</i> )	CRPR 1B	<u>Habitat</u> : Freshwater marshes and swamps. Often in rip rap on sides of levees. <u>Elevation</u> : 0-120 meters. <u>Blooms</u> : Perennial herb; June–September.	<b>Absent.</b> Habitat for this species is absent from the site.
Bristly leptosiphon ( <i>Leptosiphon acicularis</i> )	CRPR 4	<u>Habitat</u> : Chaparral, cismontane woodland, valley and foothill grassland. <u>Elevation</u> : 55-1500 meters. <u>Blooms</u> : Annual herb; April–July.	<b>Unlikely.</b> Although grasslands of the site provide marginal habitat, the closest known occurrences of this species are more than 10 miles west of the site.
Showy golden madia ( <i>Madia radiata</i> )	CRPR 1B	<u>Habitat</u> : Occurs in cismontane woodland, valley and foothill grassland <u>Elevation</u> : 25-900 meters. <u>Blooms</u> : Annual herb; March–May.	<b>Unlikely.</b> Habitats of the site are extremely marginal for this species and the closest documented occurrences of the species is more than 20 miles southeast of the site.
San Antonio Hills monardella ( <i>Monardella antonina ssp. antonina</i> )	CRPR 3	<u>Habitat</u> : Chaparral and cismontane woodland. <u>Elevation</u> : 320-1000 meters. <u>Blooms</u> : Perennial rhizomatous herb; June–August.	<b>Absent.</b> Although the riparian woodland on the site provides potential habitat for this species, this perennial species would have been identifiable during the October survey if present and it was not observed.
Little mouse-tail ( <i>Myosurus minimus ssp. apus</i> )	CRPR 3	<u>Habitat</u> : Alkaline vernal pools in valley and foothill grasslands. <u>Elevation</u> : 20-640 meters. <u>Blooms</u> : Annual herb; March–June.	<b>Absent.</b> Habitat for this species is absent from the site.

**Table 2: Special status species that could occur in the project vicinity. (Cont'd.)**  
**PLANTS (adapted from CDFW 2018 and CRPR 2018)**  
**Other special status plants listed by CRPR**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Tehama navarretia ( <i>Navarretia heterandra</i> )	CRPR 4	<u>Habitat</u> : Mesic valley and foothill grasslands and vernal pools. <u>Elevation</u> : 30-1010 meters. <u>Blooms</u> : Annual herb; April–June.	<b>Absent.</b> Habitat for this species is absent from the site.
Adobe navarretia ( <i>Navarretia nigelliformis</i> ssp. <i>nigelliformis</i> )	CRPR 4	<u>Habitat</u> : Clay soils in vernal mesic valley and foothill grassland, sometimes in vernal pools, sometimes on serpentine. <u>Elevation</u> : 100-1000 meters. <u>Blooms</u> : Annual herb; April–June.	<b>Absent.</b> Habitat for this species is absent from the site.
Shining navarretia ( <i>Navarretia nigelliformis</i> ssp. <i>radians</i> )	CRPR 1B	<u>Habitat</u> : Occurs in cismontane woodlands, valley and foothill grasslands, and vernal pools. <u>Elevation</u> : 76-1000 meters. <u>Blooms</u> : Annual herb; April–July.	<b>Unlikely.</b> While potentially suitable habitat is present, the nearest documented occurrences of this species are more than ten miles southeast of the site.
Prostrate vernal pool navarretia ( <i>Navarretia prostrata</i> )	CRPR 1B	<u>Habitat</u> : Occurs in mesic areas within coastal scrub, meadows and seeps, alkaline valley and foothill grasslands, and vernal pools. <u>Elevation</u> : 15-1210 meters. <u>Blooms</u> : Annual herb; April–July.	<b>Absent.</b> Habitat for this species is absent from the site.
Lobb's aquatic buttercup ( <i>Ranunculus lobbii</i> )	CRPR 4	<u>Habitat</u> : Mesic soils within cismontane woodland, North Coast coniferous forest, valley and foothill grasslands and vernal pools. <u>Elevation</u> : 15-470 meters. <u>Blooms</u> : Annual herb; February–May.	<b>Absent.</b> Habitat for this species is absent from the site.
Long-styled sand-spurrey ( <i>Spergularia macrotheca</i> var. <i>longistyla</i> )	CRPR 1B	<u>Habitat</u> : Alkaline meadows, seeps, marshes and swamps. <u>Elevation</u> : 0-255 meters. <u>Blooms</u> : Perennial herb; February–May.	<b>Absent.</b> Habitat for this species is absent from the site.
Saline clover ( <i>Trifolium hydrophilum</i> )	CRPR 1B	<u>Habitat</u> : Marshes and swamps, valley and foothill grasslands on mesic or alkaline soils, and vernal pools. <u>Elevation</u> : 0-300 meters. <u>Blooms</u> : Annual herb; April–June.	<b>Absent.</b> Habitat for this species is absent from the site.

**Table 2: Special status species that could occur in the project vicinity. (Cont'd.)****PLANTS (adapted from CDFW 2018 and CRPR 2018)****Other special status plants listed by CRPR**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Caper-fruited tropidocarpum ( <i>Tropidocarpum capparideum</i> )	CRPR 1A	<u>Habitat</u> : Occurs in alkaline soils of valley and foothill grassland. <u>Elevation</u> : 1-455 meters. <u>Blooms</u> : Annual herb; March-April.	<b>Absent.</b> Habitat for this species is absent from the site.
Oval-leaved viburnum ( <i>Viburnum ellipticum</i> )	CRPR 2	<u>Habitat</u> : Chaparral, cismontane woodland, and lower montane coniferous forest. <u>Elevation</u> : 215-1400 meters. <u>Blooms</u> : Perennial deciduous shrub; May-June.	<b>Absent.</b> While potentially suitable habitat is present in the riparian woodland of the site, this perennial shrub would have been identifiable if present during the October survey and it was not observed.

**Table 2: Special status species that could occur in the project vicinity.****ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Callippe silverspot butterfly ( <i>Speyeria callippe callippe</i> )	FE	Occurs on grassy hills surrounding the San Francisco Bay that support the host plant <i>Viola pedunculata</i> .	<b>Absent.</b> Although grasslands exist onsite, the site is not within modeled potential habitat in the East Alameda County Conservation Strategy mitigation zone for this species. Additionally, the nearest recorded observation of this species is more than 3 miles from the site.
Longhorn fairy shrimp ( <i>Branchinecta longiantenna</i> )	FE	Occurs in ephemeral wetlands and vernal pools of California.	<b>Absent.</b> Suitable habitat for longhorn fairy shrimp in the form of vernal pools is absent from the study area. The nearest recorded observation of LHFS is more than 3 miles from the site.
Vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> )	FT	Vernal pools of California's Central Valley.	<b>Absent.</b> Vernal pools are absent from the site. The nearest documented occurrences of this species are more than 3 miles from the site.
Vernal pool tadpole shrimp ( <i>Lepidurus packardi</i> )	FE	Occurs in vernal pools of California. Vernal pools and swales in the Sacramento Valley containing clear to highly turbid water.	<b>Absent.</b> Suitable habitat for vernal pool tadpole shrimp in the form of vernal pools is absent from the study area. The nearest recorded observation of VPTS is more than 3 miles from the site.

**Table 2: Special status species that could occur in the project vicinity.****ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
California tiger salamander ( <i>Ambystoma californiense</i> )	FT, CT	Breeds in vernal pools and stock ponds of central California. Adults aestivate in grassland habitats adjacent to the breeding sites.	<b>Unlikely.</b> The site is within or adjacent to modeled potential habitat CTS and the North mitigation area of the East Alameda County Conservation Strategy, and although several small mammal burrows occur onsite which are suitable for estivation, the creek does not likely hold pools suitable for breeding habitat for this species and breeding ponds do not exist onsite or within a mile of the site, therefore, although estivation habitat is present, it is unlikely CTS would occur onsite. The nearest documented observation of this species is more than 3 miles from the site.
Foothill yellow-legged frog ( <i>Rana boylei</i> )	CSC CCT	Occurs in swiftly flowing streams and rivers with rocky substrate with open, sunny banks in forest, chaparral, and woodland habitats, and can sometimes be found in isolated pools.	<b>Possible.</b> The reach of Cayetano Creek onsite is identified as potential breeding and movement habitat of the FYLF by the East Alameda County Conservation Strategy. The nearest documented observation of this species is more than 3 miles from the site.
California red-legged frog ( <i>Rana draytonii</i> )	FT, CSC	Rivers, creeks and stock ponds of the Sierra foothills and coast range, preferring pools with overhanging vegetation.	<b>Possible.</b> The ephemeral creek onsite lacks deep pools of water required for breeding and potential breeding ponds do not exist onsite or within the local vicinity of the site. Cayetano Creek may act as a dispersal corridor for CRLF should CRLF occur nearby. The project is within Critical Habitat designated by the USFWS for the CRLF. The site is within modeled potential habitat/movement habitat CRLF and the North mitigation area of the East Alameda County Conservation Strategy.
Alameda whipsnake ( <i>Masticophis lateralis euryxanthus</i> )	FT, CT	Ranges from the inner coast range in western and central Contra Costa and Alameda counties. Typically occurs in chaparral and scrub habitats with rock outcrops and talus pilings. Also occurs in scrub communities, grasslands, oak, and oak/bay woodlands.	<b>Possible.</b> Suitable habitat exists onsite for all life stages of the whipsnake. The riparian corridor onsite provides suitable habitat, and the grasslands are adjacent to these woodlands, which may be used for feeding and dispersal habitat. The site is located within the southern end of a recovery unit for the Alameda whipsnake.

**Table 2: Special status species that could occur in the project vicinity.****ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Swainson's hawk (nesting) ( <i>Buteo swainsonii</i> )	CT	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	<b>Possible.</b> Foraging habitat is available throughout the project area and moderate-quality breeding habitat for Swainson's hawk exists within the riparian corridor of the site. There are six documented occurrences of this species within ten miles of the site. The nearest recorded observation of Swainson's hawk is nearly eight miles to the northeast of the site.
Tricolored blackbird ( <i>Agelaius tricolor</i> )	CCE	Breeds near fresh water, primarily emergent wetlands, with tall thickets. Forages in grassland and cropland habitats.	<b>Unlikely.</b> Breeding habitat is absent from the site. Marginal foraging habitat is present on the site and the site is within modeled foraging habitat for the East Alameda County Conservation Strategy. The nearest documented occurrence of this species is approximately two miles to the west of the site.
San Joaquin kit fox ( <i>Vulpes macrotis mutica</i> )	FE, CT	Frequents annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing and suitable prey base. Utilizes enlarged (4 to 10 inches in diameter) ground squirrel burrows as denning habitat. May forage in adjacent agricultural habitats.	<b>Possible.</b> Although not observed during the 2018 site visit, denning and foraging habitat for the San Joaquin kit fox occurs onsite. There have been thirty-three documented occurrences of this species within ten miles of the site between 1975 and 2002. The nearest observation of this species was documented approximately two and a half miles to the north of the site in 1989. The site is within the North Mitigation Area for San Joaquin kit fox.

**Table 2: Special status species that could occur in the project vicinity.****ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Western spadefoot ( <i>Spea hammondi</i> )	CSC	Primarily occurs in grasslands, but also occurs in valley and foothill hardwood woodlands. Requires vernal pools or other temporary wetlands for breeding.	<b>Unlikely.</b> Vernal pools required for breeding are absent from the study area. The nearest record is more than three miles from the site.
San Joaquin whipsnake ( <i>Masticophis flagellum ruddocki</i> )	CSC	Open, dry habitats with little or no tree cover. Found in valley grasslands and saltbush scrub in the San Joaquin Valley.	<b>Unlikely.</b> The nearest documented occurrence of this species is more than three miles from the site.

**Table 2: Special status species that could occur in the project vicinity.****ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Northern California legless lizard ( <i>Anniella pulchra</i> )	CSC	The NCLL (previously called silvery legless lizard) occurs mostly underground in warm moist areas with loose soil and substrate. The NCLL occurs in habitats including sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	<b>Unlikely.</b> The site does not support sandy substrate. The nearest recorded observation more than three mile from the site.
Coast horned lizard ( <i>Phrynosoma blainvillii</i> )	CSC	Occur in grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs.	<b>Unlikely.</b> Habitats onsite are of poor quality for coast horned lizards. The nearest documented observation of this species is more than three miles from the site.
Western pond turtle ( <i>Actinemys marmorata</i> )	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and sandy banks or grassy open fields for egg laying.	<b>Possible.</b> Suitable habitat exists onsite for the WPT in Cayetano Creek when water is present. This species would not be expected to utilize the site for nesting or hibernation/estivation unless a nearby off-site pond exists. WPT would most likely use the site from time to time for feeding and as a movement corridor when the creek holds water. The nearest documented occurrence of this species is more than three miles from the site.
White-tailed kite ( <i>Elanus leucurus</i> )	CP	Open grasslands and agricultural areas throughout central California.	<b>Possible.</b> Potentially suitable breeding and foraging habitat for this species is present on the site.
Northern harrier ( <i>Circus cyaneus</i> )	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	<b>Possible.</b> Potentially suitable breeding and foraging habitat for this species is present on the site.
American peregrine falcon (nesting) ( <i>Falco peregrines anatum</i> )	CP	Individuals breed on cliffs in the Sierra or in coastal habitats; occurs in many habitats of the state during migration and winter.	<b>Possible.</b> Although potentially suitable breeding habitat is absent from the site, suitable foraging habitat for this species is present onsite and this species is known to occur within the local vicinity of the site.
Golden eagle ( <i>Aquila chrysaetos</i> )	CP	Typically frequents rolling foothills, mountain areas, woodland areas, sage-juniper flats, and desert habitats.	<b>Possible.</b> Although appropriately sized breeding trees and cliffs are absent from the site, the East Alameda County Conservation Strategy identifies the project site as being within modeled foraging habitat for golden eagles. Golden eagles are known to occur nearly 2 miles northwest of the site.

**Table 2: Special status species that could occur in the project vicinity.****ANIMALS (adapted from CDFW 2018 and USFWS 2018)****Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
Burrowing owl ( <i>Athene cunicularia</i> )	CSC	Open, dry grasslands, deserts and ruderal areas. Requires suitable burrows. Often associated with California ground squirrels.	<b>Possible.</b> Burrowing owls are known to be within the local vicinity with the closest known recorded occurrence being less than two miles to the west of the site. The site provides potentially suitable foraging and breeding habitat for this species. The site is located within modeled potential habitat for burrowing owls in the East Alameda County Conservation Strategy.
Loggerhead shrike (nesting) ( <i>Lanius ludovicianus</i> )	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. Nests in tall shrubs and dense trees. Forages in grasslands, marshes, and ruderal habitats. Can often be found in cropland.	<b>Possible.</b> The site supports suitable breeding and foraging habitat for the loggerhead shrike.
Grasshopper sparrow ( <i>Ammodramus savannarum</i> )	CSC	Occurs in California during spring and summer in open grasslands with scattered shrubs.	<b>Possible.</b> The site supports marginal habitat for the grasshopper sparrow, however, it may occur on the site from time to time.
Townsend's big-eared bat ( <i>Plecotus townsendii townsendii</i> )	CSC	Primarily a cave-dwelling bat that may also roost in buildings. Occurs in a variety of habitats of the state.	<b>Possible.</b> Foraging habitat is present on the site; however, roosting habitat is absent from the site for this species. The nearest documented occurrence of this species is more than three miles from the site.
Western red bat ( <i>Lasiurus blossevillii</i> )	CSC	Roosts in tree or shrub foliage, although will occasionally use caves.	<b>Possible.</b> Trees with foliage thick enough for roosting western red bats is present within the riparian corridor of the site. The nearest documented occurrence of this species is more than three miles from the site.
Pallid bat ( <i>Antrozous pallidus</i> )	CSC	Grasslands, chaparral, woodlands, and forests of California; most common in dry rocky open areas that provide roosting opportunities.	<b>Possible.</b> Foraging habitat is present on the site. Suitable roosting habitat is absent. The nearest documented occurrence of this species is more than three miles from the site.
San Francisco dusky-footed woodrat ( <i>Neotoma fuscipes annectens</i> )	CSC	Hardwood forests, oak riparian and shrub habitats.	<b>Possible.</b> The riparian woodlands provide potentially suitable habitat for this species. However, no woodrat nests were observed during the site visit, and the nearest documented occurrence of this species is more than two and a half miles to the northeast of the site.

**Table 2: Special status species that could occur in the project vicinity.  
ANIMALS (adapted from CDFW 2018 and USFWS 2018)  
Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts**

Common and scientific names	Status	General habitat description	*Occurrence in the study area
American badger ( <i>Taxidea taxus</i> )	CSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils.	<b>Possible.</b> Although no badger sign was observed during the 2018 site visit, suitable habitat exists onsite for badgers. The nearest documented occurrence of this species is just over two miles to the east of the site. The site is located within modeled potential habitat for badgers in the East Alameda County Conservation Strategy.
Ringtail ( <i>Bassariscus astutus</i> )	CP	Rocky or talus slopes in semi-arid or riparian habitats.	<b>Possible.</b> Suitable habitat is restricted to the riparian woodlands onsite. Ringtails have not been documented within three miles of the site.

\*Explanation of Occurrence Designations and Status Codes

Present: Species observed on the sites at time of field surveys or during recent past.

Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.

Possible: Species not observed on the sites, but it could occur there from time to time.

Unlikely: Species not observed on the sites, and would not be expected to occur there except, perhaps, as a transient.

Absent: Species not observed on the sites, and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE Federally Endangered

FT Federally Threatened

FPE Federally Endangered (Proposed)

FC Federal Candidate

CSC California Species of Special Concern

CE California Endangered

CT California Threatened

CR California Rare

CP California Protected

CRPR California Rare Plant Rank

1A Plants Presumed Extinct in California

1B Plants Rare, Threatened, or Endangered in California and elsewhere

2 Plants Rare, Threatened, or Endangered in California, but more common elsewhere

3 Plants about which we need more information – a review list

4 Plants of limited distribution – a watch list

## 2.4 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and the California Regional Water Quality Control Board (RWQCB). See Section 3.2.6 of this report for additional information.

A formal wetland delineation and waters of the U.S. analysis has not been completed for the site. However, jurisdictional waters are presumed to be present on the site in the form of Cayetano Creek, an ephemeral stream which the existing driveway passes over. Current plans do not include impacting the creek, however, the analysis in this report allows for the potential for plans to change to impact the creek by replacing the culvert bridge.

The limit of USACE jurisdiction, as well as that of the RWQCB, over Cayetano Creek determined to be jurisdictional tributary waters is the ordinary high water mark. This creek would also be subject to the jurisdiction of the CDFW which regulates the bed-and-bank of streams, creeks or channels.

No wetlands occur on the site. Wetlands are only considered to be jurisdictional by the USACE if they connect to other Waters of the United States per the U.S Supreme Court decision *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC Decision) and *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers* (referred together as the Rapanos decision).

### 3 IMPACTS AND MITIGATIONS

#### 3.1 SIGNIFICANCE CRITERIA

Approval of general plans, area plans, and specific projects is subject to the provisions of the California Environmental Quality Act (CEQA). The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are carried out. CEQA is concerned with the significance of a proposed project's impacts. For example, a proposed development project may require the removal of some or all of a site's existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, etc., may replace those species formerly occurring on the site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed.

Whenever possible, public agencies are required to avoid or minimize environmental impacts by implementing practical alternatives or mitigation measures. According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest."

Specific project impacts to biological resources may be considered "significant" if they would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a “mandatory findings of significance” if the project has the potential to

Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.

## **3.2 RELEVANT GOALS, POLICIES, AND LAWS**

### **3.2.1 Threatened and Endangered Species**

State and federal “endangered species” legislation has provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as “species of special status.” Permits may be required from both the CDFW and USFWS if activities associated with a proposed project will result in the “take” of a listed species. “Take” is defined by the state of California as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” (California Fish and Game Code, Section 86). “Take” is more broadly defined by the federal Endangered Species Act to include “harm” (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFW and the USFWS are responding agencies under the California Environmental Quality Act (CEQA). Both

agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

### **3.2.2 Migratory Birds**

State and federal laws also protect most birds. The Federal Migratory Bird Treaty Act (16 U.S.C., sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

### **3.2.3 Birds of Prey**

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, which states that it is “unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the CDFW.

### **3.2.4 Bats**

Sections 2000 and 4150 of the California Fish and Game Code states that it unlawful to take or possess a number of species, including bats, without a license or permit as required by Section 3007. Additionally, Title 14 of the California Code of Regulations states it is unlawful to harass, herd, or drive a number of species, including bats. To harass is defined as “an intentional act which disrupts an animal's normal behavior patterns, which includes, but is not limited to, breeding, feeding or sheltering”. In addition, the Townsend’s big-eared bat is currently proposed to be listed in the state of California as Endangered. The Townsend’s big-eared bat is currently under a 1-year review with CDFW, during which time, it will be afforded full protections as other Endangered species until the Commission has finalized their ruling.

### **3.2.5 The Bald and Golden Eagle Protection Act**

The Bald Eagle Protection Act of 1940 (16 U.S.C. 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as

follows: “disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” (72 FR 31132; 50 CFR 22.3).

### 3.2.6 Wetlands and Other Jurisdictional Waters

#### Section 404 of the Federal Clean Water Act

Natural drainage channels and adjacent wetlands may be considered “Waters of the United States” (hereafter referred to as “jurisdictional waters”) subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE). The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters identified in paragraphs (a)(1)-(4) (i.e. the bulleted items above).

As determined by the United States Supreme Court in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (the SWANCC decision), channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. However, the U.S Supreme Court decisions *Rapanos v. United States* and *Carabell v. U.S. Army Corps of Engineers* impose a "significant

nexus" test for federal jurisdiction over wetlands. In June 2007, the USACE and Environmental Protection Agency (EPA) established guidelines for applying the significant nexus standard. This standard includes 1) a case-by-case analysis of the flow characteristics and functions of the tributary or wetland to determine if they significantly affect the chemical, physical, and biological integrity of downstream navigable waters and 2) consideration of hydrologic and ecologic factors (EPA and USACE 2007).

The USACE regulates the filling or grading of such waters under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by “ordinary high water marks” on opposing channel banks. Wetlands are habitats with soils that are intermittently or permanently saturated, or inundated. The resulting anaerobic conditions select for plant species known as hydrophytes that show a high degree of fidelity to such soils. Wetlands are identified by the presence of hydrophytic vegetation, hydric soils (soils saturated intermittently or permanently saturated by water), and wetland hydrology according to methodologies outlined in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987).

All activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE (Wetland Training Institute, Inc. 1991). Such permits are typically issued on the condition that the applicant agrees to provide mitigation that results in no net loss of wetland functions or values.

#### Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Act

Under Section 401 of the CWA, the Regional Water Quality Control Board (RWQCB) issues a certification (or waiver of such certification) that the proposed activity will meet state water quality standards. In addition, the RWQCB regulates the filling of “waters of the state” based on the provisions of the Porter-Cologne Water Quality Control Act. Waters of the State is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not federally regulated under Section 401 of the CWA. Therefore, the filling of isolated wetlands, over which the USACE has disclaimed jurisdiction under the SWANCC decision, is regulated by the RWQCB. It is unlawful to fill isolated wetlands without filing a Notice of Intent with the RWQCB. The RWQCB is also responsible for enforcing National Pollution Discharge Elimination System

(NPDES) permits, including the General Construction Activity Storm Water Permit. All projects requiring federal money must also comply with Executive Order 11990 (Protection of Wetlands).

Section 1602 of the California Fish and Game Code (Lake and Streambed Alteration Agreements)

The California Department of Fish and Wildlife has jurisdiction over the bed and bank of natural drainages according to provisions of Section 1601 and 1602 of the California Fish and Game Code (2003). Activities that would disturb these drainages are regulated by the CDFW via a Streambed Alteration Agreement. Such an agreement typically stipulates that certain measures will be implemented which protect the habitat values of the drainage in question.

### **3.2.7 Local Ordinances, Policies, and Habitat Conservation Plans**

#### **3.2.7.1 East Alameda County Conservation Strategy**

The East Alameda County Conservation Strategy of 2010 provides “context and guidance to project applicants, local jurisdictions with permit authority, and resource agencies in determining the potential impacts of a project and the level and type of mitigation necessary to offset those impacts”. This document suggests a standard mitigation ratio of 3:1, which may vary depending on the type of habitat lost and the type of Conservation Zone the project is within.

#### **3.2.7.2 Alameda County General Plan; East County Area Plan (2000)**

The Alameda County has a General Plan which is split into several area plans. The site is within the East County Area Plan. Among other policies, this plan includes policies on riparian corridor buffers. Policy 336 of the East County Area Plan (Revised by Initiative Nov. 2000) identifies an appropriate setback of 100 feet from riparian corridors:

“Policy 336: In all cases, siting of development envelopes and structures shall be controlled so that views from roads, trails and other public places are not substantially blocked and to minimize environmental harm. No structures may be located on ridgelines or hilltops or so that they protrude above ridgelines or hilltops contrary to Policy 106, nor within 100 feet of riparian corridors, in Federal Emergency Management designated floodplains, or where they will have a significant adverse effect on an environmentally sensitive area as defined in Policy 332.”

All General Plan policies should be followed.

### 3.2.7.3 City of Livermore Municipal Code – Tree Preservation

Protected trees are illegal to remove or encroach into the protected zone within the City unless a tree permit has been issued by the City pursuant to the provisions of this article. (Ord. 2065 § 1(A), 2018; Ord. 1830 § 3, 2007). Chapter 12.20 of the City’s municipal code defines a Protected tree as:

“...a single-trunked tree, a multi-trunked tree, or a stand of trees dependent upon each other for survival that meets any one or more of the following criteria:

1. Any tree located on private property occupied by single-family residential development that meets the following criteria:
  - a. Any tree with a circumference (CBH) of 60 inches or more; or
  - b. Any California native tree having a circumference (CBH) of 24 inches or more;
2. Any tree located on private property occupied by commercial, industrial, institutional (i.e., religious, public agency, hospital, care facilities, etc.), mixed-use or multifamily residential (two or more units) development with a circumference (CBH) of 24 inches or more; or
3. Any tree located on an undeveloped or underdeveloped property, regardless of zoning district, use, or development status, for which new development is proposed, with a circumference (CBH) of 18 inches or more; or
4. Any tree located in an open space, riparian, or habitat area with a circumference (CBH) of 18 inches or more; or
5. Any tree approved as part of a site plan approval, or required as a condition of approval for a development project, zoning use permit, use permit or other site development review; or
6. Any tree designated by the City Council as determined to be an ancestral tree; and/or
7. Any tree listed on the City’s ancestral tree inventory; or
8. Any tree required to be planted as mitigation for unlawfully removed trees.”

### 3.2.7.4 HCPs/NCCPs

No known habitat conservation plans are in effect for this property. However, the project is within the Livermore Watershed of Conservation Zone 4 of the East Alameda County

Conservation Strategy for which a Programmatic Biological Opinion has been prepared (USFWS 2012) in which the project must follow guidelines for the Congdon's tarplant, California tiger salamander (CTS North), California red-legged frog (CRLF North in Critical Habitat), Alameda whipsnake (Unit 4), golden eagle, western burrowing owl, American badger, and San Joaquin kit fox (SJKF North) as these species have the potential to occur onsite. The site is also within the Livermore Valley Non-listed Species Mitigation Area and Springtown East Bay California Native Plant Society Core Biological Protection Area.

### **3.3 IMPACTS AND MITIGATIONS SPECIFIC TO THE PROJECT SITE**

The proposed project includes a cannabis grow house (32,000 square-foot greenhouse building with 22,000 square-feet of canopy) and one processing building with associated security fencing and parking lot. A leach field and well(s) are also planned. The existing barn is not proposed to be part of the cannabis cultivation facility, and is not planned for removal as a part of this project. Although current plans are not impacting the existing creek crossing, this report takes into consideration the potential for plans to change to replace the culvert bridge, should replacement become necessary.

#### **3.3.1 Loss of Habitat for Special Status Plants**

**Potential Impacts.** Most special status plant species that occur, or once occurred, within the project region are considered absent from the site or unlikely to occur there because habitat is absent or marginal on the site for these species, the species is not known to occur in the immediate project vicinity, the species is a species that could be ruled out as occurring on the site during the October 2018 survey, and/or it has not been observed in the region in many decades (Table 2). The project would be expected to have a less than significant impact on these latter species. There are two special status plant species that have potential to occur within the annual grasslands of the site and these include the large-flowered fiddleneck and bent-flowered fiddleneck. Both of these latter species are annual forbs that bloom in the spring and that would not have been visible/identifiable during the October 2018 survey. A focused survey conducted in April would be sufficient to rule out the occurrence of either of these species on the site. If either species occurs on the site and if the project would impact a population of these species, this may be considered significant under CEQA. Neither of these fiddleneck species is considered a focal species of the EACCS.

**Mitigation.** Should the botanical surveys confirm that special status plants are absent from the impacted areas of the site, then no mitigation would be required. If populations of these species are present, and if it is determined by a qualified botanist or plant ecologist that project impacts to these species are significant under CEQA, then the following mitigations will be implemented which will reduce impacts to a less-than-significant level.

**Avoidance.** In consultation with a botanist or plant ecologist, and to the maximum extent feasible, the project will be designed to avoid substantial direct and indirect impacts (e.g. the establishment of an appropriately sized buffer) to these species.

**Compensation.** If the project cannot be designed to avoid significant impacts to special status plant populations, then the following compensatory measures will be implemented.

**Onsite Preservation.** The onsite proposed open space area should be surveyed during the appropriate blooming season to determine whether populations of the species being significantly impacted by the project are also present within areas that will be preserved. If populations of the species are present on the preservation area, it should be determined by a qualified botanist or plant ecologist whether these populations to be preserved would adequately compensate, or partially compensate, for lost populations on the project site. If it is determined that preserved populations would completely compensate for impacted populations, then no further compensation would be required. However, if it is determined that populations of the impacted species are absent from the site, or that they are present but their preservation would only partially mitigate for lost populations, then additional mitigation measures described below will be implemented.

**Development of a Site Restoration Plan.** If the project cannot be designed to avoid significant impacts to special status plants (as discussed above) and the preservation area does not support adequate populations of the impacted species to compensate for project impacts, then a Site Restoration Plan must be developed for the significantly impacted species by a qualified botanist or plant ecologist and approved by the City prior to the start of project development. The objective of this mitigation measure would be to replace the special status plants and habitat lost during project implementation. The proposed restoration program should be monitored for a period of five years from the date of site grading. The restoration plan should contain at a minimum the following:

- Identification of appropriate locations on the conservation area as determined by the botanist or plant ecologist (i.e., areas with suitable soils, aspect, hydrology, etc.) to restore lost plant populations.
- A description of the propagation and planting techniques to be employed in the restoration effort. Perennial plants to be impacted by site grading should be salvaged and raised in a greenhouse for eventual transplanting within the restoration areas. Annual plants can best be established by collecting seeds of onsite plants prior to project implementation and then directly seeding into suitable habitat on the conservation area.
- A timetable for implementation of the restoration plan.
- A monitoring plan and performance criteria.
- A description of remedial measures to be performed in the event that initial restoration measures are unsuccessful in meeting the performance criteria.
- A description of site maintenance activities to follow restoration activities. These may include weed control, irrigation, and control of herbivory by livestock and wildlife.

*Off-site Mitigation.* If an onsite restoration plan is not feasible, mitigation for impacted special status plant species could be accommodated through restoration or preservation at an off-site location. Any off-site restoration plan would be subject to the same minimum requirements as indicated above for an onsite restoration plan.

If off-site preservation is the mitigation alternative chosen, then the mitigation site must be confirmed to support populations of the impacted species and must be preserved in perpetuity via deed restriction, establishment of a conservation easement, or similar preservation mechanism. A qualified botanist or plant ecologist should prepare a Preservation Plan for the site containing, at a minimum, the following elements:

- A monitoring plan and performance criteria for the preserved plant population.
- A description of remedial measures to be performed in the event that performance criteria are not met.
- A description of maintenance activities to be conducted on the site including weed control, trash removal, irrigation, and control of herbivory by livestock and wildlife.

The project proponent will be responsible for funding the development and implementation of any onsite or off-site Preservation Plan.

### 3.3.2 Loss of Habitat for Special Status Animals

**Potential Impacts.** Twenty-nine special status animal species occur, or once occurred, regionally (Table 2). Of these, ten would be absent from or unlikely to occur on the site due to unsuitable habitat conditions, including the Callippe silverspot butterfly, longhorn fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, California tiger salamander, tricolored blackbird, western spadefoot, San Joaquin whipsnake, northern California legless lizard, and Coast horned lizard.

The remaining 19 species may occur more frequently as regular foragers or may be resident on the site, including Foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, white-tailed kite, Swainson's hawk, northern harrier, American peregrine falcon, golden eagle, burrowing owl, loggerhead shrike, grasshopper sparrow, Townsend's big-eared bat, western red bat, pallid bat, San Francisco dusky-footed woodrat, American badger, ringtail, and San Joaquin kit fox.

These species either occur on the site incidental to home range and migratory movements, thus using the site infrequently, or may forage on the site year-round or during migration. Project buildout would have a minimal effect on the breeding success of these species and would, at most, result in a relatively small reduction of foraging and/or nesting habitat that is abundantly available regionally. Therefore, the loss of habitat for these species would be considered less than significant.

Construction activities may result in injury of individuals of these species, which would be considered significant.

**Mitigation.** Mitigation measures for potential impacts to these species are discussed in Sections 3.3.3 through 3.3.13.

### 3.3.3 Impacts to Foothill Yellow-Legged Frogs

**Potential Impacts.** Impacts to individual FYLF may occur should FYLF occur in the riparian corridor and if plans change to include work within the riparian corridor. The creek area of the site is expected to be the highest quality habitat for FYLF onsite.

**Mitigation.** The primary approach to mitigate impacts to FYLF would be based upon 1) avoidance of riparian and aquatic resources to the maximum extent possible and 2) implementation of minimization measures.

*Avoidance.* Avoidance of a sensitive resource is usually considered the preferred mitigation for any project. Therefore, from a standpoint of avoiding impacts to FYLF, the project is designed in ways that avoids impacts to riparian habitat to the maximum extent practicable. The site currently is planned to be built outside of the riparian corridor except for the existing access road over the creek and, should the County require it, the potential for updating the culvert bridge over the creek.

*Minimization.* The project should be designed, built, and operated in ways that minimize both direct and indirect impacts to the FYLF (both during and post-buildout). Implementation of the following measures, partially summarized below and described more fully in Appendix D “Minimization Measures for Red-Legged Frogs”, should be taken during construction to avoid take of individual FYLF.

- Conduct surveys for FYLF or assume presence onsite within the riparian habitat.
- Prior to the start of construction, an approved qualified biologist should train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices.
- Pre-construction surveys should be conducted to ensure that FYLF are absent from the construction area. If FYLF are present, they should be relocated by a qualified biologist.
- The construction zone should be cleared, and silt fencing should be erected and maintained around construction zones to prevent FYLF from moving into these areas.
- A biological monitor should be present onsite during particular times of construction, such as if changes to the project require culvert bridge replacement, to ensure no FYLF are harmed, injured, or killed during these construction activities.

Specific Avoidance and Minimization Measures for the Foothill yellow-legged frog reported in Table 3-3 of the EACCS include:

- “If aquatic habitat is present, a qualified biologist will stake and flag an exclusion zone prior to activities. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone will encompass the maximum practicable distance from the work site and at least 500 feet from the aquatic feature wet or dry.
- A qualified biologist will conduct preconstruction surveys prior to activities define a time for the surveys (before ground breaking). If individuals are found, work will not begin until they are moved out of the construction zone to a USFWS/CDFG approved relocation site.
- A Service-approved biologist should be present for initial ground disturbing activities.
- If the work site is within the typical dispersal distance (contact USFWS/CDFG for latest research on this distance for species of interest) of potential breeding habitat, barrier fencing will be constructed around the worksite to prevent amphibians from entering the work area. Barrier fencing will be removed within 72 hours of completion of work.
- No monofilament plastic will be used for erosion control.
- Construction personnel will inspect open trenches in the morning and evening for trapped amphibians.
- A qualified biologist possessing a valid ESA Section 10(a)(1)(A) permit or Service approved under an active biological opinion, will be contracted to trap and to move amphibians to nearby suitable habitat if amphibians are found inside fenced area.
- Work will be avoided within suitable habitat from October 15 (or the first measurable fall rain of 1” or greater, to May 1.”

*Compensation: upland habitat.* Standardized mitigation ratios for the FYLF, according to Table 3-10, is 3:1, as the FYLF was not listed at the time of the EACCS was implemented. To ensure that mitigation habitat meets or exceeds the value of the habitat lost to development, *Focal Species Impact/Mitigation Scoring Sheets* located in Appendix E of the EACCS (ICF International 2010) should be used as part of the assessment for suitability of any proposed mitigation lands for the FYLF.

Should onsite mitigation occur, a Mitigation and Monitoring Plan should be prepared for the explicit purpose managing these lands. This plan should be submitted to the County for review and approval. At a minimum this plan should:

- Identify the approaches to be used and provide evidence that sufficient water budget exists for any proposed enhancement;
- Identify a suitable planting regime for restoring or enhancing riparian habitats;
- Identify success criteria for monitoring both the upland and riparian habitats that are consistent with similar habitats regionally;
- Monitor restored or enhanced riparian habitats for 5 years;
- Define and identify maintenance and management activities to manage the habitats to meet the stated goals of support habitat characteristics suitable for the FYLF. This may include suitable fencing so as to control access, limited cattle grazing or other procedures to manage grass height and forage production at levels that benefit the FYLF, removal of trash.
- Define and provide for a financial mechanism such as a non-wasting endowment or an assessment district that funds the management of the open space into perpetuity.

These measures would reduce impacts to FYLF to a less-than-significant level.

### 3.3.4 Impacts to California Red-Legged Frogs

**Potential Impacts.** Impacts to individual CRLF may occur should CRLF occur in upland burrows. The site is within Critical Habitat for the CRLF. The creek area of the site is expected to be the highest quality habitat for CRLF onsite and it is only expected to act as a movement corridor, as breeding is not expected to occur onsite.

**Mitigation.** The primary approach to mitigate impacts to CRLF would be based upon 1) avoidance of riparian and aquatic resources to the maximum extent possible, 2) implementation of minimization measures.

*Avoidance.* Avoidance of a sensitive resource is usually considered the preferred mitigation for any project. Therefore, from a standpoint of avoiding impacts to CRLF, the project is designed in

ways that avoids impacts to riparian and upland habitats to the maximum extent practicable. The site currently is planned to be built outside of the riparian corridor except for the existing access road over the creek and, should the County require it, the potential for updating the culvert bridge over the creek.

*Minimization.* The project should be designed, built, and operated in ways that minimize both direct and indirect impacts to the CRLF (both during and post-buildout). Implementation of the following measures, partially summarized below and described more fully in Appendix D, should be taken during construction to avoid take of individual CRLF.

- Conduct protocol-level CRLF surveys or assume presence onsite.
- Prior to the start of construction, an approved qualified biologist should train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices.
- Pre-construction surveys should be conducted to ensure that CRLF are absent from the construction area. If CRLF are present, they should be relocated by a qualified biologist.
- The construction zone should be cleared, and silt fencing should be erected and maintained around construction zones to prevent CRLF from moving into these areas.
- A biological monitor should be present onsite during particular times of construction, such as if changes to the project require culvert bridge replacement, to ensure no CRLF are harmed, injured, or killed during these construction activities.

Specific Avoidance and Minimization Measures for the California red-legged frog reported in Table 3-3 of the EACCS include:

- “If aquatic habitat is present, a qualified biologist will stake and flag an exclusion zone prior to activities. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone will encompass the maximum practicable distance from the work site and at least 500 feet from the aquatic feature wet or dry.

- A qualified biologist will conduct preconstruction surveys prior to activities define a time for the surveys (before ground breaking). If individuals are found, work will not begin until they are moved out of the construction zone to a USFWS/CDFG approved relocation site.
- A Service-approved biologist should be present for initial ground disturbing activities.
- If the work site is within the typical dispersal distance (contact USFWS/CDFG for latest research on this distance for species of interest) of potential breeding habitat, barrier fencing will be constructed around the worksite to prevent amphibians from entering the work area. Barrier fencing will be removed within 72 hours of completion of work.
- No monofilament plastic will be used for erosion control.
- Construction personnel will inspect open trenches in the morning and evening for trapped amphibians.
- A qualified biologist possessing a valid ESA Section 10(a)(1)(A) permit or Service approved under an active biological opinion, will be contracted to trap and to move amphibians to nearby suitable habitat if amphibians are found inside fenced area.
- Work will be avoided within suitable habitat from October 15 (or the first measurable fall rain of 1" or greater, to May 1."

In addition, the EACCS specifies that a project should obtain an Incidental Take Permit if occupied habitat is adjacent to the site and suitable habitat is on the project site.

*Compensation: upland habitat.* Standardized mitigation ratios for the CRLF, according to Table 3-7 in the EACCS, is 3:1 if the development area is within critical habitat and 2.5:1 if the development area is outside of critical habitat. As the development area is within critical habitat, a mitigation ratio of 3:1 should be employed; mitigation lands may be onsite or mitigation credits can be purchased from a mitigation bank. To ensure that mitigation habitat meets or exceeds the value of the habitat lost to development, *Focal Species Impact/Mitigation Scoring Sheets* located in Appendix E of the EACCS (ICF International 2010) should be used as part of the assessment for suitability of any proposed mitigation lands for the CRLF.

Should onsite mitigation occur, a Mitigation and Monitoring Plan should be prepared for the explicit purpose managing these lands. This plan should be submitted to the County for review and approval. At a minimum this plan should:

- Identify the approaches to be used and provide evidence that sufficient water budget exist for any proposed enhancement;
- Identify a suitable planting regime for restoring or enhancing riparian habitats;
- Identify success criteria for monitoring both the upland and riparian habitats that are consistent with similar habitats regionally;
- Monitor restored or enhanced riparian habitats for 5 years;
- Define and identify maintenance and management activities to manage the habitats to meet the stated goals of support habitat characteristics suitable for the CRLF. This may include suitable fencing so as to control access, limited cattle grazing or other procedures to manage grass height and forage production at levels that benefit the CRLF, removal of trash.
- Define and provide for a financial mechanism such as a non-wasting endowment or an assessment district that funds the management of the open space into perpetuity.

These measures would reduce impacts to CRLF to a less-than-significant level.

### 3.3.5 Impacts to Western Pond Turtles

**Potential Impacts.** The proposed project would result in the loss of a small amount of potential upland habitat that is of very low quality for western pond turtles. Therefore, impacts to WPT habitat would be considered minimal. However, it is possible, albeit highly unlikely, that WPT would move into the construction zone, which may result in mortality to individual western pond turtles. The loss of these individuals would constitute a significant impact under CEQA.

**Mitigation.** Implementation of the avoidance, minimization, and compensation measures for the CRLF (see Section 3.3.4 would adequately address impacts to western pond turtles.

The project should implement the following measures (see Appendix D for a more complete set of minimization measures):

- Prior to the start of construction, a qualified biologist should train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices.
- Pre-construction surveys should be conducted to ensure that western pond turtles (WPT) are absent from the construction area. If WPT are present, a qualified biologist possessing all necessary permits should relocate them.
- Immediately following the pre-construction surveys, the construction zone should be cleared, and silt fencing should be erected and maintained around construction zones to prevent WPT from moving into these areas.
- A biological monitor should be present onsite during particular times of construction, such as if changes to the project require culvert bridge replacement, to ensure no WPT are harmed, injured, or killed during project buildout.

### 3.3.6 Impacts to Alameda Whipsnakes

**Potential Impacts.** The proposed project would result in the loss of a small amount of upland habitat in the form of grassland habitat adjacent to riparian habitat. Riparian habitat adjacent to the development area provide suitable habitat, and the adjacent grasslands may be used for feeding and dispersal habitat. Therefore, impacts to Alameda whipsnake habitat would be considered less-than-significant. It is possible that Alameda whipsnakes would move into the construction zone, which may result in mortality to individuals. The loss of these individuals would constitute a significant impact under CEQA.

**Mitigation.** Implementation of the avoidance, minimization, and compensation measures for the CRLF (see Section 3.3.4) would adequately address impacts to Alameda whipsnakes (see Appendix D for a more complete set of minimization measures).

Specific Avoidance and Minimization Measures for the Alameda whipsnake reported in Table 3-3 of the EACCS include:

- “No monofilament plastic will be used for erosion control.
- Barrier fencing may be used to exclude focal reptiles. Barrier fencing will be removed within 72 hours of completion of work.

- Construction crews or on-site biological monitor will inspect open trenches in the morning and evening for trapped reptiles.
- Ground disturbance in suitable habitat will be minimized.
- A USFWS and CDFG-approved biological monitor will be present for all ground disturbing activities in suitable habitat.
- A qualified biologist possessing a valid ESA Section 10(a)(1)(A) permit or Service approved under an active biological opinion, and approved by CDFG will be contracted to trap and to move reptiles to nearby suitable habitat if listed reptiles are found inside fenced area.”

Additional applicable goals of the EACCS for the Alameda whipsnake include:

- Conservation Action AWS-6 strives to “implement grazing management plans on all protected lands in Alameda whipsnake Recovery Units that are based on the most up-to-date research findings on grazing levels and whipsnake population response”.
- Section 3.5.3.8 states that “...protection of parcels that include parts of important linkages as described in the Draft Recovery Plan for Chaparral and Scrub Community Species East of San Francisco Bay, California, may qualify as mitigation locations for this species”.
- “Conduct Alameda whipsnake surveys on private and public lands on both sides of I-580, I-680, and SR 84 to identify linkages between Recovery Unit 3 and units to the north and south. Linkages are important for breeding and genetic diversity among whipsnake populations.”
- “Protect suitable habitat, which includes a matrix of chaparral and scrub communities, rock outcrops, annual grasslands, and riparian corridors inside Recovery Units for Alameda whipsnake. If possible, priority for protection should be given to areas that are also designated critical habitat. This will help reach the USFWS draft recovery goals for this species.”

To ensure that mitigation habitat meets or exceeds the value of the habitat lost to development, *Focal Species Impact/Mitigation Scoring Sheets* located in Appendix E of the East Alameda

County Conservation Strategy (EACCS; ICF International 2010) should be used as part of the assessment for suitability of mitigation lands for the Alameda whipsnake. The site is outside of critical habitat, but within a recovery unit; mitigation ratios depend on where mitigation lands are located. Standardized mitigation ratios for the Alameda whipsnake, according to Table 3-9 in the EACCS, if the development area is within critical habitat the mitigation area is within critical habitat and the same Recovery Unit the mitigation ratio is 3:1, if the development area is outside of critical habitat but inside a Recovery Unit and the mitigation area is outside critical habitat but inside the same recovery unit the mitigation ratio is 3:1, and it is 2.5:1 if the development area is outside of critical habitat but inside a Recovery Unit and the mitigation area is inside critical habitat and the same Recovery Unit. Other types of mitigation requires site-specific agency approval.

### **3.3.7 Disturbance to Nesting Raptors and Migratory Birds**

**Potential Impacts.** Trees and structures throughout the site provide suitable nesting habitat for both listed and non-listed nesting raptors and migratory birds. If a raptor or other migratory bird, regardless of its federal or state status, were to nest on or adjacent to the site prior to or during proposed construction activities, such activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success of raptors or result in mortality of individual birds constitute a violation of state and federal laws and would be considered a significant impact under CEQA.

**Mitigation.** The below measures would be necessary to reduce the impact to nesting birds and raptors to a less-than-significant impact.

- To the maximum extent practicable, trees planned for removal should be removed during the non-breeding season (September 1 through January 31). If it is not possible to avoid tree removal or other disturbances during the breeding season (February 1 through August 31), a qualified biologist should conduct a pre-construction survey for tree-nesting raptors and other tree- or ground-nesting migratory birds in all trees or other areas of potential nesting habitat within the construction footprint and within 250 feet of the footprint, if such disturbance will occur during the breeding season. This survey should be conducted no more than 14 days prior to the initiation of demolition/construction activities during the breeding season.

- If nesting raptors or migratory birds are detected on the site during the survey, a suitable construction-free buffer should be established around all active nests. The precise dimension of the buffer (up to 250 feet) would be determined at that time and may vary depending on location and species. Buffers should remain in place for the duration of the breeding season or until it has been confirmed by a qualified biologist that all chicks have fledged and are independent of their parents. Pre-construction surveys during the non-breeding season are not necessary, as the birds are expected to abandon their roosts during construction activities. Implementation of the above measures would mitigate impacts to tree-nesting raptors and other migratory birds to a less-than-significant level.
- Surveys for Swainson's hawk nests within a half mile of the site should be conducted within nesting season.
- Should any active nests be discovered in or near proposed construction zones, the qualified biologist shall establish a suitable construction-free buffer around the nest. This buffer shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the young have fledged.

### 3.3.8 Impacts to Burrowing Owls

**Potential Impacts.** Although no burrowing owls were observed on the site during the 2018 site visit, suitable habitat for burrowing owls is present onsite in the form of small mammal burrows. If a burrowing owl were to nest or occupy a burrow in the proposed development area prior to the start of construction, construction activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success or result in mortality of individual owls constitute a violation of state and federal laws and would be considered a significant impact under CEQA.

Additionally, should burrowing owls occur in the development area during the breeding season, project buildout would result in the permanent loss of burrowing owl habitat. This loss of habitat would also be considered a significant adverse impact. The loss of potential foraging habitat for burrowing owls is less than significant due to the small size of the project site.

**Mitigation.** In order to avoid impacts to active burrowing owl nests, a qualified biologist should conduct pre-construction surveys for burrowing owls within the construction footprint and within

250 feet of the footprint no more than 14 days prior to the onset of ground disturbance. These surveys should be conducted in a manner consistent with accepted burrowing owl survey protocols. Specific Avoidance and Minimization Measures for the burrowing owl reported in Table 3-3 of the EACCS include:

- “If an active nest is identified near a proposed work area work will be conducted outside of the nesting season (March 15 to September 1).
- If an active nest is identified near a proposed work area and work cannot be conducted outside of the nesting season, a no-activity zone will be established by a qualified biologist. The no-activity zone will be large enough to avoid nest abandonment and will at a minimum, be 250-foot radius from the nest.
- If the burrowing owls are present at the site during the non-breeding period, a qualified biologist will establish a no-activity zone of at least 150 feet.
- If an effective no-activity zone cannot be established in either case, an experienced burrowing owl biologist will develop a site-specific plan (i.e., a plan that considers the type and extent of the proposed activity, the duration and timing of the activity, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls.”

Additional applicable goals of the EACCS for the burrowing owl include:

- “Increase the burrowing owl nesting population (number of nesting pairs) and number of nesting locations in the study area.”
- “Objective 19.3. Protect and monitor all burrowing owl nest sites, including surrounding foraging habitat, in the study area.”
- “Conservation Action BUOW-1 [and BUOW-2]. Acquire, through fee title purchase or conservation easement, parcels with documented burrowing owl nests...[ or] ...with a history of burrowing owl occupation and/or nesting activity during the previous three breeding seasons...in the study area.”

- “Conservation Action BUOW-3. Mitigate the loss of burrowing owl nesting habitat (suitable habitat within 0.5 mile of documented nest occurrence during previous 3 years)...”
- “Objective 19.4. Enhance suitable burrowing owl habitat on public and private lands in the study area through implementation of species-specific measures in management plans.”
- “Conservation Action BUOW-6. Purchase easements on land surrounding burrowing owl nest colonies or potential nest sites to ensure that the parcel will remain in types of grazing land, irrigated pasture, or dryland agriculture that provide foraging habitat for nesting burrowing owls.”
- “Conservation Action BUOW-8. Consistent with GRA-10, cease using rodenticides in protected areas and, when possible, outside protected areas. When rodent management is needed to protect the integrity of structures such as levees and stock pond dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use IPM principles.”

To ensure that mitigation habitat meets or exceeds the value of the habitat lost to development, *Focal Species Impact/Mitigation Scoring Sheets* located in Appendix E of the EACCS (ICF International 2010) should be used as part of the assessment for suitability of mitigation lands for the burrowing owl. Standardized mitigation ratios for the burrowing owl, according to Table 3-10 in the EACCS, is 3:1 within the Livermore Valley Mitigation Area where the project is sited.

### 3.3.9 Potential Impacts to Golden Eagles

**Potential Impacts.** Large trees of suitable size for nesting golden eagles are absent from the site. Therefore, the proposed project is not expected to impact golden eagle nests. Foraging habitat is present on the site. The loss of potential foraging habitat is less than significant due to the small size of the project site.

**Mitigation.** Although nesting habitat is absent from the development footprint, pre-construction surveys conducted for golden eagles should be conducted to determine the presence or absence of golden eagle nests within 250 feet of the development footprint, surveys for other nesting raptors will also survey for golden eagle nests.

Specific Avoidance and Minimization Measures for the golden eagle reported in Table 3-3 of the EACCS include:

- “If an active nest is identified near a proposed work area work will be conducted outside of the nesting season (February 1 to September 1).”
- “If an active nest is identified near a proposed work area and work cannot be conducted outside of the nesting season, a no-activity zone will be established by a qualified biologist. The no-activity zone will be large enough to avoid next abandonment and will at a minimum be 250-foot radius from the nest.”
- “If an effective no-activity zone cannot be established in either case, an experienced golden eagle biologist will develop a site-specific plan (i.e., a plan that considers the type and extent of the proposed activity, the duration and timing of the activity, the sensitivity and habituation of the eagles, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the eagles.”

Additional applicable goals of the EACCS for the golden eagle include:

- “Maintain the nesting golden eagle population in the study area at a level that allows for long-term viability without human intervention.”
- “Objective 17.4. Enhance suitable golden eagle habitat on public and private lands in the study area through implementation of species-specific measures in management plans.”
- “Conservation Action GOEA-4. Consistent with Conservation Action GRA-10, cease using rodenticides in protected areas and, when possible, outside protected areas. When rodent management is needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use IPM principles.”

To ensure that mitigation habitat meets or exceeds the value of the habitat lost to development, *Focal Species Impact/Mitigation Scoring Sheets* located in Appendix E of the EACCS (ICF International 2010) should be used as part of the assessment for suitability of mitigation lands for

the golden eagle. Standardized mitigation ratios for the golden eagle, according to Table 3-10 in the EACCS, is 3:1 within the Livermore Valley Mitigation Area where the project is sited.

### 3.3.10 Impacts to American Badgers

**Potential Impacts.** Impacts to the American badger would be similar to those for the burrowing owl. Development of the project would result in a less-than-significant loss of habitat for the American badger, but may result in harm or injury to individuals of this species, which would constitute a significant adverse impact.

The loss of potential habitat for badgers is less than significant due to the small size of the project site.

**Mitigation.** Pre-construction surveys conducted for burrowing owls should also be used to determine the presence or absence of badgers in the development footprint. If an active badger den is identified during pre-construction surveys within or immediately adjacent to the construction envelope, a construction-free buffer of up to 300 feet (or distance specified by the resource agencies, i.e., CDFW) should be established around the den. Because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor should be present onsite during construction activities to ensure the buffer is adequate to avoid direct impact to individuals or nest abandonment. The monitor would be necessary onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers. Once it has been determined that badgers have vacated the site, the burrows can be collapsed or excavated, then ground disturbance can proceed.

Specific Avoidance and Minimization Measures for the badgers reported in Table 3-3 of the EACCS include:

- “If potential dens are present, their disturbance and destruction will be avoided.
- If potential dens are located within the proposed work area and cannot be avoided during construction, qualified biologist will determine if the dens are occupied or were recently occupied using methodology coordinated with the USFWS and CDFG.

- If unoccupied, the qualified biologist will collapse these dens by hand in accordance with USFWS procedures (U.S. Fish and Wildlife Service 1999). Exclusion zones will be implemented following USFWS procedures (U.S. Fish and Wildlife Service 1999) or the latest USFWS procedures available at the time. The radius of these zones will follow current standards or will be as follows: Potential Den–50 feet; Known Den–100 feet; Natal or Popping Den–to be determined on a case-by-case basis in coordination with USFWS and CDFG.
- Pipes will be capped and trenches will contain exit ramps to avoid direct mortality while construction areas are active”.

Additional applicable goals of the EACCS for the badger include:

- “Maintain the American badger population while protecting and enhancing important regional linkages for the species in the study area.”
- “Objective 20.2. Maintain the American badger population in the study area at a level that allows for long-term viability of the population.”
- “Conservation Action AMB-2. Acquire parcels in the study area with documented American badger populations through fee title purchase or conservation easement.”
- “Conservation Action AMB-4. Acquire parcels that protect linkages across I-580 and I-680 through fee title purchase, conservation easement, or agricultural easement.”
- “Objective 20.3. Enhance suitable American badger habitat on public and private lands in the study area through implementation of species-specific measures in management plans.”
- “Conservation Action AMB-6. Allow the expansion of California ground squirrel colonies on all protected lands except when needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands.”

- “Conservation Action AMB-7. Consistent with GRA-10 and BUOW-8, cease using rodenticides in protected areas and, when possible, outside protected areas. When rodent management is needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use IPM principles.”

To ensure that mitigation habitat meets or exceeds the value of the habitat lost to development, *Focal Species Impact/Mitigation Scoring Sheets* located in Appendix E of the EACCS (ICF International 2010) should be used as part of the assessment for suitability of mitigation lands for the badger. Standardized mitigation ratios for the badger, according to Table 3-10 in the EACCS, is 3:1 within the Livermore Valley Mitigation Area where the project is sited.

### 3.3.11 Impacts to Bats

**Potential Impacts.** Bats may roost onsite in the large eucalyptus and oak trees within the riparian corridor and forage over the site. The structures onsite (barn and pumphouse) are not suitable for roosting bats. Should a change in plans occur and work be conducted in the creek during the maternity or overwintering seasons, this work could cause a significant affect on individual bats or a maternity colony.

**Mitigation.** Should work be required within the riparian corridor, a bat assessment should be conducted outside of maternity season and outside of overwintering season when humane eviction can occur (March 1-April 15 or August 15-October 15). Should trees be planned for removal within the riparian corridor, this is the season when they should be removed after a bat assessment. Tree removal, and humane eviction, should be done as a two-step removal under the direction of a qualified biologist.

### 3.3.12 Impacts to San Francisco Dusky-Footed Woodrats and Ringtails

**Potential Impacts.** San Francisco dusky-footed woodrats and ringtails may occur in the riparian corridor. Should work become necessary within the riparian corridor, injury or mortality of an individual of one of these species would be considered a significant impact.

**Mitigation.** The following mitigation measures should be followed should work be required within the riparian corridor.

- A qualified biologist will conduct a preconstruction survey for San Francisco dusky-footed woodrats and ringtail shall be conducted.
- If ringtail are located, the project would need to wait until they leave the area on their own prior to starting construction.
- Should a woodrat nest be located, and it is in a development area, a qualified biologist who has safely and successfully dismantled woodrat nests before shall dismantle the woodrat nest, while providing temporary shelter such as an overturned wine barrel in the meantime. Dismantling of woodrat nests will only be conducted outside of the breeding season as to avoid harming young.

### 3.3.13 Impacts to San Joaquin Kit Fox

**Potential Impacts.** Impacts to the San Joaquin kit fox would be similar to those for the American badger and burrowing owl. Development of the project would result in a less-than-significant loss of habitat for the San Joaquin kit fox, but may result in harm or injury to individuals of this species, which would constitute a significant adverse impact.

The loss of potential habitat for kit foxes is less than significant due to the small size of the project site.

**Mitigation.** According to the EACCS, because suitable habitat exists onsite, “The project should either assume presence and avoid impacts on the den site through coordination with CDFG and USFWS, and mitigate the loss of any habitat that cannot be avoided; ...or conduct approved protocol-level surveys for kit fox. Those surveys would have to be conducted by a USFWS- and CDFG-approved biologist.”

Specific Avoidance and Minimization Measures for the San Joaquin kit fox reported in Table 3-3 of the EACCS include:

- “If potential dens are present, their disturbance and destruction will be avoided.
- If potential dens are located within the proposed work area and cannot be avoided during construction, qualified biologist will determine if the dens are occupied or were recently occupied using methodology coordinated with the USFWS and CDFG.

- If unoccupied, the qualified biologist will collapse these dens by hand in accordance with USFWS procedures (U.S. Fish and Wildlife Service 1999).
- Exclusion zones will be implemented following USFWS procedures (U.S. Fish and Wildlife Service 1999) or the latest USFWS procedures available at the time. The radius of these zones will follow current standards or will be as follows: Potential Den–50 feet; Known Den–100 feet; Natal or Pupping Den–to be determined on a case-by-case basis in coordination with USFWS and CDFG.
- Pipes will be capped and trenches will contain exit ramps to avoid direct mortality while construction areas is active”.

Additional applicable goals of the EACCS for the San Joaquin kit fox include:

- “Increase the San Joaquin kit fox population while protecting and enhancing suitable habitat and important regional linkages for the species in the study area.”
  - Objective 21.1. Avoid and minimize direct impacts on San Joaquin kit fox (mortality of individuals and loss of den sites) during project construction and indirect impacts that result from postproject activities by implementing avoidance measures outlined in Tables 3-2 and 3-3.
  - Objective 21.2. Increase the San Joaquin kit fox breeding population in the study area.”
    - Conservation Action SJKF-1. Mitigate the loss of suitable San Joaquin kit fox habitat by protecting habitat in accordance with the mitigation guidelines outlined in Table 3-11.
    - Conservation Action SJKF-2. Acquire parcels with documented San Joaquin kit fox den sites in the study area that meet the conservation goals and objectives of this strategy through fee title purchase and/ or conservation easement and using funding that comes from non-mitigation sources (e.g., grant funding, local fundraising efforts).”
  - “Objective 21.3. Increase connectivity of suitable habitat across major infrastructure barriers in the study area.”

- Conservation Action SJKF-3. Conduct targeted presence/absence surveys, including scat scent surveys with dogs, on private and public lands on both sides of I-580 and along the California Aqueduct to identify linkages between and across these barriers.
  - Conservation Action SJKF-4. Acquire parcels and manage vegetation in areas that protect linkages across infrastructure barriers and that meet the conservation goals and objectives of this strategy through fee title purchase or conservation easement.
  - Conservation Action SJKF-5. Create new passages (undercrossings or overcrossings) across I-580 between Livermore and the Alameda/San Joaquin County Line and overcrossings at key locations along the California Aqueduct that are large enough to accommodate movement of terrestrial mammals, including San Joaquin kit fox.”
- “Objective 21.3. Enhance suitable San Joaquin kit fox habitat on public and private lands in the study area through implementation of species-specific measures in management plans.”
- Conservation Action SJKF-5. Create an incentive program that will encourage private landowners to manage ground squirrels on their property using IPM principles and work toward a balance between species needs and the requirements of a working landscape.
  - Conservation Action SFJK-6. Allow the expansion of California ground squirrel colonies on all protected lands except when needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands.
  - Conservation Action SFJK-7. Consistent with GRA-10, cease using rodenticides in protected areas and, when possible, outside protected areas. When rodent management is needed to protect the integrity of structures such as levees or stock pond dams or to prevent nuisance populations on adjacent private lands, encourage land managers to use IPM principles.”

To ensure that mitigation habitat meets or exceeds the value of the habitat lost to development, *Focal Species Impact/Mitigation Scoring Sheets* located in Appendix E of the EACCS (ICF International 2010) should be used as part of the assessment for suitability of mitigation lands for the badger. Standardized mitigation ratios for the San Joaquin kit fox, according to Table 3-11 in the EACCS, is 3:1 within the North Mitigation Area where the project is sited.

### 3.3.14 Disturbance to Waters of the United States or Riparian Habitats

**Potential Impacts.** A formal wetland delineation of the site was not conducted as a part of this evaluation. No wetlands were observed on the site during the October 2018 survey, however, potentially jurisdictional waters are present on the site in the form of Cayetano Creek, and intermittent creek, along the site's western boundary. This hydrologic feature would be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) and any fill being placed within the creek as a result of the project would require permits from some or all of these agencies. Generally, the jurisdiction of the USACE is the Ordinary High Water mark (OHWM) on opposing banks, in the absence of adjacent wetlands, and the jurisdiction of the RWQCB and CDFW is the top of bank or the dripline of woody riparian vegetation, whichever is greater. Additionally, impacts to the bed, bank or associated woody riparian vegetation may be considered a significant impact under CEQA.

As indicated previously, the access driveway to the project site traverses the creek via a culvert bridge. At this time, it is unknown whether the project will require any work within the creek such as to widen or improve the existing culvert bridge or require the installation of a storm drain outfall.

**Mitigation.** Should the project not require the placement of fill within the bed and bank of the creek, or result in the removal of woody riparian vegetation, then the project would not require regulatory permits and would not result in a significant impact and require mitigation under CEQA. However, should the project require impacts within the bed and bank of the creek, or disturbance to woody riparian vegetation, the project should implement avoidance, minimization, and/or compensation measures to reduce impacts to jurisdictional waters and riparian habitats to a less-than-significant level.

*Avoidance.* The preferred method of mitigation would be avoidance of all waters of the U.S. and State by designing the project so that it avoids the placement of fill within potential jurisdictional waters and impacts to riparian habitat.

*Minimization.* If full avoidance is not possible, actions should be taken to minimize impacts to aquatic and riparian habitats. The project should be designed to the extent possible to minimize impacts to the most sensitive aquatic habitat by not impacting the creek within the Ordinary High Water (OHW) channel and to minimize removal of woody riparian vegetation. Measures taken during construction activities should include placing construction fencing around the riparian areas to be preserved to ensure that construction activities do not inadvertently impact these areas.

As part of project build-out, all proposed lighting should be designed to avoid light and glare impacts to the riparian corridor to be avoided. Light sources should not be visible from riparian areas and should not illuminate riparian areas or cause glare on the opposite side of the channels (e.g., to neighboring properties). Additionally, proposed development activities should be designed and situated to avoid the loss of trees within any riparian areas to the maximum extent practicable.

*Compensation.* If significant impacts to the riparian corridor cannot be avoided, then an onsite restoration plan should be developed to compensate for impacts. It is expected that all mitigation measures can be accommodated on the site. If the preserved area cannot fully accommodate the mitigation measures, then off-site restoration would be necessary. Mitigation measures would either result in the creation of new habitat as replacement for habitat lost or enhance the quality of existing habitat for native plants and wildlife. Mitigation measures should include replacement of riparian habitat as well as reseeding or replanting of vegetation in temporarily disturbed areas according to a site-specific mitigation plan. At a minimum, this plan should identify mitigation areas, a planting plan, site maintenance activities, success criteria and remedial measures to compensate for lack of success. The mitigation goal should be to create and enhance riparian habitats with habitat functions and values greater than or equal to those existing in the impact zone.

A detailed monitoring plan, including specific success criteria, should be developed and submitted to permitting agencies during the permit process. The mitigation area would be

monitored in accordance with the plan approved by those permitting agencies. The basic components of the monitoring plan consist of final success criteria, performance criteria, monitoring methods, data analysis, as-built plans, monitoring schedule, contingency/remedial measures, and reporting requirements.

A Habitat Mitigation and Monitoring Plan should be prepared that at a minimum:

- Defines the location of all restoration/creation activities;
- Provides evidence of a suitable water budget to support any created wetland and riparian habitats;
- Identifies the species, amount and location of plants to be installed;
- Identifies time of year for planting and method for supplemental watering during the establishment period;
- Identifies the monitoring period which should be not less than 5 years for wetland restoration and not less than 5 years for riparian restoration, defines success criteria that will be required for the wetland restoration to be deemed a success;
- Identifies adaptive management procedures that accommodate the uncertainty that comes with restoration projects. These include (but not limited to) measures to address colonization by invasive species, unexpected lack of water, excessive foraging of installed wetland plants by native wildlife, etc.;
- Defines management and maintenance activities (weeding of invasive, providing for supplemental water, repair of water delivery systems, etc.); and
- Provides for surety in funding the monitoring and ensuring that the created wetland and riparian habitats fall within lands to be preserved and managed into perpetuity.
- The above mitigation measures when implemented would reduce any impacts on waters of the U.S. and state and sensitive riparian habitats to a less-than-significant level. These measures would also be consistent with the EACCS and its objectives and goals for conservation of riparian forest and scrub habitats (Section 3.5.2.5 of the EACCS).

Regulatory issues. The applicant will also need to comply with all state and federal regulations related to construction work that will impact aquatic habitats occurring on the site. The applicant may be required to obtain a Section 404 Clean Water Act permit from the USACE, Section 401 Water Quality Certification from the RWQCB and Section 1600 Streambed Alteration Agreement from the CDFW prior to initiating any construction within these habitats.

### 3.3.15 Tree Removal Impacts

**Potential Impacts.** The proposed project may require the removal of trees. The number of trees to be removed will depend on the final project plans. The removal of protected trees would constitute a significant impact. The City of Livermore requires a permit to remove of protected trees as defined in Section 3.2.7. above, however, the site is located outside of the City Limits and Urban Growth Boundary of the City of Livermore. Construction activities that lead to the injury, decline, structural failure, or death of a tree proposed to be retained on the site would also constitute a significant impact.

**Mitigation.** For trees to be retained, a tree preservation plan should be prepared for the project identifying all protection and mitigation measures to be taken. These measures should remain in place for the duration of construction activities at the project site. Implementation of the above mitigation measures would reduce the loss of trees to a less-than-significant level.

### 3.3.16 Loss of Habitat for Native Wildlife

**Potential Impacts.** The habitats of the site are likely to comprise only a portion of most wildlife's entire home range or territory. As such, some species may disperse through the site, but most wildlife presently using the site do so as part of their normal movements for foraging, mating, and caring for young. Wildlife species presently occupying the site would be displaced or lost from the proposed development area.

The proposed development would affect a small area. This development would primarily result in the loss of non-native grassland habitat. But may also impact the creek depending on whether the County requires the project to replace the culvert bridge.

The project is small and is planned outside of and set back from the riparian corridor. This suggests the proposed project, when considered by itself, will neither result in a wildlife population dropping below self-sustaining levels nor threaten to eliminate an animal community.

Furthermore, mitigations have been proposed for a number of species previously discussed to adequately off-set grassland habitat losses.

Therefore, impacts to native wildlife due to the loss of habitat resulting from the proposed project are considered less than significant under CEQA.

**Mitigation.** Mitigation measures are not warranted.

### **3.3.17 Interference with the Movement of Native Wildlife**

**Potential Impacts.** The site is located adjacent to a residence with the remainder being open space interspersed with sparse residential development. Within the site itself, wildlife uses the upland non-native grassland of the site as part of their home range and dispersal movements; the creek is likely used as a movement corridor and for dispersal. The proposed development footprint occurs adjacent and set back from the creek. Following project buildout, wildlife species presently using the site are expected to continue moving through the open areas of the property and within the riparian corridor after project build-out. Therefore, impacts to wildlife movements would not be considered significant.

**Mitigation.** Mitigation measures are not warranted.

### **3.3.18 Degradation of Water Quality in Seasonal Drainages, Stock Ponds, and Downstream Waters**

**Potential Impacts.** Proposed construction activities may result in soils left barren in the development footprint. Additionally, extensive grading often leaves the soils of construction zones barren of vegetation and, therefore, vulnerable to sheet, rill, or gully erosion. Furthermore, runoff is often polluted with grease, oil, pesticide and herbicide residues, heavy metals, etc. These pollutants may eventually be carried to sensitive wetland habitats used by a diversity of native wildlife species.

The applicant is expected to comply with the provisions of a grading permit, including standard erosion control measures that employ best management practices (BMPs). Projects involving the grading of large tracts of land must also be in compliance with provisions of a General Construction permit (a type of NPDES permit) available from the California Regional Water Quality Control Board. Compliance with the above permit(s) should result in no impacts to water quality in seasonal creeks, reservoirs, and downstream waters from the proposed project and

should not result in the deposition of pollutants and sediments in sensitive riparian and wetland habitats.

**Mitigation.** Mitigation measures are not warranted.

### **3.3.19 Local Ordinances, Conservation Strategies or Habitat Conservation Plans**

**Potential Impacts.** With the exception of local ordinances previously discussed, no local ordinances, HCPs, or NCCPs are known to be in effect for this project. However, the project is within the Livermore Watershed of Conservation Zone 4 of the East Alameda County Conservation Strategy for which a Programmatic Biological Opinion has been prepared (USFWS 2012) in which the project must follow guidelines for the Foothill yellow-legged frog, California red-legged frog, western pond turtle, Alameda whipsnake, golden eagle, western burrowing owl, American badger, and San Joaquin kit fox. as these species have the potential to occur onsite. Guidelines for these species have been included in the avoidance and minimization measures of the sections above. This project will follow mitigation measures identified in this document to help to achieve goals and objectives defined in Section 3.5 and Tables 3-2 and 3-3 of the Conservation Strategy (ICF 2010). The project will follow these measures as well as the additional measures in the Biological Opinion (USFWS 2012) which are attached as Appendix E. Therefore, the proposed project would not be impacted by any local policies related to biological resources.

**Mitigation.** Additional mitigation measures are not warranted.

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**APPENDIX A: VASCULAR PLANTS OF THE STUDY AREA**

The plants species listed below were observed on the project site during the field surveys conducted by Live Oak Associates, Inc. on October 15, 2018. The U.S. Fish and Wildlife Service wetland indicator status of each plant has been shown following its common name.

OBL - Obligate  
 FACW - Facultative Wetland  
 FAC - Facultative  
 FACU - Facultative Upland  
 UPL - Upland  
 +/- - Higher/lower end of category  
 NR - No review  
 NA - No agreement  
 NI - No investigation

**ANACARDIACEAE – Sumac Family**

*Toxicodendron diversilobum* Poison oak UPL

**ASTERACEAE - Sunflower Family**

*Artemisia douglasiana* Mugwort OBL  
*Carduus pycnocephalus*\* Italian thistle UPL  
*Centaurea solstitialis*\* Yellow star thistle UPL  
*Cirsium vulgare*\* Bull thistle FACU  
*Helminthotheca echioides*\* Bristly ox-tongue FAC\*  
*Lactuca serriola*\* Prickly lettuce FAC

**BRASSICACEAE – Mustard Family**

*Brassica nigra*\* Black mustard UPL

**CAPRIFOLIACEAE – Honeysuckle Family**

*Sambucus nigra ssp. caerulea* Blue elderberry FAC

**CONVOLVULACEAE – Morning-Glory Family**

*Convolvulus arvensis*\* Field bindweed UPL

**CUPRESSACEAE – Cypress Family**

*Cupressus macrocarpa* Monterey cypress UPL

**EUPHORBIACEAE – Spurge Family**

*Croton setiger*  
*Doveweed* UPL

**FABACEAE – Legume Family**

*Medicago polymorpha*\* Burclover UPL

**FAGACEAE – Oak Family**

*Quercus agrifolia* Coast live oak UPL  
*Quercus lobata* Valley oak FACU

**GERANIACEAE – Geranium Family**

<i>Erodium sp.*</i>	Filaree	UPL
<b>JUGLANDACEAE – Walnut Family</b>		
<i>Juglans hindsii</i>	California walnut	FAC
<b>LAMIACEAE – Mint Family</b>		
<i>Marrubium vulgare</i>	Horehound	UPL
<b>MORACEAE – Mulberry Family</b>		
<i>Ficus carica*</i>	Edible fig	UPL
<b>MYRTACEAE – Myrtle Family</b>		
<i>Eucalyptus globulus*</i>	Blue gum eucalyptus	UPL
<b>OLEACEAE – Olive Family</b>		
<i>Olea europaea</i>	Olive	UPL
<b>ONAGRACEAE – Evening Primrose Family</b>		
<i>Epilobium canum</i>	California fuschia	UPL
<b>POACEAE - Grass Family</b>		
<i>Avena sp.*</i>	Wild oat	UPL
<i>Bromus diandrus*</i>	Ripgut brome	UPL
<i>Bromus hordeaceus*</i>	Soft chess	FACU-
<i>Festuca perennis*</i>	Italian ryegrass	FAC
<i>Hordeum murinum*</i>	Farmer's foxtail	NI
<i>Polypogon monspeliensis*</i>	Rabbitsfoot grass	FACW
<b>POLYGONACEAE – Buckwheat Family</b>		
<i>Rumex crispus*</i>	Curly dock	FACW-
<b>URTICACEAE – Nettle Family</b>		
<i>Urtica dioica ssp. holosericea</i>	Stinging nettle	FACW

\* Introduced non-native species

## APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE STUDY AREA

The species listed below are those that may reasonably be expected to use the habitats the Oasis property routinely or from time to time. The list was not intended to include birds that are vagrants or occasional transients. Terrestrial vertebrate species observed in or adjacent to the study area during the October 2018 site visit have been noted with an asterisk.

### CLASS AMPHIBIA (Amphibians)

#### ORDER CAUDATA (Salamanders)

##### FAMILY SALAMANDRIDAE (Newts)

California newt *Taricha torosa*

##### FAMILY PLETHODONTIDAE (Lungless Salamanders)

Yellow-eyed ensatina *Ensatina eschscholtzii xanthoptica*

California slender salamander *Batrachoseps attenuatus*

Pacific slender salamander *Batrachoseps pacificus*

Arboreal salamander *Aneides lugubris*

#### ORDER ANURA (Frogs and Toads)

##### FAMILY BUFONIDAE (True Toads)

Western toad *Bufo boreas*

##### FAMILY HYLIDAE (Tree Frogs and Relatives)

Pacific treefrog *Hyla regilla*

##### FAMILY RANIDAE (True Frogs)

California red-legged frog *Rana draytonii*

### CLASS REPTILIA (Reptiles)

#### ORDER TESTUDINES (Turtles)

##### FAMILY EMYDIDAE (Box and Water Turtles)

Western Pond Turtle *Actinemys marmorata*

#### ORDER SQUAMATA (Lizards and Snakes)

##### SUBORDER SAURIA (Lizards)

##### FAMILY PHRYNOSOMATIDAE

\*Western fence lizard *Sceloporus occidentalis*

##### FAMILY SCINCIDAE (Skinks)

Skilton skink *Eumeces skiltonianus skiltonianus*

##### FAMILY ANGUIDAE (Alligator Lizards and Relatives)

California alligator lizard *Elgaria multicarinata*

##### SUBORDER SERPENTES (Snakes)

##### FAMILY COLUBRIDAE (Colubrids)

Sharp-tailed snake *Contia tenuis*

Coachwhip *Masticophis flagellum*

Alameda whipsnake *Masticophis lateralis euryxanthus*

Gopher snake *Pituophis catenifer*

Common kingsnake *Lampropeltis getula*

California kingsnake	<i>Lampropeltis californiae</i>
<b>FAMILY NATRICIDAE (Live-bearing Snakes)</b>	
Western terrestrial garter snake	<i>Thamnophis elegans</i>
<b>FAMILY VIPERIDAE (Vipers)</b>	
Northern Pacific rattlesnake	<i>Crotalus oreganus oreganus</i>

**CLASS AVES (Birds)****ORDER CICONIIFORMES (Hérons, Storks, Ibises and Relatives)****FAMILY CATHARTIDAE (New World Vultures)**

*Turkey vulture	<i>Cathartes aura</i>
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**ORDER ANSERIFORMES (Screamers, Ducks and Relatives)****FAMILY ANATIDAE (Swans, Geese and Ducks)**

Mallard	<i>Anas platyrhynchos</i>
Canada Goose	<i>Branta canadensis</i>

**ORDER FALCONIFORMES (Vultures, Hawks and Falcons)****FAMILY ACCIPITRIDAE (Hawks, Old World Vultures and Harriers)**

White-tailed kite	<i>Elanus leucurus</i>
Northern harrier	<i>Circus cyaneus</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Cooper's hawk	<i>Accipiter cooperii</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
*Red-tailed hawk	<i>Buteo jamaicensis</i>
Swainson's hawk	<i>Buteo swainsonsi</i>
Golden eagle	<i>Aquila chrysaetos</i>

**FAMILY FALCONIDAE (Caracaras and Falcons)**

*American kestrel	<i>Falco sparverius</i>
American peregrine falcon	<i>Falco peregrinus</i>
Merlin	<i>Falco columbarius</i>
Prairie falcon	<i>Falco mexicanus</i>

**ORDER GALLIFORMES (Magapodes, Curassows, Pheasants and Relatives)****FAMILY PHASIANIDAE (Quails, Pheasants and Relatives)**

*Wild turkey	<i>Meleagris gallopavo</i>
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**FAMILY ODONTOPHORIDAE (New World Quail)**

California quail	<i>Callipepla californica</i>
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**ORDER COLUMBIFORMES (Pigeons and Doves)****FAMILY COLUMBIDAE (Pigeons and Doves)**

*Rock pigeon	<i>Columba livia</i>
*Mourning dove	<i>Zenaida macroura</i>

**ORDER STRIGIFORMES (Owls)****FAMILY TYTONIDAE (Barn Owls)**

*Barn owl	<i>Tyto alba</i>
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**FAMILY STRIGIDAE (Typical Owls)**

Western screech owl	<i>Otus kennicottii</i>
Great horned owl	<i>Bubo virginianus</i>
Burrowing owl	<i>Athene cunicularia</i>

**ORDER APODIFORMES (Swifts and Hummingbirds)****FAMILY TROCHILIDAE (Hummingbirds)**

Anna's hummingbird	<i>Calypte anna</i>
Allen's hummingbird	<i>Selasphorus sasin</i>

**ORDER PICIFORMES (Woodpeckers and Relatives)****FAMILY PICIDAE (Woodpeckers and Wrynecks)**

Acorn woodpecker	<i>Melanerpes formicivorus</i>
Downy woodpecker	<i>Picoides pubescens</i>
Northern flicker	<i>Colaptes auratus</i>
Nuttall's woodpecker	<i>Picoides nuttallii</i>

**ORDER PASSERIFORMES (Perching Birds)****FAMILY TYRANNIDAE (Tyrant Flycatchers)**

Black phoebe	<i>Sayornis nigricans</i>
*Say's phoebe	<i>Sayornis saya</i>
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>
Pacific-slope flycatcher	<i>Empidonax difficilis</i>

**FAMILY LANIIDAE (Shrikes)**

Loggerhead shrike	<i>Lanius ludovicianus</i>
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**FAMILY VIREONIDAE (Typical Vireos)**

Cassin's vireo	<i>Vireo cassinii</i>
Warbling vireo	<i>Vireo gilvus</i>
Hutton's vireo	<i>Vireo huttoni</i>

**FAMILY CORVIDAE (Jays, Magpies and Crows)**

Steller's jay	<i>Cyanocitta stelleri</i>
*California scrub-jay	<i>Aphelocoma californica</i>
American crow	<i>Corvus brachyrhynchos</i>
*Common raven	<i>Corvus corax</i>

**FAMILY ALAUDIDAE (Larks)**

California horned lark	<i>Eremophila alpestris actia</i>
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**FAMILY HIRUNDINIDAE (Swallows)**

Tree swallow	<i>Tachycineta bicolor</i>
Violet-green swallow	<i>Tachycineta thalassina</i>
Cliff swallow	<i>Petrochelidon pyrrhonota</i>
Barn swallow	<i>Hirundo rustica</i>

**FAMILY PARIDAE (Titmice and Relatives)**

Oak titmouse	<i>Baeolophus inornatus</i>
Chestnut-backed chickadee	<i>Poecile rufescens</i>

**FAMILY AEGITHALIDAE (Bushtit)**

Bushtit	<i>Psaltriparus minimus</i>
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**FAMILY SITTIDAE (Nuthatches)**

White-breasted nuthatch	<i>Sitta carolinensis</i>
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**FAMILY TROGLODYTIDAE (Wrens)**

Bewick's wren	<i>Thryomanes bewickii</i>
House wren	<i>Troglodytes aedon</i>
Winter wren	<i>Troglodytes troglodytes</i>

**FAMILY REGULIDAE (Kinglets)**

Ruby-crowned kinglet	<i>Regulus calendula</i>
<b>FAMILY SYLVIIDAE (Old World Warblers and Gnatcatchers)</b>	
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>
<b>FAMILY TURDIDAE (Thrushes)</b>	
Western bluebird	<i>Sialia mexicana</i>
Hermit thrush	<i>Catharus guttatus</i>
American robin	<i>Turdus migratorius</i>
<b>FAMILY MIMIDAE (Mockingbirds and Thrashers)</b>	
Northern mockingbird	<i>Mimus polyglottos</i>
<b>FAMILY STURNIDAE (Starlings and Allies)</b>	
*European starling	<i>Sturnus vulgaris</i>
<b>FAMILY PARULIDAE (Wood Warblers and Relatives)</b>	
Yellow-rumped warbler	<i>Dendroica coronata</i>
Yellow warbler	<i>Dendroica petechia</i>
Orange-crowned warbler	<i>Oreothlypis celata</i>
<b>FAMILY EMBERIZIDAE (Emberizines)</b>	
*California towhee	<i>Pipilo crissalis</i>
Lark sparrow	<i>Chondestes grammacus</i>
Grasshopper sparrow	<i>Ammodramus savannarum</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
*Song sparrow	<i>Melospiza melodia</i>
Fox sparrow	<i>Passerella iliaca</i>
White-throated sparrow	<i>Zonotrichia albicollis</i>
White-crowned sparrow	<i>Zonotrichia leucophrys</i>
Dark-eyed junco	<i>Junco hyemalis</i>
<b>FAMILY CARDINALIDAE (Cardinals, Grosbeaks and Allies)</b>	
Lazuli bunting	<i>Passerina amoena</i>
<b>FAMILY ICTERIDAE (Blackbirds, Orioles and Allies)</b>	
Red-winged blackbird	<i>Gelaius phoeniceus</i>
*Western meadowlark	<i>Sturnella neglecta</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
Brown-headed cowbird	<i>Molothrus ater</i>
Bullock's oriole	<i>Icterus bullockii</i>
<b>FAMILY FRINGILLIDAE (Finches)</b>	
Purple finch	<i>Carpodacus purpureus</i>
House finch	<i>Carpodacus mexicanus</i>
Lesser goldfinch	<i>Carduelis psaltria</i>
American goldfinch	<i>Carduelis tristis</i>
<b>CLASS MAMMALIA (Mammals)</b>	
<b>ORDER DIDELPHIMORPHIA (Marsupials)</b>	
<b>FAMILY DIDELPHIDAE (Opossums)</b>	
Virginia opossum	<i>Didelphis virginiana</i>
<b>ORDER CHIROPTERA (Bats)</b>	
<b>FAMILY VESPERTILIONIDAE (Evening Bats)</b>	
Little brown myotis	<i>Myotis lucifugus</i>

Yuma myotis	<i>Myotis yumanensis</i>
California myotis	<i>Myotis californicus</i>
Western pipistrelle	<i>Pipistrellus hesperus</i>
Big brown bat	<i>Eptesicus fuscus</i>
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>
Western red bat	<i>Lasiurus blossevillii</i>
Pallid bat	<i>Antrozous pallidus</i>
<b>FAMILY MOLOSSIDAE (Free-tailed Bats)</b>	
California mastiff bat	<i>Eumops perotis californicus</i>
Mexican free-tailed bat	<i>Tadarida brasiliensis</i>
<b>ORDER LAGOMORPHA (Rabbits, Hares and Pika)</b>	
<b>FAMILY LEPORIDAE (Rabbits and Hares)</b>	
Brush rabbit	<i>Sylvilagus bachmani</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>
<b>ORDER RODENTIA (Rodents)</b>	
<b>FAMILY SCIURIDAE (Squirrels, Chipmunks and Marmots)</b>	
*California ground squirrel	<i>Spermophilus beecheyi</i>
Western gray squirrel	<i>Sciurus griseus</i>
Eastern fox squirrel	<i>Sciurus niger</i>
<b>FAMILY GEOMYIDAE (Pocket Gophers)</b>	
Botta's pocket gopher	<i>Thomomys bottae</i>
<b>FAMILY HETEROMYIDAE (Pocket Mice and Kangaroo Rats)</b>	
California pocket mouse	<i>Chaetodipus californicus</i>
<b>FAMILY CRICETIDAE (Mice, Rats and Voles)</b>	
Deer mouse	<i>Peromyscus maniculatus</i>
Parasitic mouse	<i>Peromyscus californicus</i>
Western harvest mouse	<i>Reithrodontomys megalotis</i>
California meadow vole	<i>Microtus californicus</i>
San Francisco dusky-footed woodrat	<i>Neotoma fuscipes annectens</i>
<b>ORDER CARNIVORA (Carnivores)</b>	
<b>FAMILY CANIDAE (Foxes, Wolves and Relatives)</b>	
Coyote	<i>Canis latrans</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
San Joaquin kit fox	<i>Vulpes macrotis</i>
Domestic dog	<i>Canis familiaris</i>
<b>FAMILY PROCYONIDAE (Raccoons and Relatives)</b>	
Raccoon	<i>Procyon lotor</i>
Ringtail	<i>Bassariscus astutus</i>
<b>FAMILY MUSTELIDAE (Weasels and Relatives)</b>	
American badger	<i>Taxidea taxus</i>
<b>FAMILY MEPHITIDAE (Skunks)</b>	
Striped skunk	<i>Mephitis mephitis</i>
<b>FAMILY FELIDAE (Cats)</b>	
Feral cat	<i>Felis catus</i>
Mountain lion	<i>Puma concolor</i>

Bobcat

*Lynx rufus*

**ORDER ARTIODACTYLA (Even-toed Ungulates)**

**SUBFAMILY BOVINIDAE (Cattle)**

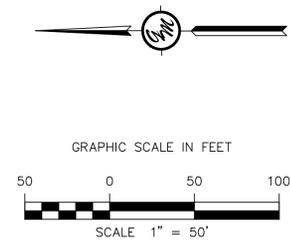
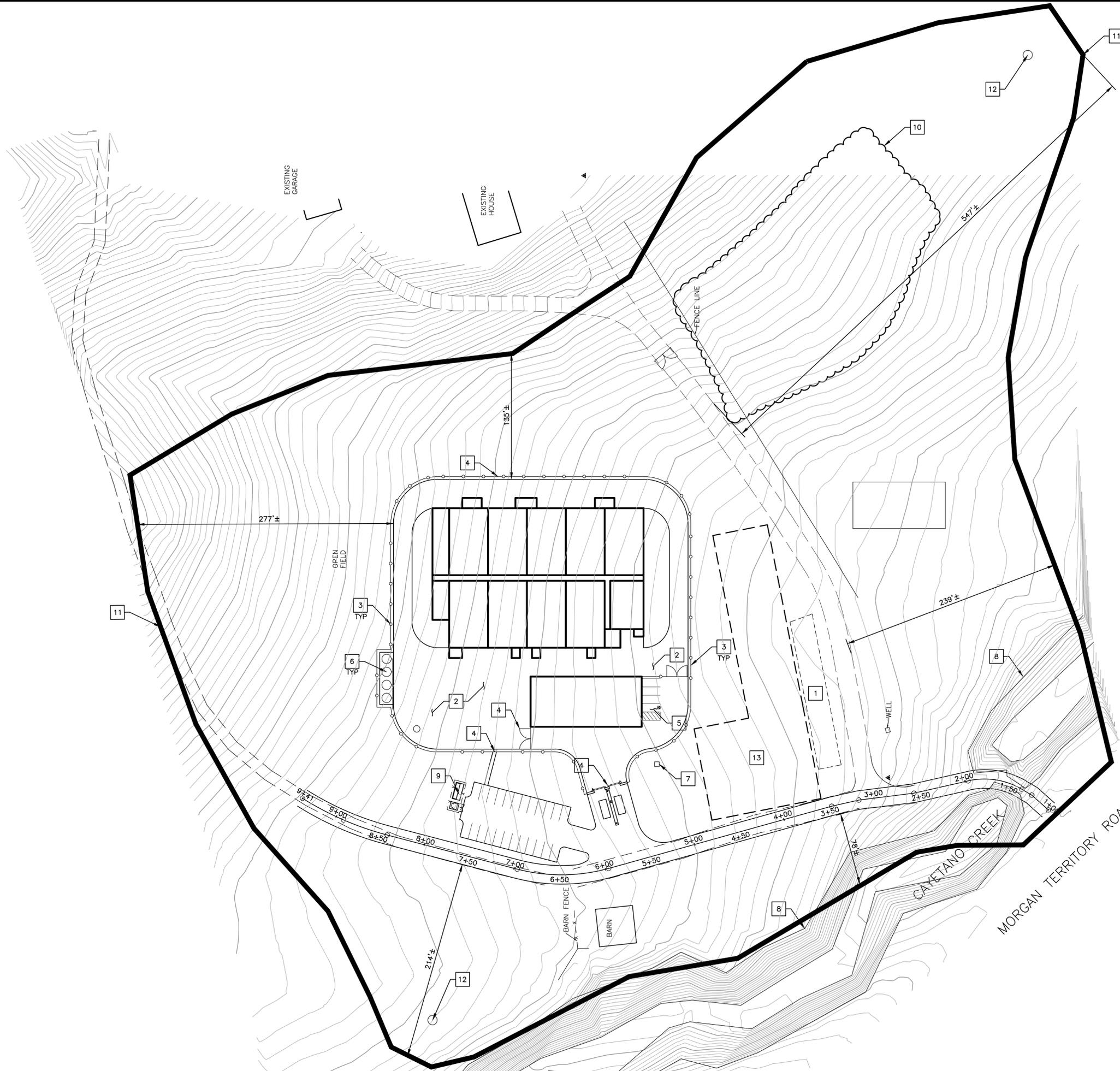
**FAMILY CERVIDAE (Deer, Elk and Relatives)**

Black-tailed deer

*Odocoileus hemionus columbianus*

APPENDIX C: Site plans

ALL IDEAS, DESIGNS, ARRANGEMENTS AND PLANS INDICATED BY THIS DRAWING ARE OWNED BY AND THE PROPERTY OF THIS OFFICE AND WERE CREATED, DEVELOPED AND DEVELOPED FOR USE ON, AND IN CONNECTION WITH THE SPECIFIED PROJECT. NONE OF SUCH IDEAS, DESIGNS, ARRANGEMENTS OR PLANS SHALL BE USED BY OR DISCLOSED TO ANY PERSON, FIRM OR CORPORATION FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN PERMISSION OF GREENWOOD & MOORE, INC. WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALE DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB. THIS OFFICE MUST BE NOTIFIED OF ANY VARIATION FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. SHOP DETAILS OF ACCURATE SCALE MUST BE SUBMITTED TO THIS OFFICE FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION ON THE ITEMS SO NOTED.



**KEYNOTES**

1. BIORETENTION AREA
2. ASPHALT PAVING
3. SECURITY FENCE
4. SECURITY GATE
5. ACCESSIBLE PARKING SPACE
6. FIRE STORAGE TANK
7. APPROXIMATE LOCATION OF (E) WELL
8. TOP OF CREEK
9. NEW ELECTRICAL TRANSFORMER AND SWITCHGEAR
10. APPROXIMATE LOCATION OF LEACH FIELD
11. AREA OF WORK
12. APPROXIMATE LOCATION OF PROPOSED WELL
13. CONSTRUCTION STAGING AREA

## **APPENDIX D: MINIMIZATION MEASURES FOR CALIFORNIA RED-LEGGED FROGS**

The following measures will minimize direct and indirect impacts to California red-legged frogs.

1. Prior to the start of construction, a qualified biologist will train all project staff regarding habitat sensitivity, identification of special status species, and required practices. The training shall include the general measures that are being implemented to conserve these species as they relate to the project, the penalties for non-compliance, and the boundaries of the project area. A fact sheet or other supporting materials containing this information should be prepared and distributed. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures.
2. A qualified biologist will survey the project site prior to, and be present to monitor, construction activities during any initial ground disturbance or vegetation clearing or other periods during construction, as necessary. The biologist will capture and relocate any California red-legged frogs that are discovered during the surveys or construction monitoring. Any individuals that are captured should be held for the minimum amount of time necessary to release them to suitable habitat outside of the work area.
3. A qualified biologist will stake and flag exclusion zones around all known locations of CRLF breeding and upland refugia areas in the construction zone. These areas will be avoided during construction activities to the maximum extent practicable. All construction areas will be flagged, and all activity will be confined to these areas.
4. If a CRLF is encountered during construction work, activities will cease until the animal is removed and relocated by a qualified biologist.
5. Construction activities should be limited to the period from May 1 through October 31.
6. Permanent and temporary construction disturbances and other types of project-related disturbances to CRLF habitat shall be minimized to the maximum extent practicable and confined to the project site. To minimize temporary disturbances, all project-related vehicle traffic shall be restricted to established roads, construction areas, designated cross-country routes, and other designated areas. These areas also should be included in preconstruction surveys and, to the maximum extent possible, should be established in locations disturbed by previous activities to prevent further adverse effects. Sensitive

habitat areas shall be delineated with high visibility flagging or fencing to prevent encroachment of construction personnel and equipment into any sensitive areas during project work activities. At no time shall equipment or personnel be allowed to adversely affect areas outside the project site without authorization from the Service.

7. Because dusk and dawn are often the times when CRLF are most actively foraging and dispersing, all construction activities should cease one half hour before sunset and should not begin prior to one half hour before sunrise.
8. No canine or feline pets or firearms (except for federal, state, or local law enforcement officers and security personnel) shall be permitted at the project site to avoid harassment, killing, or injuring of CRLF.
9. A representative shall be appointed by the applicant who will be the contact source for any employee or contractor who might inadvertently kill or injure a CRLF or who finds a dead, injured or entrapped individual. The representative shall be identified during the tailgate/training session. The representative's name and telephone number shall be provided to the Service prior to the initiation of ground disturbance activities.
10. Tightly woven fiber netting or similar material shall be used for erosion control or other purposes at the project site to ensure that CRLF do not get trapped.
11. A litter control program shall be instituted at the entire project site. All construction personnel should ensure that food scraps, paper wrappers, food containers, cans, bottles, and other trash from the project area are deposited in covered or closed trash containers. The trash containers should be removed from the project area at the end of each working day.

**APPENDIX E: ADDITIONAL MINIMIZATION AND MITIGATION MEASURES  
FROM THE BIOLOGICAL OPINION FOR THE EAST ALAMEDA COUNTY  
CONSERVATION STRATEGY**

**PROGRAMMATIC BIOLOGICAL OPINION**

**FOR THE**

**EAST ALAMEDA COUNTY CONSERVATION**

**STRATEGY**

### Suitability Criteria for Projects to be Appended to the Programmatic Biological Opinion

Actions that fall under this consultation are projects that may adversely affect the above mentioned listed species either by take of individuals, temporary disturbance or permanent loss of habitat, and/or temporary disturbance or permanent loss of critical habitat, but which nonetheless are not likely to jeopardize the continued existence of the listed species and are not likely to destroy or adversely modify critical habitat. In order for individual projects to be appended to this Programmatic BO, they must be consistent with the Conservation Strategy and have been reviewed by the Corps and Service via the procedure described above. Individual projects will be located within the Conservation Strategy Study Area and fall under the list of covered activities in this Programmatic BO. Projects that are not covered activities will not be appended to this Programmatic BO and will require individual formal consultation.

Projects will adhere to the maximum extent practicable the Project-Level Use of the Strategy and Conservation Goals and Objectives as outlined in Chapter 3 of the Conservation Strategy including the Generalized Avoidance and Minimization Measures to Reduce Effects on Focal Species, Species-Specific Avoidance and Minimization Measures, Standardized Mitigation Ratios for focal species, and Impact/Mitigation Scoring of Focal Species Habitat. Projects shall follow Conservation Priorities and Summary actions for their specific Conservation Zone as described in Chapter 4 of the Conservation Strategy. All of these sections have been summarized above.

Compensation for project effects should occur within the Conservation Strategy Study Area for the project to be appended to the Programmatic BO. Consistent with the Conservation Strategy, the Service will consider compensation outside of the Conservation Strategy Study Area on a case by case basis. Any projects wishing to use areas outside of the Conservation Strategy Study Area shall provide a biological rationale for not compensating within the Conservation Strategy Study Area. The Service reserves the right to determine if the project and compensation is appropriate to append to this Programmatic BO.

## **BIOLOGICAL OPINION**

### **Description of the Action**

#### Covered Activities

##### *Development Projects:*

- Residential
- Commercial
- Industrial
- Parks
- Public Institutions
- Associated Infrastructure (roads, utilities) for new development and redevelopment
- Park Facilities: Security residences, service yards, staging areas, small interpretive

facilities, campgrounds, and picnic areas (includes utilities, fencing for facilities, water and septic, maintenance)

*Infrastructure Projects:*

- Power Infrastructure and maintenance (includes transmission lines): New and existing infrastructure; minor construction
- Road Construction and Maintenance: New and existing roads
- Trail Construction and Maintenance: New and existing trails
- Rail Construction and Maintenance: New and existing
- Weather Towers and Maintenance: New and existing towers
- Telecommunication Towers and Maintenance: New and existing towers
- Bridge Construction and Maintenance: New and existing bridges and ramps
- Solar Projects: Installation, operation, and maintenance
- Wind Energy Projects: Installation, operation, and maintenance. Avian and bat effects are not included in this consultation.
- Electrical Co-Generation Plants
- Flood Wall Installation
- Bank Stabilization
- Low Flow Crossings and Maintenance
- Levee Installation and Maintenance
- Sedimentation Basins Construction and Maintenance
- Water Detention Basins Construction and Maintenance
- Drainage Pump Station
- New Flood Control Channel: Excavation and construction
- Flood Control Facilities and Appurtenances
- Culvert Installation and Maintenance
- Grade Control Structures: Construction, maintenance, removal
- Water Diversion Structure Construction and Maintenance. The actual diversion of water is not included in this consultation.
- Retaining Walls
- Water Treatment Plants and Appurtenances
- Water Pipelines and Appurtenances
- Sewer/Wastewater Pipelines
- Pump Stations
- Sludge Beds
- Aqueduct and Transmission System Turnouts: Construction and maintenance.
- Wells: Production, monitoring, cathodic protection and injection.
- Water Storage Tanks: Construction and maintenance
- Water Spreading Basins: For groundwater recharge
- Stream Gage: Installation and repairs
- Recycled Water Projects: Irrigation, recharge
- Solid Waste Discharges: Soil disposal, stockpiles (uncontaminated)
- Groundwater remediation systems

*Maintenance Projects:*

- Sediment Removal: Flood control channel, basin, stock pond
- Debris Removal: For large trash and woody debris
- Dams and Other Water Impoundments (Existing): Maintenance. New construction or increases in capacity or size are not covered.
- Vegetation Management: Riparian, native, and control of invasive vegetation (dependent on application)

*Restoration Projects:*

- Pond and/or Stream Restoration/Enhancement/Construction
- Fish Barrier Removal and Modification
- Wetland Construction and Maintenance (if needed)
- Channel Reconfiguration to Increase Complexity for Floodplain Creation and Recontouring
- Species/Habitat Conservation/Restoration Projects

*Enforcement Actions:*

- Actions Related to Regulatory Enforcement (Act, National Environmental Policy Act California Endangered Species Act, California Environmental Quality Act, Clean Water Act, etc...)

Certain activities will be covered as part of a long term management plan for conservation areas that are managed for listed species as compensation for project effects. These activities may include but are not limited to: integrated pest management, vegetation management, grazing, species surveys, conservation area enhancement actions, fence installation and maintenance, grazing water supply infrastructure installation and maintenance, and pond maintenance.

Minimization Measures

To the maximum extent practicable, projects authorized under this Programmatic BO will be designed and implemented in such a way as to minimize adverse effects to listed species and/or their habitat. To achieve that purpose, the projects will follow the Focal Species Goals and Objectives as described in Chapter 3 of the Conservation Strategy, Generalized Avoidance and Minimization Measures to Reduce Effects on Focal Species (Appendix A of this Programmatic BO and Table 3-2 in the Conservation Strategy), Species-Specific Avoidance and Minimization Measures (Appendix B of this Programmatic BO and Table 3-3 in the Conservation Strategy), Standardized Mitigation Ratios (Appendix C of this Programmatic BO and Table 3-4 in the Conservation Strategy), and Impact/Mitigation Scoring of Focal Species Habitat (Appendix D of this Programmatic BO and Appendix E in the Conservation Strategy).

In addition to the measures in the Conservation Strategy and discussed above, the Service has added the following general and species specific minimization measures. The Service recognizes that not all projects will require all of these measures. The applicant may request modification of these measures, if applicable. However, these measures below will be implemented unless

otherwise modified or waived by the Service in writing.

#### *General Minimization Measures*

1. At least 15 days prior to any ground disturbing activities, the applicant will submit to the Service for review and approval the qualifications of the proposed biological monitor(s). A qualified biological monitor means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the listed species.
2. A Service-approved biological monitor will remain on-site during all construction activities in or adjacent to habitat for listed species. The Service-approved biological monitor(s) will be given the authority to stop any work that may result in the take of listed species. If the Service-approved biological monitor(s) exercises this authority, the Service will be notified by telephone and electronic mail within one working day. The Service-approved biological monitor will be the contact for any employee or contractor who might inadvertently kill or injure a listed species or anyone who finds a dead, injured or entrapped individual. The Service-approved biological monitor will possess a working wireless/mobile phone whose number will be provided to the Service.
3. Prior to construction, a construction employee education program will be conducted in reference to potential listed species on site. At minimum, the program will consist of a brief presentation by persons knowledgeable in endangered species biology and legislative protection (Service-approved biologist) to explain concerns to contractors, their employees, and agency personnel involved in the project. The program will include: a description of the species and their habitat needs; any reports of occurrences in the project area; an explanation of the status of each listed species and their protection under the Act; and a list of measures being taken to reduce effects to the species during construction and implementation. Fact sheets conveying this information and an educational brochure containing color photographs of all listed species in the work area(s) will be prepared for distribution to the above-mentioned people and anyone else who may enter the project area. A list of employees who attend the training sessions will be maintained by the applicant to be made available for review by the Service upon request. Contractor training will be incorporated into construction contracts and will be a component of weekly project meetings.
4. Preconstruction surveys for listed species will be performed immediately prior to groundbreaking activities. Surveys will be conducted by Service-approved biologists. If at any point, construction activities cease for more than five consecutive days, additional preconstruction surveys will be conducted prior to the resumption of these actions.
5. To prevent the accidental entrapment of listed species during construction, all excavated holes or trenches deeper than 6 inches will be covered at the end of each work day with plywood or similar materials. Foundation trenches or larger excavations that cannot easily be covered will be ramped at the end of the work day to allow trapped animals an

escape method. Prior to the filling of such holes, these areas will be thoroughly inspected for listed species by Service-approved biologists. In the event of a trapped animal is observed, construction will cease until the individual has been relocated to an appropriate location.

6. Translocation will be approved on a project specific basis. The applicant will prepare a listed species translocation plan for the project to be reviewed and approved by the Service prior to project implementation. The plan will include trapping and translocation methods, translocation site, and post translocation monitoring.
7. Only Service-approved biologists will conduct surveys and move listed species.
8. All trash and debris within the work area will be placed in containers with secure lids before the end of each work day in order to reduce the likelihood of predators being attracted to the site by discarded food rappers and other rubbish that may be left on-site. Containers will be emptied as necessary to prevent trash overflow onto the site and all rubbish will be disposed of at an appropriate off-site location.
9. All vegetation which obscures the observation of wildlife movement within the affected areas containing or immediately adjacent aquatic habitats will be completely removed by hand just prior to the initiation of grading to remove cover that might be used by listed species. The Service-approved biologist will survey these areas immediately prior to vegetation removal to find, capture and relocate any observed listed species, as approved by the Service.
10. All construction activities must cease one half hour before sunset and should not begin prior to one half hour after sunrise. There will be no nighttime construction.
11. Grading and construction will be limited to the dry season, typically May-October.
12. Best Management Practices (BMPs) will be used to minimize erosion and impacts to water quality and effects to aquatic habitat. If necessary, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared.
13. The applicant will ensure a readily available copy of this biological opinion is maintained by the construction foreman/manager on the project site whenever earthmoving and/or construction is taking place. The name and telephone number of the construction foreman/manager will be provided to the Service prior to groundbreaking.
14. The construction area shall be delineated with high visibility temporary fencing at least 4 feet in height, flagging, or other barrier to prevent encroachment of construction personnel and equipment outside of the construction area. Such fencing shall be inspected and maintained daily until completion of the project. The fencing will be removed only when all construction equipment is removed from the site.

15. Silt fencing or wildlife exclusion fencing will be used to prevent listed species from entering the project area. Exclusion fencing will be at least 3 feet high and the lower 6 inches of the fence will be buried in the ground to prevent animals from crawling under. The remaining 2.5 feet will be left above ground to serve as a barrier for animals moving on the ground surface. The fence will be pulled taut at each support to prevent folds or snags. Fencing shall be installed and maintained in good condition during all construction activities. Such fencing shall be inspected and maintained daily until completion of the project. The fencing will be removed only when all construction equipment is removed from the site.
16. A Service-approved biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas shall be removed.
17. Project sites shall be revegetated with an appropriate assemblage of native riparian wetland and upland vegetation suitable for the area. A species list and restoration and monitoring plan shall be included with the project proposal for review and approval by the Service and the Corps. Such a plan must include, but not be limited to, location of the restoration, species to be used, restoration techniques, time of year the work will be done, identifiable success criteria for completion, and remedial actions if the success criteria are not achieved.
18. If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 5 millimeters. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.
19. A Service-approved biologist shall permanently remove, from within the project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible. The applicant shall have the responsibility to ensure that their activities are in compliance with the California Fish and Game Code.

#### *Callippe Silverspot Butterfly*

1. Preconstruction surveys for the larval food plants of callippe silverspot butterfly will be conducted during typical bloom season during a period from January through April. Any larval food plants found within 300 feet of the project footprint will be clearly marked with pin flagging. Flagged areas will be avoided to the maximum extent practicable and if possible, fenced for avoidance. In addition, orange fencing will be placed along the edge of the work area near any larval food plants to prevent workers and vehicles from entering this area.
2. The applicant and contractors will minimize generation and movement of construction-

related dust through BMPs and SWPPP provisions, such as those that would be conditioned by the SFBRWQCB and Bay Area Air Quality Management District. Specifically, contracts would enforce prudent site watering and application of nontoxic soil stabilizers. The amount of watering will be monitored to ensure polluted runoff from roads does not occur (roads will not be over-watered).

#### *California Red-Legged Frog*

1. A Service-approved biologist shall survey the work site immediately prior to construction activities. If California red-legged frogs, tadpoles, or eggs are found, the approved biologist shall contact the Service to determine if moving any of these life-stages is appropriate. In making this determination the Service shall consider if an appropriate relocation site exists as provided in the relocation plan. If the Service approves moving animals, the approved biologist shall be allowed sufficient time to move California red-legged frogs from the work site before work activities begin. Only Service-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs.
2. Bare hands shall be used to capture California red-legged frogs. Service-approved biologists will not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within two hours before and during periods when they are capturing and relocating individuals. To avoid transferring disease or pathogens of handling of the amphibians, Service-approved biologists will follow the Declining Amphibian Populations Task Force's "Code of Practice."

#### *Central California Tiger Salamander*

1. A Service-approved biologist shall survey the work site immediately prior to construction activities. If Central California tiger salamanders, larvae, or eggs are found, the approved biologist shall contact the Service to determine if moving any of these life-stages is appropriate. In making this determination the Service shall consider if an appropriate relocation site exists as provided in the relocation plan. If the Service approves moving animals, the approved biologist shall be allowed sufficient time to move Central California tiger salamanders from the work site before work activities begin. Only Service-approved biologists shall participate in activities associated with the capture, handling, and monitoring of Central California tiger salamanders.
2. Bare hands shall be used to capture Central California tiger salamanders. Service-approved biologists will not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within two hours before and during periods when they are capturing and relocating individuals. To avoid transferring disease or pathogens of handling of the amphibians, Service-approved biologists will follow the Declining Amphibian Populations Task Force's "Code of Practice."

*San Joaquin Kit Fox*

1. A qualified Service-approved biologist will conduct a preconstruction survey no more than 30 days before the beginning of ground disturbance or any activity likely to affect San Joaquin kit fox. This measure will be implemented in all off-road construction areas. The biologist will survey the proposed construction area and a 200-foot buffer area around the construction area to identify suitable dens. The biologist will conduct den searches by systematically walking transects spaced 30-100 feet apart through the survey area. Transect distance should be determined on the basis of the height of vegetation such that 100 percent visual coverage of the project area is achieved. If dens are found during the survey, the biologist will map the location of each den as well as record the size and shape of the den entrance; the presence of tracks, scat, and prey remains; and if the den was recently excavated. The biologist will also record information on prey availability (e.g., ground squirrel colonies). The status of the den as defined by the Service should also be determined and recorded. Dens will be classified in one of the following four den status categories:
  - a. Potential den: Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is sufficient to conclude that it is being used or has been used by a San Joaquin kit fox. Potential dens comprise: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for San Joaquin kit fox use.
  - b. Known den: Any existing natural den or artificial structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records; past or current radio telemetry or spotlighting data; San Joaquin kit fox signs such as tracks, scat, and/or prey remains; or other reasonable proof that a given den is being or has been used by a San Joaquin kit fox.
  - c. Natal or pupping den: Any den used by San Joaquin kit fox to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more San Joaquin kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which San Joaquin kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two; therefore, for purposes of this definition either term applies.
  - d. Atypical den: Any artificial structure that has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.

Written results of the surveys will be submitted to the Service within one week of the completion of surveys and prior to the beginning of ground disturbance and/or construction activities likely to affect San Joaquin kit fox.

2. After preconstruction den searches and before the commencement of construction activities, a qualified Service-approved biologist will establish and maintain the following exclusion zones measured in a radius outward from the entrance or cluster of entrances of each den.
  - a. Potential and atypical dens: A total of 4-5 flagged stakes will be placed 50 feet from the den entrance to identify the den location.
  - b. Known den: Orange construction barrier fencing will be installed between the construction work area and the known den site at a minimum distance of 100 feet from the den. The fencing will be maintained until all construction-related disturbances have been terminated. At that time, all fencing will be removed to avoid attracting subsequent attention to the den.
  - c. Natal/pupping den: The Service will be contacted immediately if a natal or pupping den is discovered at or within 200 feet from the boundary of the construction area.
  - d. Construction and other project activities will be prohibited or greatly restricted within these exclusion zones. Only essential vehicular operation on existing roads and foot traffic should be permitted and articulated to the Service. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited in the exclusion zones.
  - e. In cases where avoidance is not a reasonable alternative, limited destruction of potential San Joaquin kit fox dens will be allowed. Potential dens can be removed by careful hand excavation by a Service-approved biologist or under the supervision of a Service-approved biologist, after the dens have been monitored for three days with tracking medium or a remote sensor camera and determined to be vacant of San Joaquin kit foxes. If, during excavation or monitoring, a potential den is determined to be currently or previously used (e.g., San Joaquin kit fox sign found inside) by San Joaquin kit fox, then destruction of the den or construction in that area will cease and the Service will be notified immediately.
3. Vehicle traffic will be restricted to established roads, construction areas, and other designated areas.
4. Grading activities shall be designed to minimize or eliminate effects to rodent burrows. Areas with high concentrations of burrows and large burrows suitable for San Joaquin kit fox dens shall be avoided by grading activities to the maximum extent possible. In

addition, when concentrations of burrows or large burrows are observed within the site these areas shall be staked and flagged to ensure construction personnel are aware of their location and to facilitate avoidance of these areas.

5. Compensate for the loss of San Joaquin kit foxes and suitable habitat by protecting occupied habitat and/or restoring suitable habitat to establish and maintain San Joaquin kit fox presence.

#### *Palmate-Bracted Bird's-Beak*

1. Prior to any ground disturbance in the project area, if feasible, all seasonal wetlands and areas containing palmate-bracted bird's-beak, and any suitable habitat will be staked or flagged and a temporary barrier (silt fencing, etc.) will be constructed.

#### *Compensation/Mitigation*

Compensation/mitigation in this Programmatic BO is only to minimize adverse effects to the above named federally listed species. This section does not cover mitigation for effects/impacts to state listed species or waters regulated by the Corps or SFBRWQCB.

As stated in the Suitability Criteria, compensation should occur within the Conservation Strategy Study Area. Compensation shall be identified and approved prior to project commencement. Ideally, compensation should be implemented prior to project commencement. If the land acquisition is not acquired and protected prior to project effects, financial assurances will be provided to the Service and a strict timeline for conservation easement recordation and management will be implemented.

Compensation for permanent effects to listed species and habitat can occur through buying credits at a Service-approved conservation/mitigation bank or land acquisition, management, and protection. Species presence must be established and documented on the compensation site. The conservation property will be free of all liens and incompatible leases and easements or they will be terminated or subordinated to the conservation easement. Geological Hazard Abatement Districts will not be allowed to be established on compensation areas, manage compensation sites, or fund endowments for the management of listed species habitat. Compensation sites will follow the Conservation Priorities and mitigation ratios in the Conservation Strategy for the listed species affected by the project and will be subject to success requirements.

Compensation for temporary effects is similar to compensation for permanent effects discussed above with the exception that the affected areas need to be restored to pre-project conditions within 12 months from the commencement of the activity. In addition to restoration, compensation will occur at a 1:1 ratio at a Service-approved conservation/mitigation bank or through land acquisition, management, and protection. Projects that require longer than 12 months from the commencement of the activity to restore their effects will be considered to have permanent effects and will be required to use the standardized mitigation ratios.

Land acquisition can either be in fee title with a permanent conservation easement placed on the property or through a permanent conservation easement without holding fee title. A Service-approved recorded conservation easement is required and a copy will be provided to the Service prior to project implementation or within the specific approved timeframe. A Service-approved resource management plan and long-term maintenance and monitoring endowment must be established. The applicant is required to obtain the approval of the conservation easement holder, land manager, and endowment holder of the compensation area.

Appendix F of the Conservation Strategy provides examples of what the Service requires for compensation (conservation easement template, management plan template, requirements for off-site compensation, performance securities). The Service periodically revises these documents. Contact the Sacramento Fish and Wildlife Office for the most recent templates and guidance (916-414-6600; <http://www.fws.gov/sacramento/>).

### Reporting and Notification

In order to verify compliance with the Programmatic BO, the project applicant will be required to submit reports during various stages of project implementation. Applicants with projects that have relatively small effects or are limited in scope and duration can request the Service waive this requirement. The Service will be notified immediately in writing if the project is not in compliance with the Programmatic BO and/or the accompanying letter appending the project to the Programmatic BO. Documentation will be provided to the Service verifying compliance with pre-project minimization measures no later than 14 calendar days before project implementation.

The applicant will provide monthly compliance and status reports to the Service during construction documenting: (1) dates that construction occurred; (2) photo documentation of construction and applicable minimization measures; (3) pertinent information concerning the success of the project in meeting minimization measures including status of the compensation; (4) an explanation of failure to meet such measures, if any; (5) known project effects on listed species, if any; (6) occurrences of incidental take of listed species, if any; (7) documentation of employee environmental education; and (8) other pertinent information. Applicants with projects that have relatively small effects or are limited in scope and duration can request the Service waive this requirement.

The applicant will submit a post-construction compliance report prepared by the Service-approved biologist to the Sacramento Fish and Wildlife Office within 30 calendar days of the date of the completion of construction activity. This report will compile the monthly reports and detail: (1) dates that construction occurred; (2) photo documentation of construction and applicable minimization measures; (3) pertinent information concerning the success of the project in meeting minimization measures including status of the compensation; (4) an explanation of failure to meet such measures, if any; (5) known project effects on listed species, if any; (6) occurrences of incidental take of listed species, if any; (7) documentation of employee environmental education; (8) as built drawings for the project and any compensation/mitigation features; and (9) other pertinent information.

The Service must be notified within one (1) working day of the finding of any injured listed species or any unanticipated damage to its habitat associated with the proposed project. Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Notification must include the date, time, and precise location of the individual/incident clearly indicated on a United States Geological Survey 7.5 minute quadrangle and other maps at a finer scale, as requested by the Service, and any other pertinent information. Dead individuals must be sealed in a sealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site. The Service contact persons are the Coast Bay/Forest Foothills Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office at (916) 414-6600; and the Resident Agent-in-Charge of the Service's Division of Law Enforcement, 2800 Cottage Way, Room W-2928, Sacramento, California 95825, at (916) 414-6660.

#### Non-Compliance and Remedial Actions

Projects that are not in compliance with the Programmatic BO and the accompanying letter appending the project to the Programmatic BO will be required to correct the matter(s) immediately and provide additional compensation. The amount of additional compensation will be determined on case-by-case basis but will be subject to the same requirements as the original compensation. The amount of remedial compensation will increase commensurate with the degree of the violation and the amount of time the project is out of compliance.

#### **Action Area**

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the purposes of the effects assessment, the action area is the Conservation Strategy Study Area encompassing 271,485 acres in eastern Alameda County, California. The western boundary runs along the Alameda Creek watershed boundary which encompasses small portions of the cities of Fremont, Union City, and Hayward, though those jurisdictions were not formally part of the planning process. The northern, southern, and eastern boundaries follow the Alameda County line with Contra Costa County, Santa Clara County, and San Joaquin County, respectively (Figure 1-1).

#### Analytical Framework for the Jeopardy and Adverse Modification Analyses

##### *Jeopardy Determination*

In accordance with policy and regulation, the jeopardy analysis in this Programmatic BO relies on four components: (1) the Status of the Species, which evaluates the longhorn fairy shrimp, vernal pool fairy shrimp, callippe silverspot butterfly, California red-legged frog, Central California tiger salamander, Alameda whipsnake, San Joaquin kit fox, and palmate-bracted bird's-beak's range-wide condition, the factors responsible for that condition, and their survival and recovery needs; (2) the Environmental Baseline, which evaluates the condition of the eight

## **APPENDIX D**

### **CONCEPTUAL WATER-SUPPLY AND WASTEWATER PLAN**

**CONCEPTUAL WATER-SUPPLY AND  
WASTEWATER PLAN, OASIS VENTURE  
LIVERMORE GROW FACILITY,  
ALAMEDA COUNTY, CA**

Report prepared for:

Alameda County Planning Department  
Zone 7 Water Agency  
Alameda County Environmental Health Department  
San Francisco Bay Regional Water Quality Control Board  
Felix Kukushkin, Oasis Venture, LLC

Prepared by:

Mark Woyshner  
Eric Donaldson

Balance Hydrologics, Inc.

August 2019 (minor revisions July 2020)

A report prepared for:

**Mr. Felix Kukushkin**

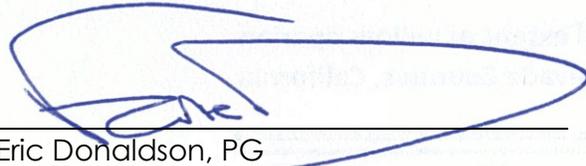
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**Conceptual Water-Supply and Wastewater Plan, Oasis Venture Livermore Grow Facility, Alameda County, CA**

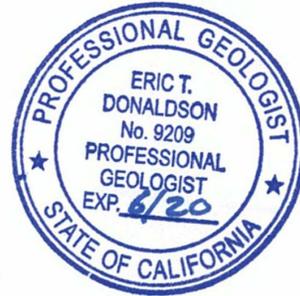
© 2020 Balance Hydrologics, Inc. Project Assignment: 218172  
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August 23, 2019

July 21, 2020 revision. To retain consistency with Alameda County's recirculated initial study / mitigated negative declaration, PLN: 2018-00258, revisions to this document included a) correcting the applicant's name from Oasis Fund to Oasis Venture, and b) correcting the area of the property from 98.11 acres to 92.52 acres. No other changes were made to this document. The findings, analyses, and conclusions of the document remain unchanged.

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## **EXECUTIVE SUMMARY**

The Oasis Venture (the Applicant) was issued a cannabis cultivation permit (PLN 2017-00215) under Title 6 of the General Ordinance code. As holder of the permit, they have applied for a conditional use permit (CUP) in order to implement their project.

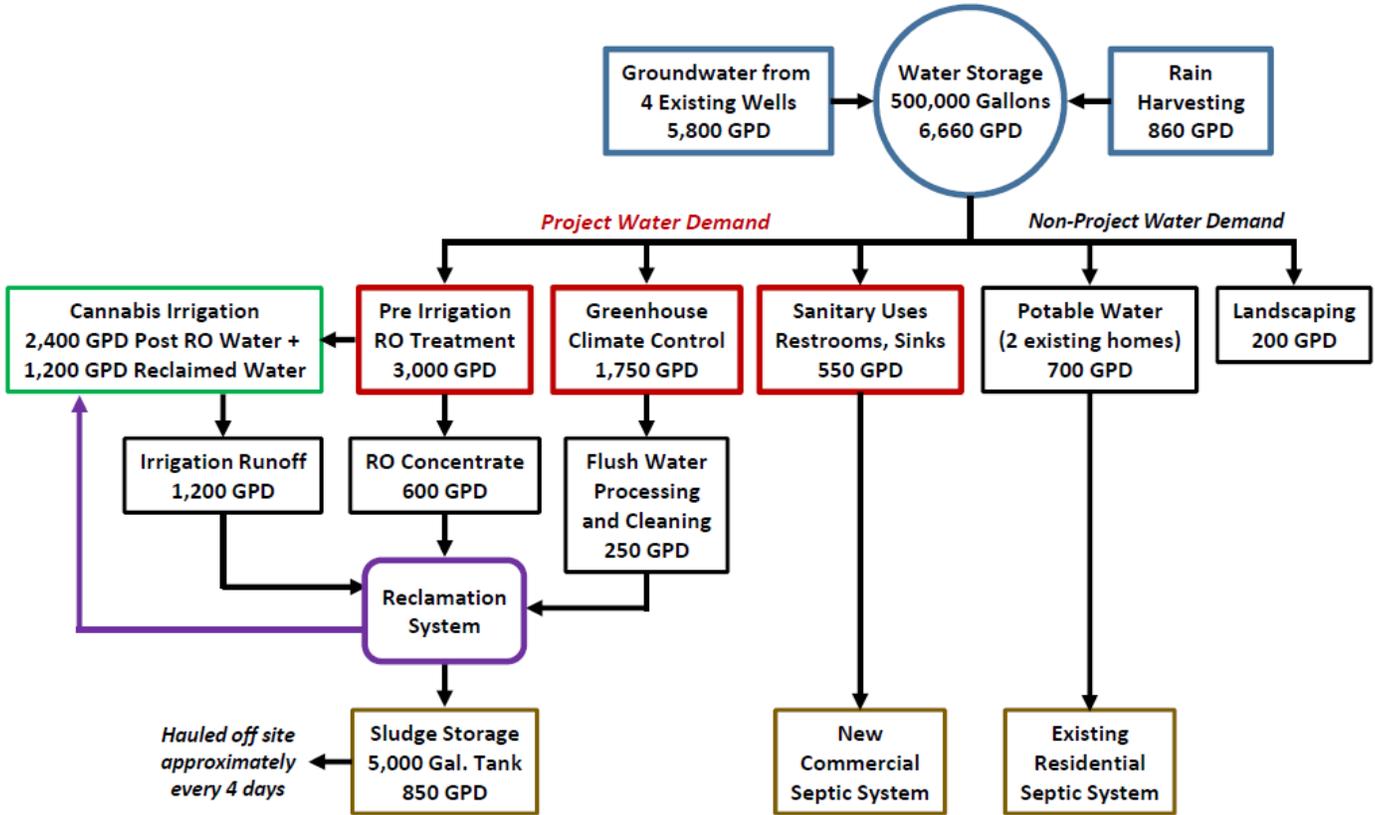
The project was presented as an informational item to the East County Board of Zoning Adjustments (EBZA) on March 28, 2019 by the Alameda County Planning Department (ACPD) where questions of water supply and potential drawdown effects to neighboring water supply wells were raised.

A multiagency jurisdiction over permitting commercial on-site wastewater treatment systems (OWTS) and cannabis related liquid waste discharge dictated the necessity to provide all parties involved with a consistent conceptual disclosure of the proposed water supply and waste handling – the facts that are essential for IS/NMD (CEQA) filing and CUP approval. Alameda County Environmental Health Department (ACEHD) regulates the technical aspects of OWTS. Zone 7 Water Agency regulates the conditions of use permit for commercial OWTS as well as groundwater supply and well permits. The Regional Water Quality Control Board regulates cannabis related liquid waste discharge.

In an effort to make the review process more efficient for all agencies involved, during the July 29, 2019 interagency meeting, Ms. Dilan Roe, PE, Chief of Land Water Division, ACEHD, requested a submittal of a water-supply and wastewater plan which compiles and updates information previously submitted to ACPD as part of a CUP package. Although there were no changes to the previously distributed OWTS design and plan, these documents are incorporated by reference here.

This report presents a conceptual plan for water supply and commercial OWTS for the proposed Oasis Venture Livermore Grow Facility (Project). The report supersedes the assumptions and assertions made in the previously submitted CUP package that pertained to the water supply chapter of the Project description and Exhibit G “Water Supply”.

The Project proposes to develop a cannabis cultivation greenhouse and processing facility on a 92.52-acre property located at 7031/7033 Morgan Territory Road in the City of Livermore, Alameda County, California.



Two types of on-site sources would supply the proposed Project with water: a) an estimated 87 percent from groundwater wells, and b) 13 percent from rain harvested from the roofs of the greenhouse and processing building. Given that the on-site water wells are relatively low yielding and rain is collected only during the wet season, water would be stored on-site in a tank (or series of tanks) with a capacity of approximately 500,000 gallons. Water supply to the Project would be used for cannabis cultivation, sanitary use, and climate control only. Project employees and visitors would be provided with bottled drinking water.

The water demand of the proposed Project would be sized to meet the available onsite water supply. Project water demand is partitioned into irrigation for cannabis, sanitary uses, and greenhouse climate control. Wastewater from irrigation and climate-control would be reclaimed and re-used for cannabis irrigation, and sludge generated from the water reclamation system would be temporarily stored on-site in a 5,000 gallon tank, then hauled offsite approximately every four days. Domestic-grade wastewater from sanitary uses of toilets and sinks would be discharged to a new OWTS. Climate control in the greenhouse and processing building will strive to provide comfortable working conditions for employees and plants. However, being non-essential for general

cultivation, water for climate control will be provided on a residual basis after meeting irrigation, processing and cleaning needs – essential cultivation operations.

The water demand for the existing two residential homes located on the parcel, though not part of the Project, was included in the water balance calculations for designing the Project. The permitted and approved water-supply system and OWTS for the two homes were installed with the construction of the dwellings in the early 2000s.

The Project design wastewater flow to the new commercial OWTS (550 gpd) plus the estimated wastewater flow from the two homes to their existing domestic OWTS (700 gpd) is less than the thresholds that require a cumulative impact assessment (CIA) per the Onsite Wastewater Treatment Systems Manual (ACEHD, 2018) – i.e., 1,500 gpd for a groundwater mounding analysis and 2,500 gpd for a nitrogen loading analysis. Therefore, a CIA would not be required.

Results of recent 24-hour pumping and recovery tests of the four existing water-supply wells on the property – proposed to supply the Project with water – indicated a cumulative operational yield of four gallons per minute (4 gpm). An analysis employing multiple lines of reasoning suggests that pumping the Project wells would cause a less than significant impact to existing neighboring wells and to Cayetano Creek.

If carefully managed, the four existing water wells would be suited to contribute sustainably as a groundwater source to the Project. The long-term viability of pumping the wells for the Project would be best evaluated with use across a cycle of years of major recharge and of drought years – for example, from years of peak recharge, through drought years, and then completing the cycle with a return to a peak recharge.

Given the relatively low yield of the existing water-supply wells and in preparation for extreme or multiyear droughts, it would be prudent to explore the undeveloped east part of the Project property potentially for additional agricultural wells, which may reduce pumping of the existing wells located on the west portion of the property. This recommendation is in line with Zone 7's opinion expressed in their letter to the applicant in response to a new well-permit application.

## 1. PROJECT CONDITIONS

### 1.1 Proposed Project and Location

The proposed Oasis Venture Livermore Grow Facility (Project) would consist of growth and cultivation of cannabis on a 92.52-acre property located at 7033/7031 Morgan Territory Road in the City of Livermore in Alameda County, California, and identified by the Alameda County Assessor as Assessor's Parcel Number (APN) 903-7-1-1. The Project is located approximately six miles from downtown Livermore, in a rural agricultural area. The site is designated "Resource Management" under the Alameda County General Plan (ECAP, specifically) and is zoned "Agricultural". Land uses in the vicinity of the Project consist of agricultural and sparse rural residences.

The proposed Project would include development of a 34,213 square foot (sf) greenhouse building containing approximately 22,000-sf of a cannabis canopy, a 6,480-sf processing building, and a 28-stall parking lot, as illustrated in the Project improvement plan set (Greenwood & Moore, 8/12/2019) and described in the Initial Study/Mitigated Negative Declaration (Raney Planning and Management, January 2019). Development activity related to the proposed Project would be limited to the west portion of the property, identified in **Figure 1** as the project site, parking, and new commercial septic system, as well as road access and water-supply system improvements. Cayetano Creek flow south along the west property boundary, and the remainder of the parcel is primarily rangeland with two residential homes and old barn.

The existing two residential homes and old barn located on the parcel are not part of the Project. The permitted and approved water-supply system and on-site wastewater treatment system (OWTS) for the two homes were installed with the construction of the dwellings in the early 2000s. Groundwater source Well #3 and an existing 10,000-gallon tank comprise the water-supply system for the two homes. In addition, each home is equipped with an under-sink 5 stage reverse osmosis drinking water filtration system. The OWTS for the two homes includes a septic tank and leach field located down slope of the two homes, located approximately 500 feet east of source Well #3, as illustrated in **Figure 1**.

The Project proposes to improve the existing water-supply system on the parcel by a) adding existing source Wells #1, #2, and #4, b) increasing tank storage, and c) installing a Project distribution system for greenhouse irrigation. The proposed Project would not

install and operate a public water system.<sup>1</sup> The proposed Project estimates 20 to 23 employees present during the hours of operation – from 8:00 AM to 6:00 PM daily – but not all employees would be on site concurrently. Project employees and visitors would be provided with bottled drinking water and cups. The existing tank storage and distribution system for the two homes are not part of the Project and no improvements are proposed. The water demand for the two homes, however, is included in the water balance calculations presented here within.

The Project OWTS is independent of the existing OWTS for the two residential homes. It is described in the Conceptual OWTS Basis for Design, Plan and Details (Acorn, 2019), attached as **Appendix A**.

## **1.2 Project Water Balance**

The monthly water balance for the proposed Project (**Table 1**) describes the water demands and supplies for average conditions. A mean daily flowchart of the water balance components is shown in **Figure 2** and discussed in the following sections.

## **1.3 Water Demand**

The total water demand for the Project is anticipated to be 2.3 million gallons per year (mgy), equivalent to 7 acre-feet per year (afy).

- Project water demand is partitioned into irrigation for cannabis, sanitary uses, and greenhouse climate control. Wastewater from irrigation and climate-control would be reclaimed and re-used for cannabis irrigation. Sludge generated from the water reclamation system would be hauled offsite. Wastewater from sanitary uses from toilets and sinks would be discharged to a new OWTS.
- Non-Project water demand includes potable water for the two existing domestic homes on the parcel and for landscaping.
- Project employees and visitors would be provided with bottled drinking water, which would not constitute a demand on the water-supply system.

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<sup>1</sup> California Health and Safety Code § 116275 defines public water systems as follows: (h) "Public water system" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

### 1.3.1 Irrigation for Cannabis

Irrigation for cannabis cultivation is estimated by the Project design engineer at 3,600 gallons per day (gpd) year-round (equivalent to 4 afy), with some expected seasonal variation. Seasonal fluctuations, however, are moderated by the use of grow lights and climate control in the greenhouse. Water for cannabis irrigation would undergo reverse osmosis (RO) treatment (2,400 gpd) and blended with reclaimed water (1,200 gpd). The water demand for pre-irrigation RO treatment is 3,000 gpd (as shown in **Table 1** and **Figure 2**).

The reclamation system would be a separate (more rigorous) RO treatment that would collect a) climate-control flush water used for processing and cleaning (250 gpd), b) concentrate from pre-irrigation RO treatment (600 gpd), and c) irrigation runoff and return water (1,200 gpd). Sludge generated from the water reclamation system (850 gpd) would be stored in a 5,000 gallon tank and hauled offsite approximately every four days.

### 1.3.2 Greenhouse Climate Control

The Project would utilize an indirect evaporative cooling system for climate control in the greenhouse. Climate control is not a necessity for Project cultivation operations, but instead intended to moderate climatic conditions in the greenhouse for workers and cultivar based on water availability. Minimum water demand for climate control is estimated by the Project design engineer at 1,750 gpd, or approximately 0.64 mgd, equivalent to 2 afy.

The system design is similar to a water-cooled chiller but it uses water as a cooling medium instead of a refrigerant. Water, recirculating in a closed loop system, is cooled in a cooling tower in a liquid-to-air heat exchanger during an adiabatic cooling process of auxiliary water evaporation. Cold water is supplied to air handling units where it sensibly cools the processed air in another liquid-to-air heat exchanger. The interior air distribution is done via fabric and plastic sleeves connected to externally mounted air supply manifolds. The design also calls for additional fans and louvers installed under the gable roofs for fresh air supply and for purging hot and humid air.

### 1.3.3 Project Sanitary Uses

Project sanitary uses include bathroom and sink use by Project employees and visitors. Water demand for sanitary uses would be approximately 550 gpd (Acorn, 2019), or about 200,000 gpy.

The domestic-grade wastewater from sanitary uses would be discharged to a new commercial OWTS located on the Project site. The septic system would include a pump vault connecting to a two-inch force main which would lead to a leach field located approximately 300-ft from the project site (**Figure 1**). For a detailed description of the new OWTS, refer to the OWTS Basis of Design report and the septic design drawings (Acorn, 2019) located in **Appendix A**.

### 1.3.4 Non-Project Demand

Water supply to the two existing homes located on the property is 700 gpd based on an average norm in California of 85-100 gpd per person. Currently 7 people occupy the two residences.

Project plans propose to improve landscaping in the vicinity of the Project for aesthetic enhancement and to provide visual screening of the facilities. The screening elements would be designed to blend into the natural landscape using endemic vegetation such as blue oak clusters mixed with live oaks, along with other California native and drought tolerance plantings. Where possible, the screening elements would be clustered to emulate a natural landscape, rather than planting in rows and the use of clipped hedges. The planting elements would be water conserving – most considered “low water use” plants – and would conform to the County’s Water Efficiency Landscape Ordinance (WELo). The oaks would be “summer dry”, and ideally could be considered “re-forestation plantings” instead of “screening plantings”. Nominal water use for landscape irrigation is estimated by the Project design engineer at about 200 gpd. Though triggered by Project design, the landscape plan is not strictly considered a Project operational water demand, but instead, regarded as a non-Project demand.

## 1.4 **Proposed Water Supply**

Water supply for the Project would comprise two types of water sources: a) groundwater wells and b) rain harvesting. The total water supply for average conditions is anticipated to be 2.4 million gallons per year (mgy), equivalent to 7.5 acre-feet per year (afy). The rain and groundwater would be piped to storage tank(s) with a

volume of approximately 500,000 gallons. During years with above normal precipitation, more rain would be harvested and less groundwater would be pumped. During years with below normal precipitation, less rain would be harvested and potentially more groundwater would be pumped. If on-site groundwater resources are constrained during extreme dry years or during extended periods of consecutive dry years, less groundwater would be extracted and water for climate control would be limited or temporarily halted.

#### 1.4.1 Rain Harvesting

Most of the rain that falls on roof areas within the Project site would be captured using a rainwater harvesting system consisting of an underground vault and connections to the overall water-supply system. Rain harvesting facilities would be anticipated to harvest 314,000 gpy (1 afy), based on a 40,000 ft<sup>2</sup> roof area and 80% capture efficiency. This annual average is equivalent to a mean daily flow of 860 gpd.

#### 1.4.2 Groundwater Wells

Four (4) water wells currently exist on the property (**Figure 1**). **Table 2** summarizes information for each well found in the corresponding well completion report and well inspection report, as well as results of a 24-hour pumping and recovery test recently completed by Balance. The 24-hour pumping test results estimate a total test yield (or short-term yield) of 5.75 gallons per minute (gpm) or 8,280 gpd. We applied a nominal 70 percent efficiency factor in **Table 1** to estimate an operating yield of 4 gpm or 5,800 gpd. Results of the 24-hour pumping and recovery tests, which are the basis of the supply planning, are described and interpreted in Section 3 Groundwater Supply Analysis (below). Section 3 includes the results of water-quality sampling and an analysis of the potential for off-site drawdown impacts and well interference.

### 1.5 **Proposed Wastewater Control**

The proposed Project would include construction of a new septic system on the Project site to receive Project domestic-grade wastewater from sanitary uses of toilets and sinks (**Figure 1**). Refer to **Appendix A** for a copy of the On-Site Wastewater Treatment Systems Basis of Design report and the septic design drawings (Acorn, 2019). All components of the OWTS design plan conform to the setback requirements of the Alameda County Onsite Wastewater Treatment System Manual (ACEHD, June 2018; see Table 5-7 of manual). The OWTS Manual requires the following minimum horizontal setback distances from a water supply well:

- To a dispersal field, 100 feet from a private well, spring, of any watercourse and 150 feet from a public water-supply well;
- to tanks and supplemental treatment units, 50 feet from a private well, spring, or any watercourse and 150 feet from a public water-supply well.

In addition to the new OWTS, a 5,000-gallon capacity sludge tank would be constructed to contain sludge generated from the Project water reclamation system. Sludge would be hauled off-site approximately every four days.

The above-mentioned cannabis related liquid waste handling is regulated by conditions of Revised Notice of Applicability, Conditional Waiver of Water Quality Order WQ-2017-0023-DWQ issued to Oasis by San Francisco Bay Regional Water Quality Control Board (WDID# 2-01CC405892) on March 28, 2019 (see **Appendix B**).

The two existing domestic homes are served by a permitted and approved OWTS. The existing OWTS appears to be operating within the design intent, and the proposed Project OWTS will not impact the existing OWTS (Acorn, 2019).

The Project design wastewater flow to the new commercial OWTS (550 gpd) is less than the thresholds that require a cumulative impact assessment (CIA) per the Onsite Wastewater Treatment Systems Manual (ACEHD, 2018) – i.e., 1,500 gpd for a groundwater mounding analysis and 2,500 gpd for a nitrogen loading analysis. In addition, the Project design wastewater flow (550 gpd) plus the estimated wastewater flow from the two homes to their existing domestic OWTS (700 gpd) is also less than the thresholds. Therefore, a CIA would not be required.

## 2. PROJECT SETTING

### 2.1 Hydrography and Climate

The 92.52-acre property gently slopes southward, ranging in elevation from the 800-ft contour at the northeast boundary of the property to about the 640-ft contour crossing Cayetano Creek at the southwest corner of the property. Cayetano Creek is an intermittent creek which flows along the west boundary of the property, southward to Arroyo Las Positas. At the Project site, it has a 2.4 square mile drainage area. East of Cayetano Creek, the property drains a series of south-sloping shallow swales crossing a gentle rolling landscape, with the largest swale at the east boundary of the property. The swales head into higher ground north of the property and spread onto flatter topography south of the property.

The climate of this portion of Alameda County is Mediterranean, similar to the San Francisco Bay Area and throughout the California coast region. Characterized by a warm dry-season and a cool wet-season, summer temperatures are somewhat higher than those along the coast. Afternoon winds from the coast are common, and rainfall, although less than along the coast, is extremely variable. Mean annual rainfall in the vicinity of the project site is approximately 15 inches per year, based on an isohyetal map of the San Francisco Bay Region (Rantz, 1971). The modeled 30-year normal annual rainfall for the Project site is 15.8 inches (PRISM Climate Group 1981-2010 normals). The modeled 30-year normal annual temperature for the Project site is 59.6°F, and the warmest mean monthly temperature is 71°F (PRISM Climate Group 1981-2010 normals).

The site is located in California Irrigation Management Information System (CIMIS) Reference Evapotranspiration (ET<sub>o</sub>) Zone 14: Mid-Central Valley (Snider, 1999). With an estimated mean annual ET<sub>o</sub> of 57 inches, with high summer sunshine and wind this zone has the highest annual evapotranspiration in the San Francisco Bay Region. The closest CIMIS station to the Project site is station no. 191, Pleasanton, California (Latitude: 37.663969, Longitude: -121.88503). It has an estimated mean annual ET<sub>o</sub> of 51 inches. The monthly mean rainfall, air temperature, and reference evaporations data are shown in **Table 3**.

### 2.2 Geology

Surficial geology of the Project vicinity is covered at a scale of 1:24,000 on multiple revisions of the Geology of the Tassajara Quadrangle (Dibblee and Minch, 2006;

Dibblee, 1980; 1958 master thesis by Ernest Sebastian Oestreich). The Project property and water wells are located in the Orinda formation (**Tor**) (**Figure 3**), a regional formation exposed across the East Bay, east of the Hayward fault from Point Pinole to North Livermore. At the Project site the Orinda formation is locally known as the Tassajara formation. The Orinda formation comprises steeply folded consolidated valley sediments of the Livermore basin, hundreds to perhaps thousands of feet of primarily tightly folded interbedded claystone and sandstone, ranging from Miocene to early Pleistocene. The Orinda formation also crops out at other locations on the perimeter of Livermore Valley – east near Altamont Pass and south in the Del Valle hills – and in the South Bay between the Hayward fault and the Calaveras fault. The Orinda formation is similar to Oro Loma formation (**Tol**), comprising valley sediments of the San Joaquin basin, and regionally cropping out along the flanks of the Diablo Range from Pittsburg to Tracy. Typically, exposures of the Orinda formation and Oro Loma formation are sequentially bisected in the landscape by stream channels and overlain by Quaternary alluvium.

At lower elevations of the Project property, a veneer of Quaternary alluvial fan deposits (labeled as older surficial sediments in **Figure 3**) overlies the Orinda formation. The Project wells are proximally and north of the WNW trending axis of the Highland syncline (termed by Oestreich, 1958), thus relatively younger rock within the formation (here likely the early Pleistocene) are exposed at the southern portions of the site and progressively older and more consolidated rock outcrops in the northern portions of the Project property. The Neroly formation (**Tn**) underlies the Orinda Formation and outcrops further north on Morgan Territory Road. The Neroly Formation is a generally well known non-marine regional sandstone aquifer comprising coastal sediments of Miocene age, and likely a source of headwater springs to Cayetano Creek. The geologic sequence from the Highland syncline northward to the Riggs Canyon fault is illustrated in cross-section D-D' from Oestreich's 1954 Master of Science Thesis (**Figure 4**).

Locally, the lithology is identified in the driller's well completion report (a.k.a., well log) for at the Project property and neighboring wells (**Figure 5, Appendix C**). Though the axis of the Highland syncline generally aligns the Project wells with neighboring wells to the west, the reported well-log lithology is poorly correlated (**Table 4**), but the following interpretations can be drawn:

- Alluvial fan deposits at the Project wells appear 15 to 30 feet thick, and perhaps thinner at the neighboring wells. The alluvial fan deposit 'pinch out' uphill across the Project property.

- Clay, Shale and Slate (generally not water bearing) are dominant across all Project wells and at neighboring wells south of the Project property.
- Relatively shallow sandstone beds (possibly water bearing) identified in Project Wells #2 and #4 are also identified at the neighboring wells.
- The neighboring wells at 7058 Morgan Territory Road – located west of the Project wells and of Cayetano Creek – are considerably shallower than the Project wells and access notably more permeable zones (including “loose gravel” beds), which are absent in the Project wells. Recharge to these neighboring wells would likely be related to an upgradient tributary watershed apparently geographically independent from the Project wells and their recharge area.
- Permeable zones identified at 7051 Morgan Territory Road – located south of the Project wells and west of Cayetano Creek – are absent in the Project wells, with the exception of possibly coarse sand identified at a depth of 25 feet at Project Well #2.
- The Project Wells #3 – the highest yielding and primary Project well – may draw groundwater largely from fractured rock at a depth of 500 feet.

### 2.3 Soils

The mapped surface geology generally corresponds to soil types mapped and described in the Soil Survey of Alameda Area (Welch and others, 1966; also on SoilWeb). An early survey was published by Westover (1911). Three soils types are delineated on site: Clear Lake Clay at west portion of the property along Cayetano Creek, Diablo Clay across most of the property, and Linne Clay Loam at south east portion of the property (**Figure 6**). The published soil properties for the two soil types are summarized in **Table 5**. Both soils are moderately well drained with a low permeability (0.05 to 0.2 inches per hour) and a high shrink-swell potential. The Linne Clay Loam is reportedly slightly more permeable. The Clear Lake Clay and the Diablo Clay, are generally more similar than different, consisting of about three feet of dark-brown or greyish-brown heavy clay and underlain by a clay subsoil variable in texture and color, nominally five to eight feet deep but dependent on depth to bedrock. The soil is sticky when wet but dries rapidly, forming deep surface cracks. These soil conditions are somewhat similar to the clay soils widely studied at the Jepson Prairie Preserve (at 4845 Cook Ln, Dixon, CA 95620), where water quality related to surface-water and groundwater recharge processes have been studied (Rains and other, 2008) and may

be useful as an analog to the Project site. The soils, however, reportedly do not form puddles nor becomes compact, in general.

On November 15, 2017, Jeff Raines, P.E., G.E. of Terraphase, inspected an 8-foot deep trench installed at the Project site at approximately the center of the proposed greenhouse complex (Terraphase, 2018). The soils consisted of 4.5 feet of dark brown fat clay overlying 3.5 feet of gravelly-sand. The base of the trench was likely very close to bedrock. A sample of the fat clay was submitted to the Cooper Geotechnical Laboratory in Palo Alto, California for analysis for Atterberg Limits. The liquid limit of the soil sample was 65 while the plastic limit was 23, giving a plasticity index of 42. Soils with plasticity indices above 35 are characterized as highly-expansive.

### 3. GROUNDWATER SUPPLY ANALYSIS

Our approach to evaluating groundwater supply for the Project and potential off-site drawdown effects from pumping Project water-supply wells employed the following lines of reasoning: a) an understanding of the geologic framework at the project site and vicinity (described above); b) estimating areal recharge to groundwater at the Project property; c) conducting a 24-hour pumping and recovery test at each of the four Project wells to estimate their operational yield; d) based on results of the 24-hour yield tests, calculate area of influence estimates of pumping the Project wells; and e) characterize the ionic composition of groundwater collected at each well and in a sample from Cayetano Creek to help identify sources of water.

#### 3.1 Groundwater Recharge from Rainfall

We estimated groundwater recharge using a monthly soil-water balance method (Thornthwaite and Mather, 1957), which is summarized in **Table 6**. The method calculates the monthly amount of percolation through the soil profile from rainfall after runoff and evapotranspiration is removed and soil-moisture storage capacity is replenished. The following summarizes the basic data to calculate actual evapotranspiration from the root zone and percolation through the soil profile to recharge the water table:

- The mean monthly rainfall totals for the Project site were downloaded from the PRISM Climate Group website, which calculates 30-year normals (1981-2010) for an interpolated 800-m grid.
- Percent runoff for each month was estimated based on the clayey soil type and gentle slope. We assume runoff would generally collect in soil depressions and drainage ditches, and techniques will be implemented to detain stormwater as outlined in the Project stormwater management plan (Balance Hydrologics, 2018). The percent runoff to stream channels would be highest during the wettest months.
- The mean monthly reference evapotranspiration ( $ET_o$ ) was downloaded from the California Irrigation Management Information System (CIMIS) website for station no. 191, Pleasanton, California.  $ET_o$  is the amount of evapotranspiration from a green, well-watered cut grass of uniform height (4 to 5 inches), actively growing and completely shading the ground.  $ET_o$  is similar to potential evapotranspiration and computed from meteorological data or estimated from pan evaporation.

- Soil moisture capacity (ST) was based on published properties of surficial soils by USDA soil survey data (summarized in **Table 5**). The root zone was assumed to be one foot, which resulted in a calculated ST of two inches.

The result of the soil-water balance estimates an average annual recharge of one inch (0.99 inches) per year (**Table 5**). This initial estimate of recharge at the 92.52-acre property would result in 8 acre-feet of recharge on average per year, which is approximately equivalent to continuous pumping of 5 gpm or 7,200 gpd.

## **3.2 Estimating Source Well Yield**

### **3.2.1 24-hour Pumping and Recovery Test Method**

A 24-hour constant-rate pumping and recovery test (also called an aquifer test) was planned for each of the four Project wells. The wells were previously setup each with a submersible pump (the make and model unknown). Chuck Moore at Pacific Coast Well & Pump installed a sounding tube, configured the plumbing fixtures at the well head, setup 240 VAC power, controller, and pump saver (or Pumptec), and confirmed that each well was operational prior to conducting the pumping and recovery tests. The tests consisted of 24-hours of pumping followed by 24 hours of recovery. Dataloggers were used at all wells to monitor the pumping rate, the specific conductance and temperature of the pumped well water, and water level in the wells. Measurements by hand were used to calibrate the datalogger records. Each well was pumped sequentially while monitoring the water level in the other three wells.

A standard constant-rate test (as planned) was only possible at Well #3 because it had sufficient yield. These data were analyzed using a commonly used graphical method (Cooper and Jacob, 1946). At Wells #1, #2, and #4, the pumping rate was not constant, and instead, the pump saver turned off the pump several times during the 24-hour pumping period.<sup>2</sup> The pump saver was set with a 2-hour delay, and drawdown recovery was monitored when the pump saver turned off the well following the 24-hour pumping period.

### **3.2.2 24-hour Pumping and Recovery Test Results**

Results provide an estimate of the specific capacity for each well, which can be used to assess the potential maximum day yield of each well, and a measurement of

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<sup>2</sup> A pump saver is designed to turn off the pump when the water level in the well reaches the pump intake and it cavitates.

percent recovery to static water level at each well. In addition, results provide an estimate of aquifer characteristics of transmissivity and hydraulic conductivity, which can be used to refine estimates of well capture area and potential drawdown impacts. The 24-hour pumping and recovery test results are summarized in the Project water-well information **Table 2**, and detailed summary of the aquifer parameter calculations using data from the constant-rate test performed at Well #3 is presented in **Table 7**.

The monitored pumping rate during each test is plotted in **Figure 7**: Well #1 yielded 0.8 gallons per minute (gpm); Well #2 yielded 1 gpm; Well #3 yielded 3.2 gpm; and Well #4 yielded 0.7 gpm. **Figures 8 and 9** illustrate drawdown and recovery data for the constant-rate test at Well #3 and accompany the analysis aquifer properties detailed in **Table 7**. After 24 hours of pumping, the drawdown in the pumping well was 231.4 feet. A 231.4 feet drawdown at 3.2 gpm, results in a specific capacity ( $C_s$ ) for the well of 0.014 gpm per foot of drawdown. Transmissivity (T) is a common aquifer coefficient that characterizes how easily water moves through the aquifer (a measure of permeability) and can be used to quantify groundwater flow. Transmissivity can be initially estimated with a relationship to  $C_s^3$  and with dynamic data from the aquifer test (Cooper and Jacob, 1946). Based on the pumping and recovery data, transmissivity is 11 gpd/ft. Hydraulic conductivity (K, also known as permeability) is estimated by dividing T by the aquifer thickness (b), which was based on depths of sandy clay zones noted in geologic log of the driller's well completion reports of the Project wells. Hydraulic conductivity was estimated at 0.22 gpd/ft<sup>2</sup> ( $T = K/b = 11 \text{ gpd/ft} / 50 \text{ ft}$ ), which is equivalent to  $1.1 \times 10^{-5} \text{ cm/s}$ .

### 3.2.3 Boundary Effects

When a well is pumped it introduces a stress to the aquifer and lowers hydraulic pressures and water levels in the vicinity of the well. With continued pumping, this effect propagates outward from the well, which can be conceptually represented as a "cone of depression". A recharge boundary results in reduced drawdown after the cone of depression encounters a stream, lake, or other recharge source, while a no-flow or low-permeability boundary result in increased drawdown after the cone of depression encounters a zone of lower permeability due to causes such as a change in lithology or a fault. Neither a recharge boundary from Cayetano Creek nor a bedrock boundary was apparent from the 24-hour pumping data.

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<sup>3</sup> To estimate aquifer transmissivity (T) with  $C_s$  see Appendix 16.D of Driscoll (1983) or p. 128 of DWR Bulletin No. 118-2 (June 1974).

### 3.3 Potential for Off-Site Drawdown Impacts

The area of influence of a pumped well can be roughly estimated using the Cooper-Jacob (1946) distance-drawdown equation, which is an approximation of the Theis (1935) analytical model. Based on estimates of aquifer transmissivity from the short-term pumping tests at the on-site wells (**Table 7**) and using a nominal storage coefficient for a shallow fractured bedrock aquifer, we estimated the radius of influence for the proposed well for two cases (**Table 8**):

- Case 1, a maximum daily demand (MDD) of 4 gpm sustained for 24 hours; and
- Case 2, an average dry-season demand of 4 gpm sustained for 184 days (May through October).<sup>4</sup>

The calculation is generally accepted as an initial first-order estimate of pumping drawdown effects. The calculation for these two cases did not indicate drawdown effects to the nearest neighbor's well.

### 3.4 Groundwater Quality

A groundwater sample was collected from each well at the end of the 24-hour pumping test. A water was also collected from Cayetano Creek on May 10, 2019 while it was still flowing. Cayetano Creek was dry when the wells were sampled in June and July 2019. The samples were delivered to a California certified analytical laboratory for chemical analysis. Samples from Well #1, #2, and #4 were analyzed for an irrigation suitability panel, and Well #3 for a Title 22 general mineral, general physical, and inorganic panel. Water quality results are summarized in **Table 9** and laboratory reports are found in **Appendix D**.

Groundwater from Well #3 currently supplies the two domestic homes with potable water. The Project proposes to add other three wells as water sources to the system. ACEHD drinking water well testing standards (**Appendix E**) include thresholds for chloride, color, copper, iron, manganese, nitrate, odor, sulfate, total dissolved solids (TDS), turbidity, zinc, and coliform bacteria. The thresholds are similar the California Title 22 maximum contaminant levels (MCLs). Results from Well #3 satisfied the ACEHD standards, as well as the California Title 22 primary and secondary standards. Results

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<sup>4</sup> The estimate of groundwater supply of 4 gpm was based on a 24-hour pumping and recovery test at each existing well totaling 5.75 gpm and a 70% efficiency factor for long-term pumping.

from the other three Project wells were incomplete. To satisfy ACEHD standards for Wells #1, #2 and #4, additional sampling would be needed for coliform and E. Coli, color, odor, turbidity, copper, iron, manganese, and zinc.

Boron is an element which is not toxic to humans or other vertebrates, but can adversely affect sensitive plant species at concentrations above 0.75 mg/L. In general, complex plant species are more sensitive to boron, and irrigation guidelines have identified severe crop dependent problems at values exceeding 2.0 mg/L. The concentration of boron exceeded 2 mg/L at Wells #1, #3, and #4. At Well #2 boron was 0.41 mg/L.

The general minerals were plotted in a Piper Diagram (**Figure 10**), which illustrates the ionic composition of the water samples. Piper diagrams are a commonly-used method to characterize (or 'fingerprint') and compare water from different sources. The results suggest that the wells do not draw water directly from the stream, which is in line with the 24-hour pumping results. The ionic composition of the groundwater from the wells is characterized as a sodium bicarbonate chloride. The composition of the Cayetano Creek sample showed proportionally more magnesium, calcium and bicarbonate, as well as more dissolved solids.

### **3.5 Conclusions of Groundwater Analysis**

- The four existing water wells at the proposed Oasis Venture Livermore Grow Facility site were tested for yield and water quality. Each well was sequentially pumped for 24 hours and allowed to recover for 24 hours while monitoring the pumping rate, the specific conductance and temperature of the pumped well water, and water level in the wells. Three of the four wells yielded 1 gpm or less, and one well (Well #3) yielded 3.2 gpm during the 24-hour pumping rate test. The four wells combined yielded 5.75 gpm for a 24-hour period.
- Drawdown data from the 24-hour constant-rate pumping and recovery test completed at Well #3 – the main supply well – were used to calculate aquifer parameters and assess aquifer boundaries. Neither a recharge boundary from Cayetano Creek nor a bedrock boundary was apparent from the 24-hour pumping data. Longer-term pumping tests would further assess potential permeability or no-flow boundaries, as well as effects of recharge from surface water or leakage from overlying groundwater.

- Recovery to pre-pumping static water level was 81 percent of the total drawdown in two of the pumped wells (Wells #1 and #3), suggesting that the wells would yield less water if pumped longer term. These wells continued to recover gradually after the 24-hour recovery period. Recovery in the other two wells was 94 percent (in Well #4) and 100 percent (in Well #2), which suggests a more sustainable rate longer term. In general though, the long-term viability of pumping a well completed in bedrock is best evaluated with use across a cycle of years of major recharge and of drought years – for example, from years of peak recharge, through drought years, and then completing the cycle with a return to a peak recharge.
- The effect of pumping Well #3 at 3.2 gpm was detected at Well #4, located 110 feet southeast from the well, but not in the other two wells, located 245 feet and 825 feet north from the well. No drawdown effects were detected in any of the wells from pumping Wells #1, #2, and #4. These results suggest that off-site effects from pumping the four project wells would be less than significant or possibly negligible.<sup>5</sup> Cone-of-depression calculations concur with this conclusion.
- Lithology data reported on DWR well completion reports were generally poorly correlated but suggest that primary permeable zones at off-site wells are not present at the Project wells. Monitoring of static water level at all four Project wells also did not show drawdown effects of pumping off-site wells.
- Based on the geologic log in the well completion report, Well #3 seems to be supplied primarily by a permeable zone at 500 feet, located at the bottom of the well. This depth is significantly deeper than the depth of the nearest neighboring wells to the west of the Project property.
- Analytical laboratory results of groundwater samples collected from each of the four wells and from Cayetano Creek suggest that the wells do not draw water directly from the stream.

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<sup>5</sup> A significant drawdown effect to a neighboring well would be to impair the water level and yield of that well.

- Groundwater from Well #3 was sampled for drinking water standards and satisfied all ACEHD standards and State Title 22 primary and secondary standards. Sampling of the other three Project wells were incomplete.
- Estimates of recharge to groundwater from rainfall suggest groundwater pumping for the proposed Project is in line with groundwater recharge at the site. Recharge to the nearest neighboring wells would likely be related to an upgradient tributary watershed apparently geographically independent from the Project wells and their recharge area.

#### 4. LIMITATIONS

This report was prepared in general accordance with the accepted standard of practice existing in Northern California at the time the investigation was performed. No other warranties, expressed or implied, are made. It should be recognized that interpretation geologic information and evaluation of dynamic flow and subsurface conditions is a difficult and inexact art. Balance Hydrologics (Balance) has drawn on conventional published data sources and previous studies of the site and vicinity for much of this evaluation; our staff have not independently verified mapping or findings by agencies and other established sources, though checks on the reasonableness of results were performed. Balance did not independently assess the accuracy of calculations by others, only the appropriateness of the methodology and its consistency with the standards of professional care currently practicing in Northern California.

Balance Hydrologics has prepared this conceptual groundwater model for the client's exclusive use on this particular feasibility study. Analyses and information included in this report are intended for use for the related study tasks and planning purposes described above. Analyses of water bodies, rocks, alluvial and fluvial deposits, groundwater properties, topography and/or environmental processes are generalized to be useful at the scale of the 92.52-acre Project property and vicinity, both spatially and temporally. This conceptual plan is not intended to include mitigation and/or monitoring components, but may be objectives potentially for future tasks. Information and interpretations presented in this report should not be applied to specific projects or sites without the expressed written permission of the authors, nor should they be used beyond the particular area to which we have applied them.

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## **TABLES**

**Table 1. Water balance for average Project conditions, Oasis Venture Livermore Grow Facility, Alameda County, California**

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL	ANNUAL	ANNUAL
<b>Average Climatic Conditions</b>															
30-yr Normal Mean Temperature, °F <sup>[1]</sup>	63.8	54.7	48.2	47.9	50.9	53.7	56.6	61.5	66.7	70.7	70.9	69.7	59.6	--	--
30-yr Normal Maximum Temperature, °F <sup>[1]</sup>	76.4	64.1	56.1	55.7	59.6	63.6	67.7	73.9	80.3	85.9	85.9	84	71.1	--	--
30-yr Normal Minimum Temperature, °F <sup>[1]</sup>	51.3	45.4	40.4	40.2	42.2	43.8	45.3	49.2	53	55.5	55.9	55.3	48.1	--	--
30-year Normal Precipitation, inches <sup>[1]</sup>	0.82	1.84	2.68	3.00	2.99	2.43	1.10	0.54	0.12	0.03	0.05	0.17	15.77	--	--
Reference Evapotranspiration, inches <sup>[2]</sup>	3.42	1.90	1.43	1.52	2.15	3.68	4.92	6.21	6.78	7.46	6.55	4.94	50.96	--	--
<b>Water Supply</b>													<u>gallons</u>	<u>average gpd</u>	<u>acre-feet</u>
Monthly supply from rain harvesting, gallons <sup>[3]</sup>	16,322	36,625	53,345	59,715	59,516	48,369	21,895	10,749	2,389	597	995	3,384	313,900	860	0.96
Monthly supply from existing groundwater wells, gallons <sup>[4]</sup>	179,800	174,000	179,800	179,800	162,400	179,800	174,000	179,800	174,000	179,800	179,800	174,000	2,117,000	5800	6.50
<b>Monthly Supply, gallons</b>	<b>196,122</b>	<b>210,625</b>	<b>233,145</b>	<b>239,515</b>	<b>221,916</b>	<b>228,169</b>	<b>195,895</b>	<b>190,549</b>	<b>176,389</b>	<b>180,397</b>	<b>180,795</b>	<b>177,384</b>	<b>2,430,900</b>	<b>6,660</b>	<b>7.46</b>
<b>Water Demand</b>															
Daily demand for pre-irrigation RO treatment, gpd <sup>[5]</sup>	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	1,095,000	3,000	3.36
Daily demand for climate condrol, gpd <sup>[5]</sup>	1,585	409	0	0	0	396	1,638	2,377	4,094	3,962	3,962	2,457	638,700	1,750	1.96
Daily demand for sanitary uses, gpd <sup>[6]</sup>	550	550	550	550	550	550	550	550	550	550	550	550	200,750	550	0.62
Daily demand of potable water (including two existing homes), gpd <sup>[7]</sup>	700	700	700	700	700	700	700	700	700	700	700	700	255,500	700	0.78
Daily demand for landscaping, gpd	200	200	200	200	200	200	200	200	200	200	200	200	73,000	200	0.22
<b>Monthly Demand, gallons</b>	<b>187,081</b>	<b>145,783</b>	<b>137,950</b>	<b>137,950</b>	<b>124,600</b>	<b>150,233</b>	<b>182,631</b>	<b>211,646</b>	<b>256,327</b>	<b>260,777</b>	<b>260,777</b>	<b>207,196</b>	<b>2,262,950</b>	<b>6,200</b>	<b>6.94</b>
<b>Water Balance</b>															
Monthly Supply - Demand, gallons	9,041	64,842	95,195	101,565	97,316	77,936	13,265	-21,098	-79,938	-80,380	-79,982	-29,812	167950	460	0.52
Cumulative water year Supply - Demand, gallons	0	64,842	160,037	261,602	358,918	436,854	450,119	429,021	349,083	268,703	188,721	158,909	--	--	--

Notes:

[1] PRISM Climate Group, modeled monthly 1981 - 2010 normals. 30-yr normal maximum temperature is the mean maximum daily temperature.

[2] California Irrigation Management Information System (CIMIS) station no. 191, Pleasanton, California, Latitude: 37.663969, Longitude: -121.88503

[3] Preliminary rain harvesting estimate based 40,000 ft<sup>2</sup> roof area and 80% capture efficiency.

[4] Estimate of groundwater supply of 4 gpm is based on a 24-hour pumping and recovery test at each existing well totaling 5.75 gpm and a 70% efficiency factor for long-term pumping. During years with below normal precipitation, less rain will be harvested and more groundwater will be pumped. During years with above normal precipitation, more rain will be harvested and less groundwater will be pumped.

[5] Estimates provided by Oasis Project design engineer.

[6] Estimates based on values described in the Project Onsite Wastewater Treatment System (OWTS) Basis of Design (Acorn, 2019).

[7] Estimates based on an average norm in California is 85-100 gpd per person. There are currently 7 people occupying the two residences.

**Table 2. Project water-well information, Oasis Venture Livermore Grow Facility, Alameda County, CA**

Well ID	<u>Well #1</u>	<u>Well #2</u>	<u>Well #3</u>	<u>Well #4</u>
Zone 7 numbering (State Well No.)	2S/2E 17G1	2S/2E 17G2	2S/2E 17G3	2S/2E 17G4
Location	Top of hill	Near barn	South side of entrance road	In corral south of entrance road
Latitude (WGS84)	37° 45.746'N	37° 45.655'N	37° 45.615'N	37° 45.604'N
Longitude (WGS84)	121° 46.706'W	121° 46.760'W	121° 46.751'W	121° 46.730'W
Ground Elevation (WGS84)	730	687	677	674
Well casing stickup (ft)	1	1	1	1
Depth of pump (ft)	470	370	500	460
<u>Well Completion Report</u>				
DWR WCR number	716430	725397	749467	2018-009480
Date drilled	3/14/2001	4/26/2002	7/24/2002	8/22/2018
Depth of seal (ft)	50	25	50	50
Screens (ft bgs)	192-343	25-35, 200-240, 335-375	300-320, 460-520	60-680
Total depth of well (ft bgs)	480	375	520	680
Casing diameter (inches)	4.5	5	5	5
Borehole diameter (inches)	12	9	10	10
Filter pack material	n/a	0.25-inch gravel	0.25-inch gravel	8 x 12
Static water level (ft from top of casing)	n/a	65	n/a	n/a
Estimated yield based on air lift (gpm)	3	n/a	n/a	2
<u>Well Inspection Reports</u>				
Test date	11/5/2018	3/27/2018	9/25/2014	11/5/2018
Inspection report by	Pacific Coast	Pacific Coast	Martell	Pacific Coast
Static water level (ft from top of casing)	130	75	328	72
Duration (hours)	2	2	3	3.25
Pumping rate (gpm)	5	2	4.75	2
Drawdown (ft)	271	160	159	162
Specific Capacity, Cs (gpm/ft)	0.018	0.013	0.030	0.012
Estimated transmissivity based on Cs (gpd/ft) <sup>[1]</sup>	34	23	56	23
Aquifer thickness, b (ft) <sup>[2]</sup>	350	300	192	608
Average hydraulic conductivity, K=T/b (gpd/ft <sup>2</sup> )	0.098	0.078	0.289	0.038
Average hydraulic conductivity, K (cm/s)	5E-06	4E-06	1E-05	2E-06
Remarks	broke suction	higher initial rate	higher initial rate	broke suction

Table continues to next page.

**Table 2. Project water-well information, Oasis Venture Livermore Grow Facility, Alameda County, CA**

Well ID	<u>Well #1</u>	<u>Well #2</u>	<u>Well #3</u>	<u>Well #4</u>
<u>24-hour pumping and recovery test results</u>				
Start date/time	7/12/2019 12:00	7/9/2019 14:00	7/15/2019 12:30	7/5/2019 15:15
Test performed by	Balance Hydrologics	Balance Hydrologics	Balance Hydrologics	Balance Hydrologics
Static water level (ft from top of casing)	162.2	29	250	67.1
Method <sup>[3]</sup>	Total volume	Total volume	Constant Rate	Total volume
24-hour yield (gpm)	0.8	1.05	3.2	0.7
Drawdown (ft)	259	330	231	393
24-hour recovery (% of total drawdown)	81%	100%	81%	94%
24-hour specific capacity, Cs (gpm/ft)	0.0017	0.0028	0.0138	0.0015
Estimated transmissivity, T (gpd/ft) <sup>[1]</sup>				
based on specific capacity	3.2	5.3	25.7	2.8
based on constant-rate test	n/a	n/a	11	n/a
Aquifer thickness of sand zones, b (ft) <sup>[4]</sup>	n/a	n/a	50	n/a
Hydraulic conductivity, K=T/b (gpd/ft <sup>2</sup> )	n/a	n/a	0.22	n/a
Hydraulic conductivity, K (cm/s)	n/a	n/a	1.05E-05	n/a
Drawdown recorded in other wells	none	none	Well 4	none
Distance to affected well (ft)	n/a	n/a	100	n/a

Notes:

[1] Specific capacity (Cs) is well function describing the quantity of water that a well can produce per unit drawdown of water level in the well. It is the pumping rate divided by the water level drawdown in the well, in gallons per minute per foot drawdown. To estimate aquifer transmissivity (T) with Cs see Appendix 16.D of Driscoll (1983) or p. 128 of DWR Bulletin No. 118-2 (June 1974).

[2] Aquifer thickness, b = depth of well - depth to static water

[3] A constant-rate pumping and recovery test was only possible at Well #3 because it had sufficient yield. The constant-rate drawdown and recovery test data analysis was based on Cooper and Jacob, 1946. At the other three wells, the pumping rate was not constant. Instead, the pump saver turned off the pump several times during the 24-hour pumping period. The pump saver was set with a 2-hour delay, and drawdown recovery was monitored when the pump saver turned off the well following the 24-hour pumping period.

[4] Aquifer thickness of sand zones based on the geologic log of the well completion report.

**Table 3. Monthly rainfall, temperature, and evapotranspiration  
Oasis Venture Livermore Grow Facility, Alameda County, California**

Month	Mean Annual Rainfall <sup>[1]</sup> (inches)	Normal Rainfall at the Project Site <sup>[2]</sup> (inches)	Normal Temperature at the Project Site <sup>[2]</sup> (degrees F)	Reference Evapotranspiration <sup>[3]</sup> (inches)	Reference Evapotranspiration <sup>[4]</sup> (inches)
October	--	0.82	63.8	4.03	3.42
November	--	1.84	54.7	2.10	1.90
December	--	2.68	48.2	1.55	1.43
January	--	3.00	47.9	1.55	1.52
February	--	2.99	50.9	2.24	2.15
March	--	2.43	53.7	3.72	3.68
April	--	1.10	56.5	5.10	4.92
May	--	0.54	61.5	6.82	6.21
June	--	0.12	66.7	7.80	6.78
July	--	0.03	70.7	8.68	7.46
August	--	0.05	70.9	7.75	6.55
September	--	0.17	69.7	5.70	4.94
Annual	15	15.8	59.6	57.0	51.0

Notes:

[1] Rantz, S.E., 1971, Precipitation depth-duration frequency relations: San Francisco Bay region, CA.

[2] PRISM Climate Group, modeled monthly 1981 - 2010 normals.

[3] California Irrigation Management Information System (CIMIS) reference evapotranspiration ETo Zone 14 (Snider, 1999), Mid-Central Valley, high summer sunshine and wind in some locations.

[4] California Irrigation Management Information System (CIMIS) station no. 191, Pleasanton, California, Latitude: 37.663969, Longitude: -121.88503

**Table 4. Lithology from DWR well completion reports, Oasis Venture Livermore Grow Facility, Alameda County, CA.**

Depth (feet)	On-Site Wells (static water level July 2019)				Off-Site Wells (static water level on WCR)				
	Well 1 DWR No. 716430 2S/2E 17G1 Top of hill	Well 2 DWR No. 725397 2S/2E 17G2 Near barn	Well 3 DWR No. 749467 2S/2E 17G3 South side of entrance road	Well 4 DWR No. 2018-009480 2S/2E 17G4 In corral south of entrance road	7058 Morgan Ter Rd not available 2S/2E 17F1 North of house 120 ft from road (cerca 1940s)	7058 Morgan Ter Rd not available 2S/2E 17F2 North of barn 170 ft from road (cerca 1920s)	7058 Morgan Ter Rd DWR No. 107412 2S/2E 17F3 200 ft west of road, 200 ft south of county line	6751 Morgan Ter Rd DWR No. 174582 2S/2E 17G5 (north of driveway, 292 ft east of road, 110 ft west of Cavetano Cr)	6751 Morgan Ter Rd DWR No. 327532 2S/2E 17G6 (30 ft east of road, 200 ft south of driveway)
0									
5	Dirt	Clay, Little Bit Sand	Adobe	Clay	Well completion report	Well completion report	Black Adobe	Clay	Light Brown Sandy Clay
10	Dirt	Clay, Little Bit Sand	Adobe	Clay	not available.	not available.	Brown Sandstone	Sand	Light Brown Sandy Clay
15	Dirt	Clay, Little Bit Sand	Adobe	Clay	Well depth	Well depth	Brown Sandstone	Clay	Light Brown Sandy Clay
20	Dirt	Clay, Little Bit Sand	Clay	Clay	and location	and location	Brown Sandstone	Sand	Gravel
25	Dirt	Course Sand	Clay	Clay	in Zone 7's database.	in Zone 7's database.	Brown Sandstone	Clay	Grey Mudstone
30	Dirt	Sandstone	Clay	Rock			Brown Sandstone	Clay	Grey Mudstone
35	Shale-Clay	Sandstone	Clay	Sandstone			Brown Sandstone	Clay	Blue Sandy Clay
40	Shale-Clay	Clay	Clay	Sandstone			Blue Green Sandstone	Clay	Blue Sandy Clay
45	Shale-Clay	Sandstone	Clay	Sandstone			Blue Green Sandstone	Clay	Blue Sandy Clay
50	Shale-Clay	Sandstone	Clay	Sandstone			Blue Green Sandstone	Clay	Blue Sandy Clay
55	Shale-Clay	Blue Clay	Clay	Sandstone			Blue Green Sandstone	Clay	Blue Sandy Clay
60	Shale-Clay	Blue Clay	Clay	Sandstone			Blue Green Sandstone	Clay	Grey Mudstone & Shale
65	Shale-Clay	Blue Clay	Clay	Sandstone			Blue Green Sandstone	Clay	Blue Sandy Clay
70	Shale-Clay	Blue Clay	Clay	Sandstone			Blue Green Sandstone	Sand	Dark Shale
75	Shale-Clay	Blue Clay	Clay	Dry Clay			Blue Green Sandstone	Clay	Dark Shale
80	Shale-Clay	Blue Clay	Clay	Dry Clay			Blue Green Sandstone	Clay	Dark Shale
85	Shale-Clay	Blue Clay	Clay	Dry Clay			Blue Green Sandstone	Sand	Blue Grey Sandstone
90	Shale-Clay	Blue Clay	Clay	Dry Clay			Blue Green Sandstone	Clay	Blue Grey Sandstone
95	Shale-Clay	Blue Clay	Clay	Dry Clay			Blue Green Sandstone	Clay	Blue Grey Sandstone
100	Shale-Clay	Blue Clay	Clay	Dry Clay			Blue Green Sandstone	Clay	Blue Grey Sandstone
105	Shale-Clay	Blue Clay	Clay	Dry Clay			Loose Gravel	Clay	Blue Sandy Clay
110	Shale-Clay	Blue Clay	Clay	Dry Clay			Blue Green Sandstone	Clay	Blue Sandy Clay
115	Shale-Clay	Blue Clay	Clay	Dry Clay			Blue Green Sandstone	Clay	Grey Shale
120	Shale-Clay	Blue Clay	Clay	Dry Clay			Blue Green Sandstone	Clay	Blue Sandy Clay
125	Shale-Clay	Blue Clay	Clay	Dry Clay			Blue Green Sandstone	Clay	Blue Sandy Clay
130	Shale-Clay	Blue Clay	Clay	Dry Clay			Blue Green Sandstone	Clay	Blue Sandy Clay
135	Shale-Clay	Clay, Sandstone, Rock	Clay	Dry Clay			Blue Green Sandstone	Sand	Grey Shale
140	Shale-Clay	Clay, Sandstone, Rock	Clay	Dry Clay			Blue Green Sandstone	Sand	Blue Grey Sandstone
145	Shale-Clay	Clay, Sandstone, Rock	Clay	Grey Slate			Blue Green Sandstone	Clay	Grey Shale
150	Shale-Clay	Clay, Sandstone, Rock	Clay	Grey Slate			Blue Green Sandstone	Clay	Grey Shale
155	Shale-Clay	Clay, Sandstone, Rock	Clay	Grey Slate			Blue Green Sandstone	Clay	Grey Shale
160	Shale-Clay	Clay, Sandstone, Rock	Clay	Grey Slate			Blue Green Sandstone	Clay	Grey Shale
165	Shale-Clay	Clay, Sandstone, Rock	Clay	Grey Slate			Blue Green Sandstone	Shale & Clay	Grey Shale
170	Shale-Clay	Clay, Sandstone, Rock	Clay	Grey Slate			Blue Green Sandstone	Shale & Clay	Grey Shale
175	Shale-Clay	Clay, Sandstone, Rock	Clay	Grey Slate			Loose Gravel	Shale & Clay	Grey Shale
180	Shale-Clay	Clay, Sandstone, Rock	Clay	Grey Slate			Blue Green Sandstone	Shale & Clay	Grey Shale
185	Shale-Clay	Clay, Sandstone, Rock	Clay	Grey Slate			Blue Green Sandstone	Shale & Clay	Grey Shale
190	Sand	Clay, Sandstone, Rock	Clay	Grey Slate			Blue Green Sandstone	Shale & Clay	Grey Shale
195	Shale-Clay	Clay, Sandstone, Rock	Clay	Grey Slate			Grey Shale	Shale & Clay	Grey Shale
200	Shale-Clay	Clay, Sandstone, Rock	Clay	Grey Slate			Grey Shale	Shale & Clay	Grey Shale
205	Shale-Clay	Clay, Sandstone, Rock	Clay	Clay				Shale & Clay	Grey Shale
210	Shale-Clay	Clay, Sandstone	Clay	Clay				Shale & Clay	Grey Shale
215	Shale-Clay	Clay, Sandstone	Clay	Sandstone				Sand	Grey Shale
220	Shale-Clay	Clay, Sandstone	Clay	Sandstone				Shale & Clay	Grey Shale
225	Shale-Clay	Clay, Sandstone	Clay	Sandstone				Shale & Clay	Grey Shale
230	Shale-Clay	Clay, Sandstone	Clay	Sandstone				Shale & Clay	Grey Shale
235	Shale-Clay	Clay, Sandstone	Clay	Sandstone				Shale & Clay	Grey Shale
240	Shale-Clay	Clay, Sandstone	Clay	Dry Clay				Shale & Clay	Grey Shale
245	Shale-Clay	Clay, Sandstone	Clay	Dry Clay				Shale & Clay	Grey Shale
250	Shale-Clay	Clay, Sandstone	Clay	Dry Clay				Shale & Clay	Grey Shale
255	Shale-Clay	Clay, Sandstone	Clay	Dry Clay				Shale & Clay	Grey Shale
260	Shale-Clay	Clay, Sandstone	Clay	Dry Clay				Shale & Clay	Grey Shale
265	Shale-Clay	Clay, Sandstone	Clay	Black Slate				Shale & Clay	Grey Shale
270	Shale-Clay	Clay, Sandstone	Clay	Black Slate				Shale & Clay	Grey Shale
275	Shale-Clay	Clay, Sandstone	Sandy Clay	Black Slate				Shale & Clay	Grey Shale
280	Shale-Clay	Clay, Sandstone	Sandy Clay	Black Slate				Shale & Clay	Grey Shale
285	Shale-Clay	Clay, Sandstone	Clay	Black Slate				Shale & Clay	Grey Shale
290	Shale-Clay	Clay, Sandstone	Clay	Black Slate				Shale & Clay	Grey Shale
295	Shale-Clay	Clay, Sandstone	Clay	Black Slate				Shale & Clay	Grey Shale
300	Shale-Clay	Clay, Sandstone	Clay	Black Slate				Shale & Clay	Grey Shale
305	Shale-Clay	Clay, Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
310	Shale-Clay	Clay, Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
315	Shale-Clay	Clay, Sandstone	Sandy Clay	Sandy Clay				Shale & Clay	Grey Shale
320	Shale-Clay	Clay, Sandstone	Sandy Clay	Sandy Clay				Shale & Clay	Grey Shale
325	Sand	Clay, Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
330	Shale-Clay	Clay, Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
335	Shale-Clay	Clay, Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
340	Sand	Clay, Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
345	Shale-Claystone	Clay, Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
350	Shale-Claystone	Clay, Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
355	Shale-Claystone	Clay, Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
360	Shale-Claystone	Clay, Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
365	Shale-Claystone	Clay, Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
370	Shale-Claystone	Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
375	Shale-Claystone	Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
380	Shale-Claystone	Sandstone	Clay	Sandy Clay				Shale & Clay	Grey Shale
385	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay				Shale & Clay	Grey Shale
390	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay				Shale & Clay	Grey Shale
395	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay				Shale & Clay	Grey Shale
400	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay				Shale & Clay	Grey Shale

Table continues to next page.

**Table 4. Lithology from DWR well completion reports, Oasis Venture Livermore Grow Facility, Alameda County, CA.**

	On-Site Wells (static water level July 2019)				Off-Site Wells (static water level on WCR)				
	Well 1	Well 2	Well 3	Well 4	7058 Morgan Ter Rd	7058 Morgan Ter Rd	7058 Morgan Ter Rd	6751 Morgan Ter Rd	6751 Morgan Ter Rd
	DWR No. 716430	DWR No. 725397	DWR No. 749467	DWR No. 2018-009480	not available	not available	DWR No. 107412	DWR No. 174582	DWR No. 327532
405	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
410	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
415	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
420	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
425	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
430	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
435	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
440	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
445	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
450	Shale-Claystone	Sandstone, Shale	Clay	Sandstone					
455	Shale-Claystone	Sandstone, Shale	Clay	Sandstone					
460	Shale-Claystone	Sandstone, Shale	Clay	Sandstone					
465	Shale-Claystone	Sandstone, Shale	Clay	Sandstone					
470	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
475	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
480	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
485	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
490	Shale-Claystone	Sandstone, Shale	Clay	Sandy Clay					
495	Shale-Claystone	Sandstone, Shale	Fractured Rock	Sandy Clay					
500	Shale-Claystone	Sandstone, Shale	Fractured Rock	Sandy Clay					
505				Sandy Clay					
510				Sandy Clay					
515				Sandy Clay					
520				Soft Clay					
525				Soft Clay					
530				Soft Clay					
535				Soft Clay					
540				Soft Clay					
545				Soft Clay					
550				Soft Clay					
555				Soft Clay					
560				Soft Clay					
565				Soft Clay					
570				Soft Clay					
575				Soft Clay					
580				Soft Clay					
585				Soft Clay					
590				Soft Clay					
595				Soft Clay					
600				Soft Clay					
605				Sandstone					
610				Sandstone					
615				Sandstone					
620				Sandstone					
625				Sandstone					
630				Sandstone					
635				Sandstone					
640				Sandstone					
645				Sandstone					
650				Sandstone					
655				Sandstone					
660				Sandstone					
665				Sandstone					
670				Sandstone					
675				Sandstone					
680				Sandstone					

**Table 5. Published properties of surficial soils, Northern California Youth Regional Treatment Center, Yolo County, CA.**

Map Symbol (USDA)	Soil Series <sup>1</sup> (USDA)	Parent Material	Taxonomy (order, suborder, family)	Hydrologic Soil Group	Depth Zone (inches)	USDA Texture	USCS <sup>2</sup>	Atterberg Limits		Permeability (inches/hour)	Available Water Capacity <sup>3</sup>		Reaction (pH)	Remarks
								Liquid	Plastic		Per Inch (in./in. of soil)	Profile (total, in)		
CdA	Clear Lake clay	Very deep, poorly drained soils formed in fine textured alluvium derived from mixed rock sources. Found in flood basins, flood plains and in swales of drainageways.	Vertisols	D (very slow infiltration, very high runoff)	0 to 36	Clay	CH	na	na	0.05 to 0.2	0.183	6.6	6.5 to 7.8	Located at west portion of the property along Cayentano Creek. Approximately 10% of the parcel area.
			Aquerts		36 to 48	Clay	CH	na	na	0.05 to 0.2	0.167	2.0	7.8 to 8.2	
			Fine, smectitic, thermic Xeric Endoaquerts		48 to 65	Silty Clay	CH	na	na	0.05 to 0.2	0.15	2.6	7.8 to 8.2	
					>65	Alluvium					Total = 11.1			
DbD, DdDcc, DvC	Diablo clay	Deep to moderately deep, well drained clayey soils formed in weathered, calcareous, interbedded shale and fine-grained sandstone.	Vertisols	D (very slow infiltration, very high runoff)	0 to 6	Clay	CH	45	19	0.05 to 0.2	0.167	1.0	6.1 to 7.4	Located across most of the property, about 80%. Consists of about 3 ft of dark-brown, dark-gray, dark slate-colored, or black heavy sticky clay loam or clay. Lower slopes generally have darker heavier soils. Formerly classified as Grumusols.
			Xeralfs		6 to 32	Silty Clay	CH	49	24	0.05 to 0.2	0.167	4.3	7.4 to 7.8	
			Fine, montmorillonitic, thermic Chromic Pelloxererts		32 to 50	Silty Clay Loam	CL	48	21	0.2 to 0.8	0.150	2.7	7.8 to 8.2	
					>50	Sandstone and Shale					Total = 8.0			
LaC	Linne clay loam	Shallow to deep, well-drained, calcareous, interbedded shale and fine-grained sandstone.	Mollisols	C (slow infiltration, runoff very slow)	0 to 36	Clay loam	CL	na	na	0.2 to 0.8	0.167	6.0	7.9 to 8.2	Located at south east portion of the property. Approximately 10% of the parcel area.
			Xerolls		>36	Sandstone and Shale								
			Fine-loamy, mixed, superactive, thermic Calcic Pachic											

**Notes**

- 1) Information taken from the USDA soil survey for the area. This soil survey generally does not distinguish areas smaller than about 20 to 40 acres.
- 2) USCS = Unified Soils Classification System, commonly used in geotechnical or soil-foundation investigations, and in routine engineering geologic logging.
- 3) Available Water Capacity = Held water available for use by most plants, usually defined as the difference between the amount of soil water at field capacity (one day of drainage after a rain or recharge event) and the amount at the
- 4) NP = nonplastic

**Table 6. Soil-moisture balance estimating on-site recharge potential, Oasis Venture Livermore Grow Facility, Alameda County, California**

Given:	CdA, DbD, LaC <sup>[2]</sup>	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Annual
Soil moisture capacity, inches/ft		2	2	2	2	2	2	2	2	2	2	2	2	--
Root depth, feet		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	--
Soil moisture capacity of root zone, inches		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	--
Reference Evapotranspiration (ETo) <sup>[3]</sup> , inches		3.42	1.90	1.43	1.52	2.15	3.68	4.92	6.21	6.78	7.46	6.55	4.94	50.96
Mean Precipitation (P) <sup>[4]</sup> , inches		0.82	1.84	2.68	3.00	2.99	2.43	1.10	0.54	0.12	0.03	0.05	0.17	15.77
Percent runoff (estimate) <sup>[5]</sup>		0%	2%	5%	8%	7%	3%	1%	0%	0%	0%	0%	0%	--
Calculations:	Runoff (RO) <sup>[5]</sup> , inches	0.00	0.04	0.13	0.24	0.21	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.70
	Infiltration (I=P-RO), inches	0.82	1.80	2.55	2.76	2.78	2.36	1.09	0.54	0.12	0.03	0.05	0.17	15.07
	I - ETo, inches	-2.60	-0.10	1.12	1.24	0.63	-1.32	-3.83	-5.67	-6.66	-7.43	-6.50	-4.77	-35.89
	Accumulated Water Loss (AWL), inches	-38.78	-38.88	0	0	0	-1.32	-5.15	-10.82	-17.48	-24.91	-31.41	-36.18	--
	Soil storage (ST) <sup>[6]</sup> , inches	0.00	0.00	1.12	2.00	2.00	0.96	0.12	0.00	0.00	0.00	0.00	0.00	--
	Change in soil moisture ( $\Delta$ ST), inches	0.00	0.00	1.12	0.88	0.00	-1.04	-0.84	-0.12	0.00	0.00	0.00	0.00	0.00
	Actual Evapotranspiration (AET) <sup>[7]</sup> , inches	0.82	1.80	1.43	1.52	2.15	3.40	1.93	0.66	0.12	0.03	0.05	0.17	14.08
	Moisture Deficit (D=ETo-AET), inches	2.60	0.10	0.00	0.00	0.00	0.28	2.99	5.55	6.66	7.43	6.50	4.77	36.88
	Percolation (Perc=I-AET- $\Delta$ ST), inches	0.00	0.00	0.00	0.36	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.99</b>
Check:	P = PERC + AET + $\Delta$ ST + RO	0.82	1.84	2.68	3.00	2.99	2.43	1.10	0.54	0.12	0.03	0.05	0.17	15.77

Notes:

1. Method based on Thornthwaite, C.W., and Mather, J.R., 1957, Instructions and tables for computing potential evapotranspiration and the water balance: Drexel Institute of Technology, Laboratory of Climatology Publications in Climatology, Vol. 10, No. 3, pp.185-311.
2. Welch, L.E., Huff, R.C., Dierking, R.A., Cook, T.D., Bates, L.A., and Andrews, W.F., 1961, Soil survey of the Alameda Area, California: U.S. Department of Agriculture. Soil Conservation Service, in cooperation with the University of California Agricultural Experiment Station, Series 1961, No. 41, issued March 1966, 97 pp + 42 map sheets.
3. California Irrigation Management Information System (CIMIS) station no. 191, Pleasanton, California, Latitude: 37.663969, Longitude: -121.88503
4. Prism Climatic Group precipitation 30-year normals, 1981-2010, 800 m spatial resolution interpolated at the project site coordinates, <http://prism.oregonstate.edu/>
5. Runoff estimates assume BMP techniques will be implemented to detain stormwater, resulting in increased recharge to groundwater.
6. Soil moisture storage is the amount of moisture retained in the soil after a given amount of accumulated potential water loss has occurred, which is obtained from tables for a given soil moisture capacity. Soil moisture storage is replenished during months when infiltration is greater than potential evapotranspiration (or reference evapotranspiration) and not exceeding the soil moisture capacity.
7. When infiltration is greater than the potential evaporation (I-ETo is positive) the soil remains full of water and AET will equal the potential. When infiltration is less than ETo (I-ETo is negative), then the soil dries and AET is less than potential. In those months, AET equals the infiltration plus the amount drawn from soil moisture storage (I- $\Delta$ ST).

**Table 7. Summary of aquifer parameter calculations,  
Oasis Venture Livermore Grow Facility,  
Alameda County, CA.**

<b><u>Pumping test</u></b>	<b><u>Well 3</u></b>
Date	7/15/2019
Static water level, (ft bgs)	249
Top of casing perforations #1 (ft bgs)	300
Top of casing perforations #2 (ft bgs)	460
Total depth (ft bgs)	520
Aquifer thickness, b (ft) <sup>1</sup>	50
Avg. pumping rate, Q (gpm)	3.2
24-hr drawdown, s (ft)	231.4
24-hr specific capacity, Cs=Q/s (gpm/ft)	0.014
Estimated maximum pumping rate, Cs*b (gpm)	
with drawdown to perforations #1	0.71
with drawdown to perforations #2	2.9
Transmissivity estimate based on Cs (gpd/ft) <sup>2</sup>	26
Drawdown slope, Δs	62
Transmissivity, T (gpd/ft) <sup>3</sup>	14
Average hydraulic conductivity, K=T/b (gpd/ft <sup>2</sup> )	0.27
Average hydraulic conductivity, K (cm/s)	1.3E-05
<b><u>Recovery test</u></b>	<b><u>Well 3</u></b>
Date	7/16/2019
Drawdown at end of pumping (ft)	231.4
Residual drawdown at end of recovery (ft)	44.4
24-hr recovery (ft)	187
Percent recovery (dry-season no recharge conditions)	81%
Residual drawdown slope, Δs	97
Avg. pumping rate, Q (gpm)	3.2
Transmissivity, T (gpd/ft) <sup>3</sup>	8.7
Hydraulic conductivity, K=T/b (gpd/ft <sup>2</sup> )	0.174
Hydraulic conductivity, K (cm/s)	8.2E-06

**Notes:**

1. Aquifer thickness based on depths of sandy clay zones noted in geologic log of the driller's well completion report.
2. To estimate aquifer transmissivity (T) with Cs see p. 128 of DWR Bulletin No. 118-2 (June 1974).
3. Method assumes (a) full penetration of the aquifer, and perhaps more importantly, (b) the hydraulic conductivity ("permeability") of the shallow and deeper zones are similar (homogeneous conditions), and (c) the hydraulic conductivity is the same in all directions (isotropic conditions). Although the assumptions are never strictly met in any natural aquifer system, they are commonly suitable to roughly estimate bulk aquifer properties.

**Table 8. Radius of influence estimate of pumping the Project demand of 3.7 gpm, Oasis Venture Livermore Grow Facility, Alameda County, CA**

**Case A. Maximum day demand**

Given:	Transmissivity, T=K*b	52 gpd/ft	K=0.22 gpd/ft <sup>2</sup> ; b=231 ft
	Storativity, S	0.02	fractured bedrock norm
	Pumping rate, Q	4 gpm	5760 gallons per day
	Pumping duration, t	1.0 days	24 hours

Find: drawdown, s(r,t):

**Distance from well**

**Drawdown**

r (ft)	$u=(1.87*r^2*S)/(T*t)$	W(u)	s max (ft) = (264*Q/T) * W(u)
<b>0.21</b>	3.1E-05	4.25	<b>87.0</b> radius of well casing
<b>5</b>	1.8E-02	1.49	<b>30.5</b>
<b>10</b>	7.2E-02	0.89	<b>18.2</b>
<b>15</b>	1.6E-01	0.54	<b>11.0</b>
<b>20</b>	2.9E-01	0.29	<b>5.9</b>
<b>25</b>	4.5E-01	0.09	<b>1.9</b>
<b>100</b>	7.2E+00	-1.11	<b>0.0</b>
<b>200</b>	2.9E+01	-1.71	<b>0.0</b>
<b>300</b>	6.5E+01	-2.07	<b>0.0</b>
<b>500</b>	1.8E+02	-2.51	<b>0.0 nearest neighbor's well</b>

**Case B. Average dry-season demand**

Given:	Transmissivity, T=K*b	52 gpd/ft	K=0.22 gpd/ft <sup>2</sup> ; b=231 ft
	Storativity, S	0.02	fractured bedrock norm
	Pumping rate, Q	4 gpm	24.3 acre-feet (May - Oct)
	Pumping duration, t	184 days	May through October

Find: drawdown, s(r,t):

**Distance from well**

**Drawdown**

r (ft)	$u=(1.87*r^2*S)/(T*t)$	W(u)	s max (ft) = (264*Q/T) * W(u)
<b>0.21</b>	1.7E-07	6.52	<b>133.4</b> radius of well casing
<b>5</b>	9.8E-05	3.76	<b>76.9</b>
<b>10</b>	3.9E-04	3.15	<b>64.5</b>
<b>15</b>	8.9E-04	2.80	<b>57.3</b>
<b>20</b>	1.6E-03	2.55	<b>52.2</b>
<b>25</b>	2.5E-03	2.36	<b>48.3</b>
<b>100</b>	3.9E-02	1.15	<b>23.6</b>
<b>200</b>	1.6E-01	0.55	<b>11.3</b>
<b>300</b>	3.5E-01	0.20	<b>4.1</b>
<b>500</b>	9.8E-01	-0.24	<b>0.0 nearest neighbor's well</b>

**Method:**

Theoretical drawdown was calculated using Cooper and Jacob modified nonequilibrium Theis equation (Driscoll, F.G., 1986, Groundwater and Wells, 2nd Ed., p. 219).

The modified nonequilibrium equation is valid for values of u less than about 0.05, otherwise values are approximate.

Theis' nonequilibrium equation is based on the following assumptions:

- a) The water-bearing formation is uniform in character and the hydraulic conductivity is the same in all directions.
- b) The formation is uniform in thickness and infinite in areal extent.
- c) The formation receives no recharge from any source.
- d) The pumped well penetrates, and receives water from, the full thickness of the water-bearing formation.
- e) The water removed from storage is discharged instantaneously when the head is lowered.
- f) The pumping well is 100 percent efficient.
- g) All water removed from the well comes from aquifer storage.
- f) Laminar flow exists throughout the well and aquifer.
- i) The water table or potentiometric surface has no slope.

**Notes:**

1. The modified nonequilibrium equation is valid for values of u less than about 0.05, otherwise values are approximate.
2. Transmissivity (T) estimated from 24-hour constant-rate drawdown and recovery test at Well #3.

**Table 9. Water-quality results, Oasis Venture Livermore Grow Facility, Alameda County, California**

PARAMETER	UNITS	PQL <sup>[1]</sup>	MCL <sup>[2]</sup>	ACEH <sup>[3]</sup>	Well 1	Well 2	Well 3	Well 4	Cayetano Creek
					(top of hill)	(near barn)	(at entrance road)	(in corral S of entrance road)	
*** Sampled at end of 24-hour pumping test ***									
<b>DESCRIPTORS</b>									
Sample I.D.					190715 01-01	190711 10-01	190619 02-01	311574-001	190511 02-01
Assessors parcel number					903-7-1-1	903-7-1-1	903-7-1-1	903-7-1-1	903-7-1-1
Latitude, WGS84	degrees				37° 45.746'N	37° 45.655'N	37° 45.615'N	37° 45.604'N	37°45'35.35"N
Longitude, WGS84	degrees				121° 46.706'W	121° 46.760'W	121° 46.751'W	121° 46.730'W	121°46'45.58"W
Elevation (est.), WGS84	feet				730	687	677	674	
Lab used <sup>[4]</sup>					MBAS	MBAS	MBAS	EA	MBAS
Sample collected by <sup>[5]</sup>					mw	mw	gp	mw	gp
Field filtered					no	no	no	no	no
<b>FIELD MEASUREMENTS</b>									
Date	MM/DD/YY				7/13/19	7/10/19	6/18/19	7/6/19	5/10/19
Time	HH:MM				12:10	2:30	13:00	15:00	13:00
Specific conductance (@ 25 C°)	umhos/cm				572	804		706	1114
Conductance (@ field temp)	umhos/cm				528	744		665	1087
Temperature	deg C				21.1	21.1		21.8	22.4
Flow estimate	gpm				1	2	3	1	30
<b>WATER QUALITY INDICATORS</b>									
Alkalinity (total)	mg/L CaCO3	10			166	226	211	160	420
Hydroxide	mg/L CaCO3	10			0	0	0	0	0
Hardness (total)	mg/L CaCO3	10			12	95	50		300
pH	pH Units	1	10.6		8.8	7.7	7.7	8.8	8.7
Specific conductance (@ 25 C°)	umhos/cm	1	900/1600		610	728	772	720	1134
Total dissolved solids (TDS)	mg/L	10	500/1000	1000	432	488	456	480	736
MBAS (surfactants)	mg/L	0.05	0.5				<0.05		
Total Coliform <sup>[6]</sup>	MPN/100ml	1		Absent		82	0	0	
E. Coli <sup>[6]</sup>	MPN/100ml	1		Absent		2	0	0	
<b>GENERAL PHYSICAL</b>									
Color	Color Units	3	15	15			3		
Odor	T.O.N.	1	3	3			1		
Turbidity	NTU	0.05	5	5			1.2		
<b>GENERAL MINERALS</b>									
Bicarbonate (as CaCO3)	mg/L	8			133	226	211	120	368
Bicarbonate (as HCO3)	mg/L	10			162	276	257	146	449
Calcium (Ca)	mg/L	1			4	31	12	5.4	66
Carbonate (as CaCO3)	mg/L	17			33	0	0	40	52
Carbonate (as CO3)	mg/L	10			20	0	0	24	31
Chloride (Cl)	mg/L	1	250/500	500	55	100	80	97	85
Magnesium (Mg)	mg/L	0.5			0	4	5	1.3	33
Potassium (K)	mg/L	0.5			1.8	4.2	2.5	2.5	2.5
Sodium (Na)	mg/L	1			144	143	148	150	137
Sulfate (SO4)	mg/L	0.05	250/500	500	43	17	47	55	108
Major Cations (Ca+Mg+K+Na)	meq/L	--	--		6.51	8.20	7.51	6.97	12.03
Major Anions (HCO3+CO3+Cl+SO4)	meq/L	--	--		5.76	7.69	7.45	7.08	13.04
Ion Balance (Cations/Anions)	--	--	--		1.13	1.07	1.01	0.98	0.92

Table continues to next page.

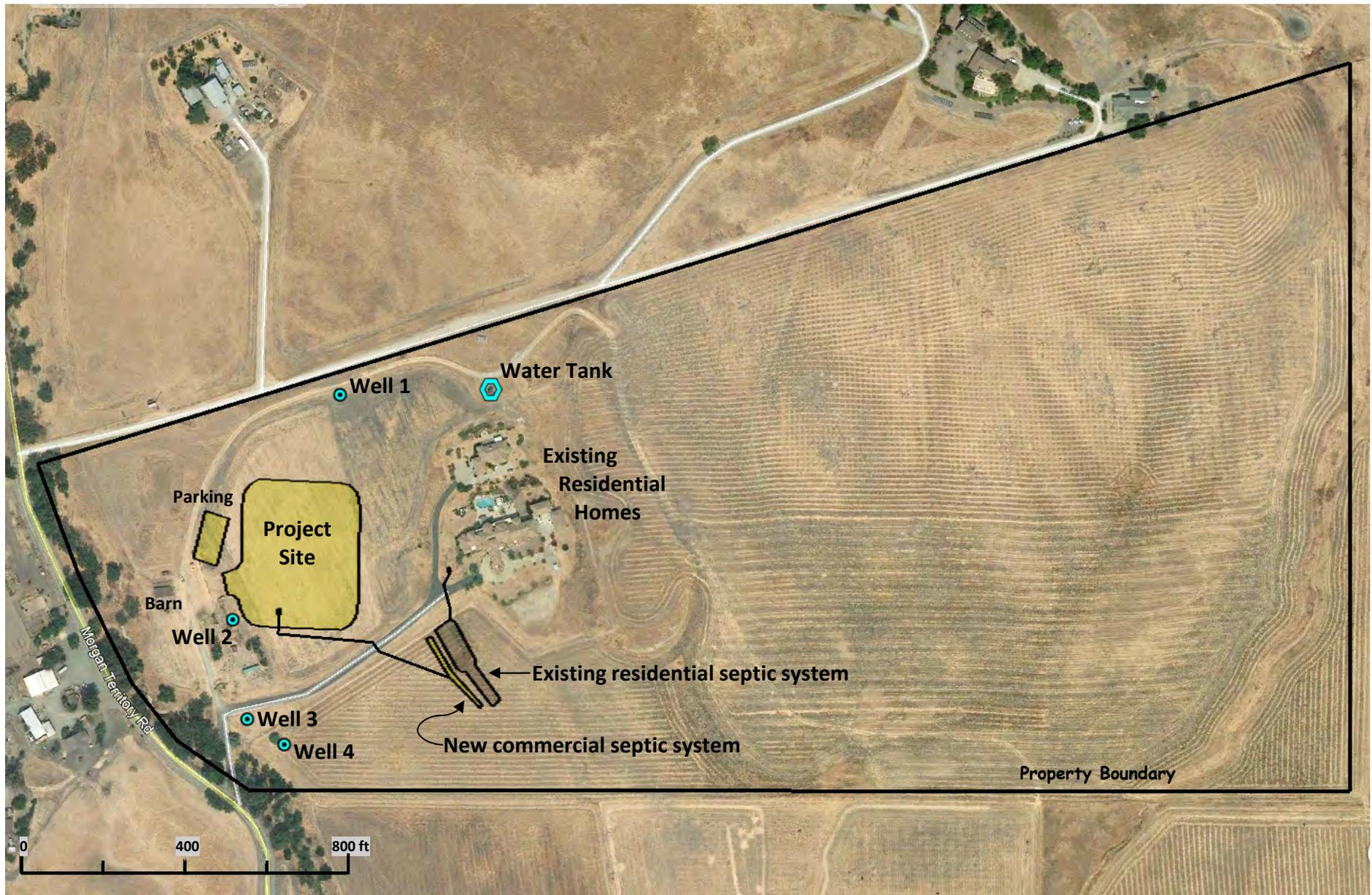
**Table 9. Water-quality results, Oasis Venture Livermore Grow Facility, Alameda County, California**

PARAMETER	UNITS	PQL <sup>[1]</sup>	MCL <sup>[2]</sup>	ACEH <sup>[3]</sup>	Well 1	Well 2	Well 3	Well 4	Cayetano Creek
					(top of hill)	(near barn)	(at entrance road)	(in corral S of entrance road)	
*** Sampled at end of 24-hour pumping test ***									
<i>Table continued from previous page.</i>									
<b>TITLE 22 PRIMARY STANDARDS, INORGANIC</b>									
Aluminum (Al)	ug/L	5	1000				45		
Antimony (Sb)	ug/L	0.5	6				<0.5		
Arsenic (As)	ug/L	0.5	10				39.9		
Barium (Ba)	ug/L	5	1000				37.1		
Beryllium (Be)	ug/L	0.5	4				<0.5		
Cadmium (Cd)	ug/L	0.25	5				<0.25		
Chromium (Cr)	ug/L	1	50				1.3		
Copper (Cu)	ug/L	10	1000	1000			12		
Cyanide (CN)	ug/L	2	150				<2		
Fluoride (F) <sup>[7]</sup>	mg/L	0.1	2				0.9		
Lead (Pb)	ug/L	1	15				<1		
Mercury (Hg)	ug/L	0.2	2				<0.2		
Nickel (Ni)	ug/L	5	100				<5		
Nitrate (as NO3)	mg/L	0.4	45	45	1.3	41	16	<0.4	0.44
Nitrate (as N)	mg/L	0.1	10		0.3	9.2	3.6	<0.1	0.10
Nitrate + Nitrite (as N)	mg/L	0.1	10				4		
Nitrite (as N)	mg/L	0.1	1				<0.1		
Selenium (Se)	ug/L	1	50				1.5		
Thallium (Tl)	ug/L	0.5	2				<0.5		
<b>TITLE 22 SECONDARY STANDARDS, INORGANIC</b>									
Iron (Fe)	ug/L	10	300	300			25		
Manganese (Mn)	ug/L	10	50	50			<10		
Zinc (Zn)	ug/L	10	5000	5000			<10		
<b>OTHER CONSTITUENTS</b>									
Boron (B) <sup>[8]</sup>	mg/L	0.1			3.25	0.41	2.61	3.2	1.12
Bromide	mg/L	0.1					0.2		
o-Phosphate-P	mg/L	0.1					<0.1		

**NOTES**

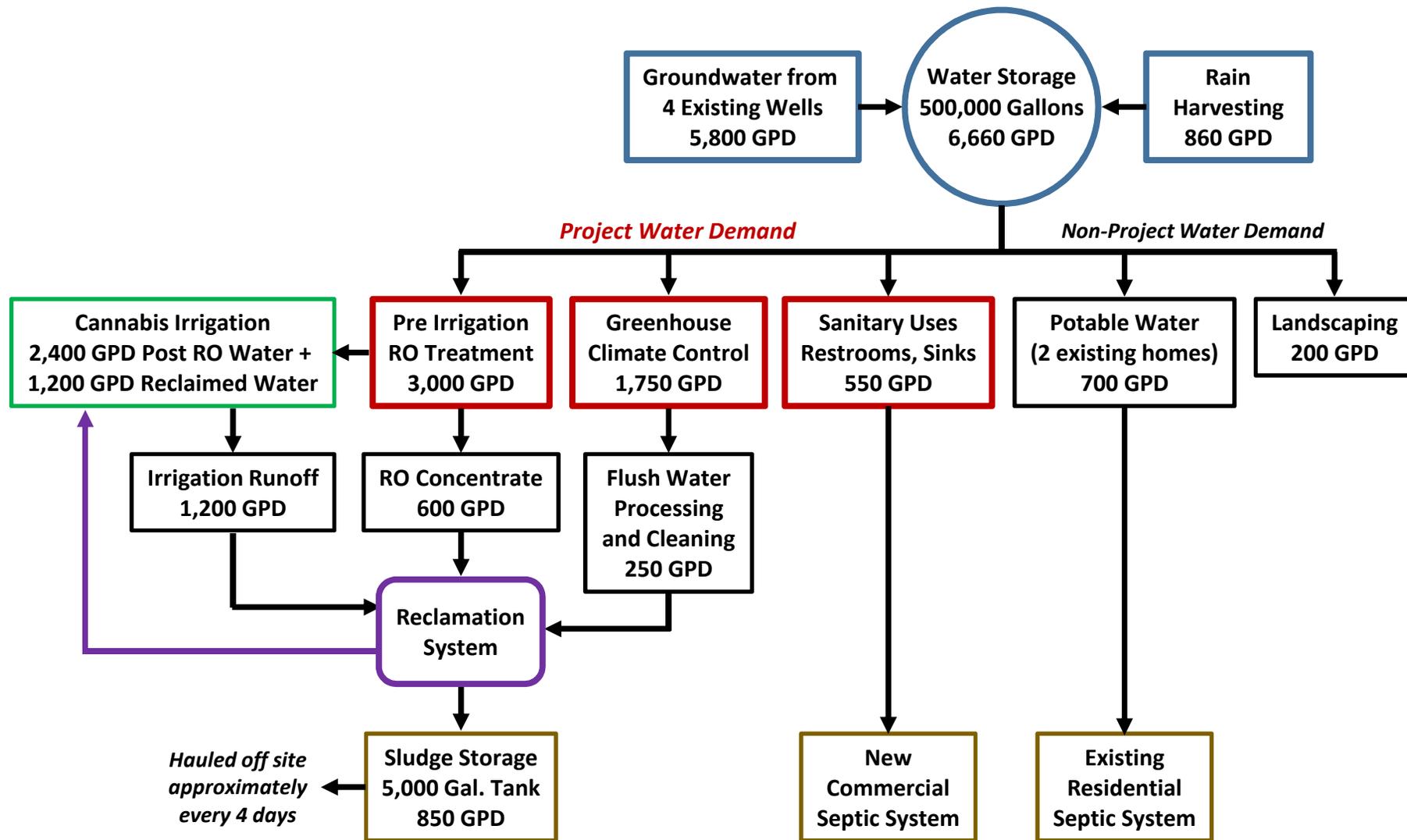
1. PQL = Practical Quantitation Limit
2. MCL = California Title 22 Maximum Contaminant Level as listed by California Administrative Code, Title 22. Bold red font indicates a laboratory result exceeding its MCL.
3. ACEH = Alameda County Environmental Health drinking water well testing standards (5/6/2013).
4. Lab key: MBAS = Monterey Bay Analytical Services; EA = Enthalpy Analytical; McCampbell = McCampbell Analytical
5. Observer key: gp = Gustavo Porras (Balance Hydrologics); mw = Mark Woysner (Balance Hydrologics); PCW&P = Pacific Coast Well & Pump
6. Bacteria samples collected on 9/20/18 by Pacific Coast Well & Pump staff and delivered to McCampbell Analytical for analysis.
7. MCL for fluoride is 1 to 2.4 mg/L and temperature dependent.
8. There is no MCL for boron. Irrigation guidelines for boron have identified increasing problems at values greater than 0.5 mg/L and severe problems at values exceeding 2.0 mg/L (crc)
9. Lab results: 0 = not detected; blank value = not tested; na = not applicable

## FIGURES



**Figure 1. Project concept for water supply and wastewater, Oasis Venture Livermore Grow Facility, APN 903-7-1-1, Alameda County, CA.**

All four water wells will be piped to the water storage tank(s) to serve the Project and two existing homes with water. Currently Well #3 is piped to an existing 10,000 gallon tank which supplies the two homes with potable water. Base source: Google Earth imagery date 8/31/2017.



**Figure 2. Average water-balance flow chart, Oasis Venture Livermore Grow Facility, Alameda County**

Design and data source: Oasis Venture, LLC. Project total water demand includes a) pre-irrigation RO treatment, b) greenhouse climate control, and c) sanitary uses. Non-Project water demands includes a) potable water for the two existing domestic homes, and b) landscaping. Project employees and guests will be provided with bottled drinking water and cups. Each domestic home is equipped with an under-sink 5 stage reverse osmosis drinking water filtration system.

**Lithology Legend**

**Qa** Alluvium (Holocene).

**Qoa** Older Alluvium: Dissected fan deposits (late Pleistocene).

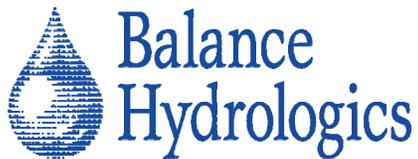
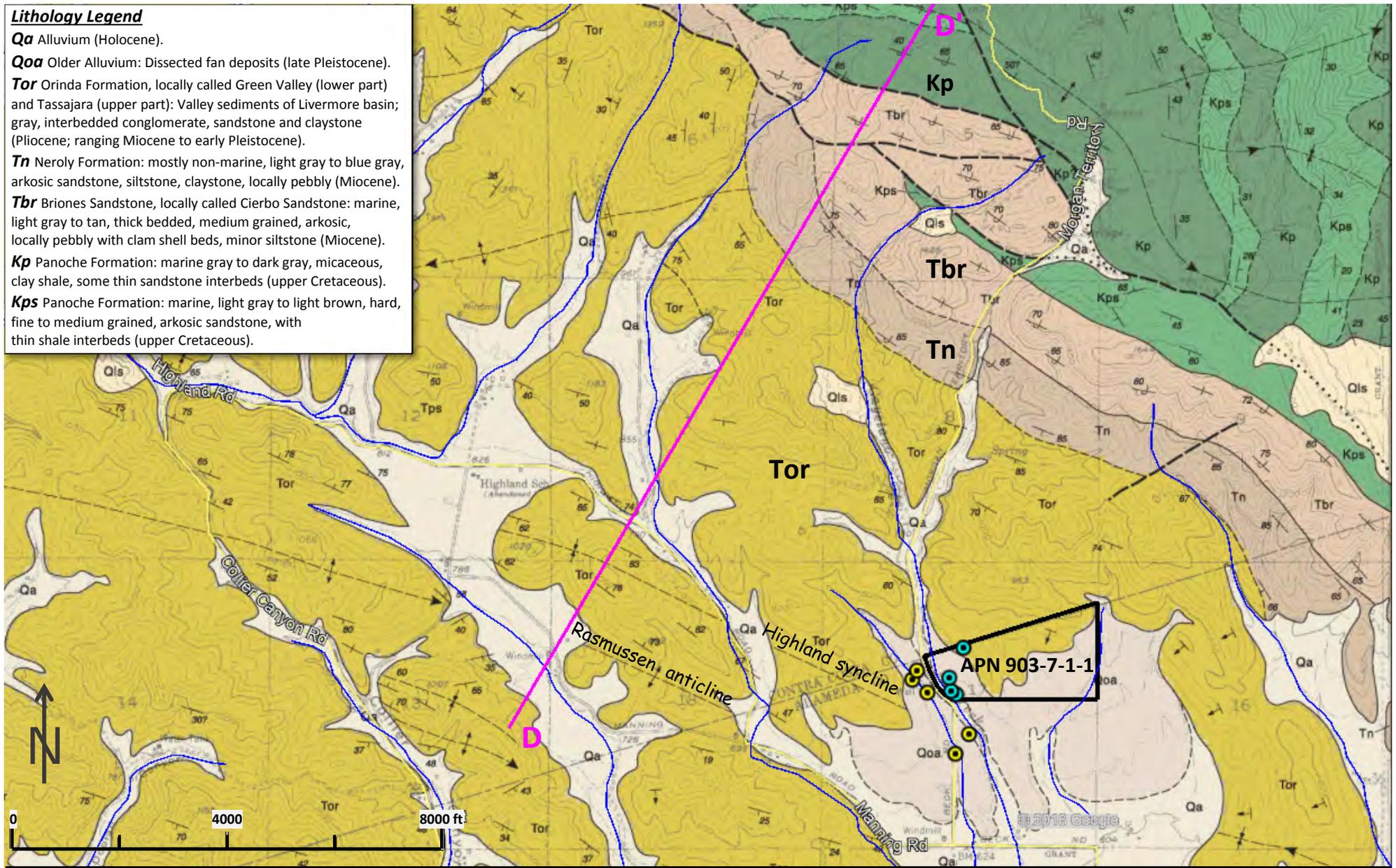
**Tor** Orinda Formation, locally called Green Valley (lower part) and Tassajara (upper part): Valley sediments of Livermore basin; gray, interbedded conglomerate, sandstone and claystone (Pliocene; ranging Miocene to early Pleistocene).

**Tn** Neroly Formation: mostly non-marine, light gray to blue gray, arkosic sandstone, siltstone, claystone, locally pebbly (Miocene).

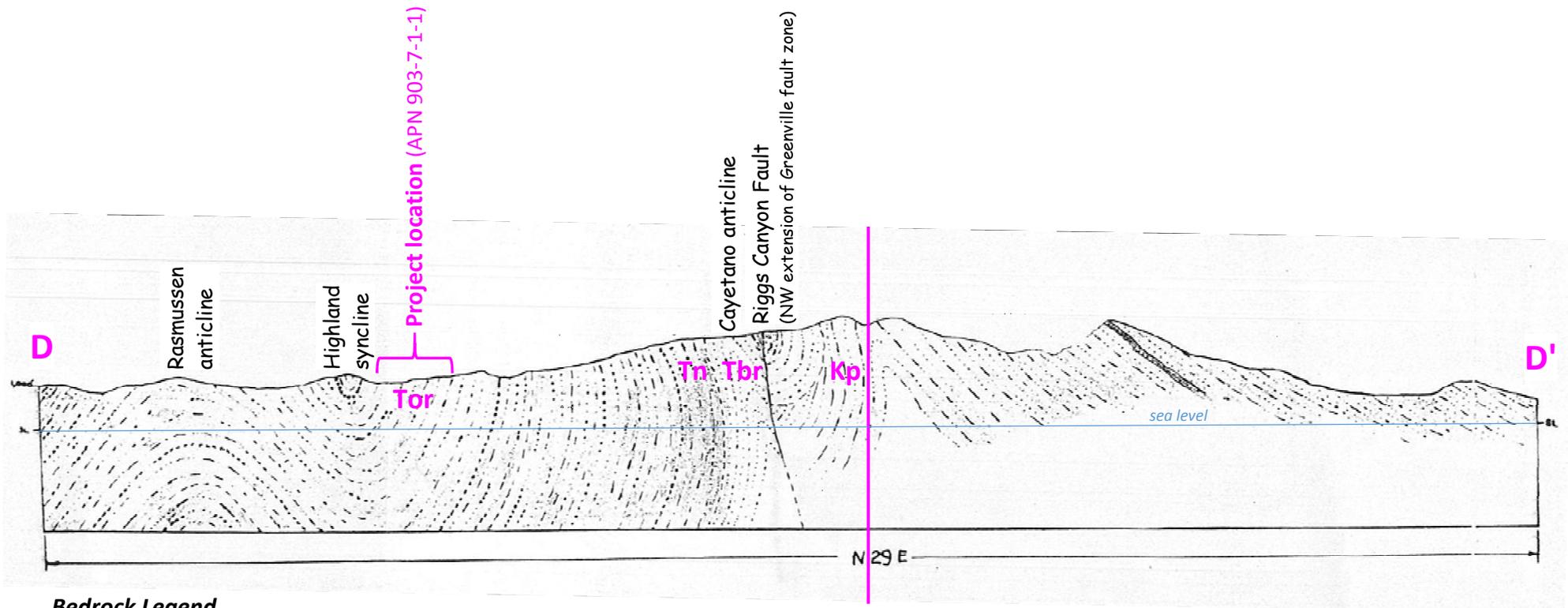
**Tbr** Briones Sandstone, locally called Cierbo Sandstone: marine, light gray to tan, thick bedded, medium grained, arkosic, locally pebbly with clam shell beds, minor siltstone (Miocene).

**Kp** Panoche Formation: marine gray to dark gray, micaceous, clay shale, some thin sandstone interbeds (upper Cretaceous).

**Kps** Panoche Formation: marine, light gray to light brown, hard, fine to medium grained, arkosic sandstone, with thin shale interbeds (upper Cretaceous).



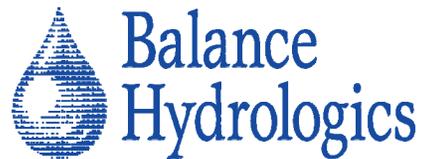
**Figure 3. Geology map, Oasis Venture Livermore Grow Facility, APN 903-7-1-1, Alameda County, CA**  
Location of cross section D-D', Highland syncline and Rasmussen anticline based on Oestreich, E.S., 1954 MS Thesis, Geology of Tassajara Quadrangle. Geology base: Dibblee, T.W., and Minch, J.A., 2006, Geologic map of the Tassajara quadrangle, Contra Costa & Alameda Counties, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-194, scale 1:24,000.



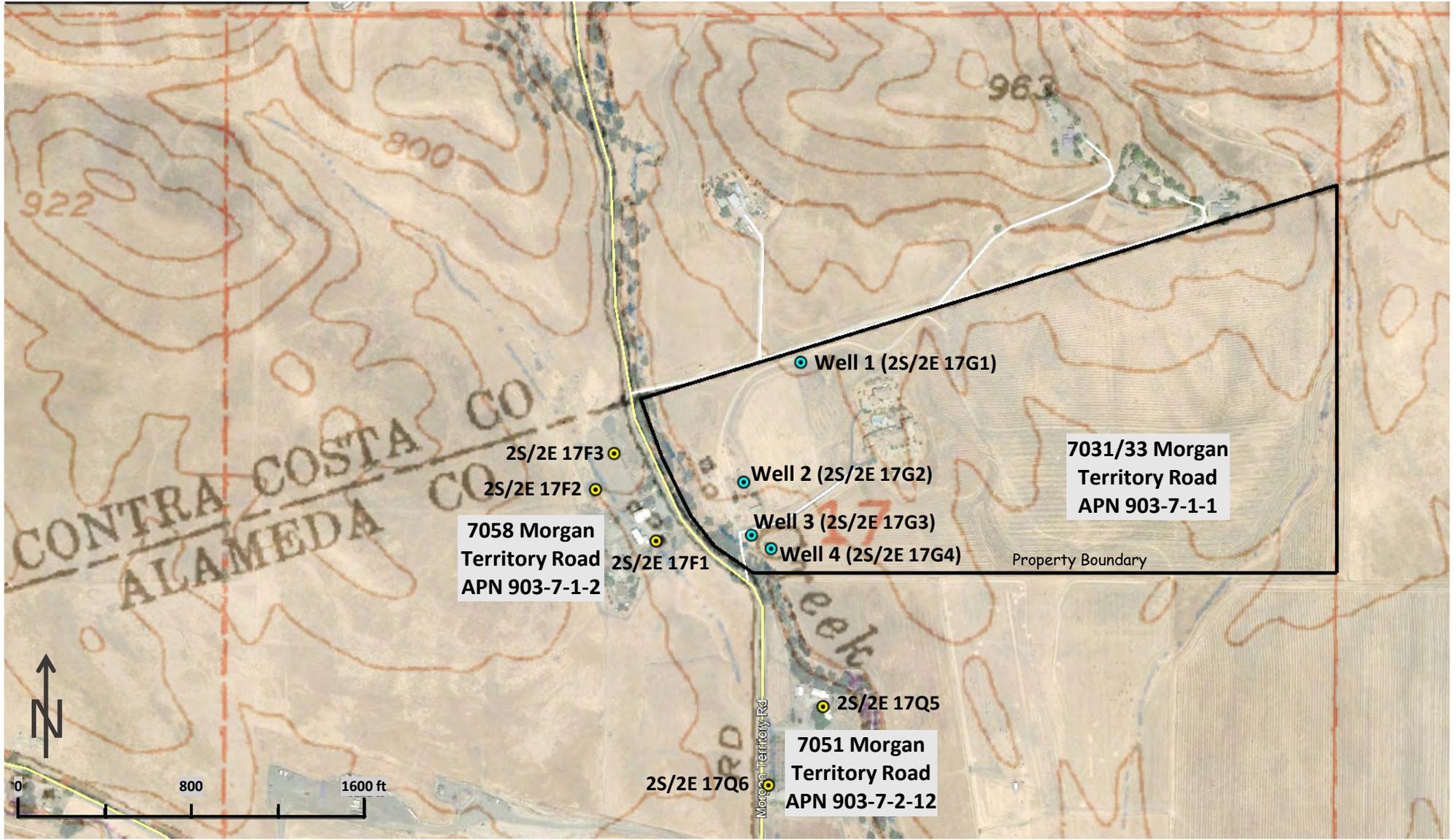
**Bedrock Legend**

- Tor** Orinda Formation, locally called Green Valley (lower part) and Tassajara (upper part): Valley sediments of Livermore basin; gray, interbedded conglomerate, sandstone and claystone (Pliocene; ranging Miocene to early Pleistocene).
- Tn** Neroly Formation: mostly non-marine, light gray to blue gray, arkosic sandstone, siltstone and claystone, locally pebbly (Miocene)
- Tbr** Briones Sandstone, locally called Cierbo Sandstone: marine, light gray to tan, thick bedded, medium grained, arkosic, locally pebbly with clam shell beds, minor siltstone (Miocene).
- Kp** Panoche Formation: marine gray to dark gray, micaceous, clay shale, some thin sandstone interbeds (upper Cretaceous).

End of section on Figure 3



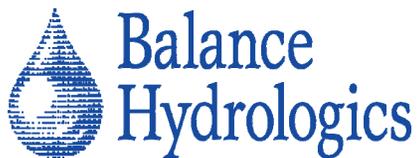
**Figure 4. Geologic cross-section D-D' from Oestreich 1954 Master of Science Thesis, Geology of Tassajara Quadrangle, CA.**  
 Bedrock lithology: Dibblee, T.W., and Minch, J.A., 2006, Geologic map of the Tassajara quadrangle, Contra Costa & Alameda Counties, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-194, scale 1:24,000.

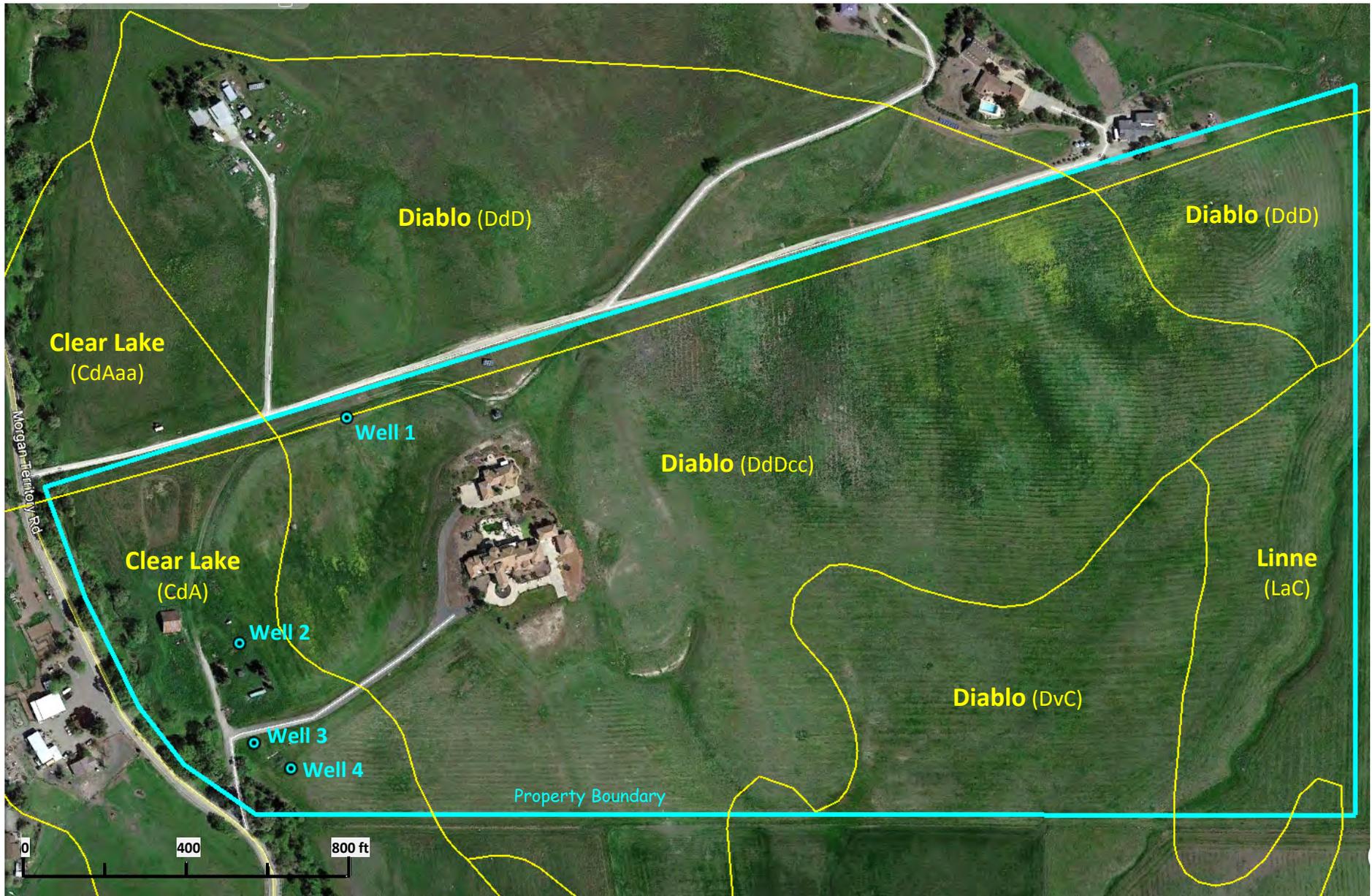


**Figure 5. Well location map, Oasis Venture Livermore Grow Facility, APN 903-7-1-1, Alameda County, CA**

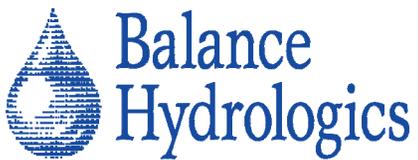
Locations of off-site wells based on DWR well completion reports and not field verified.

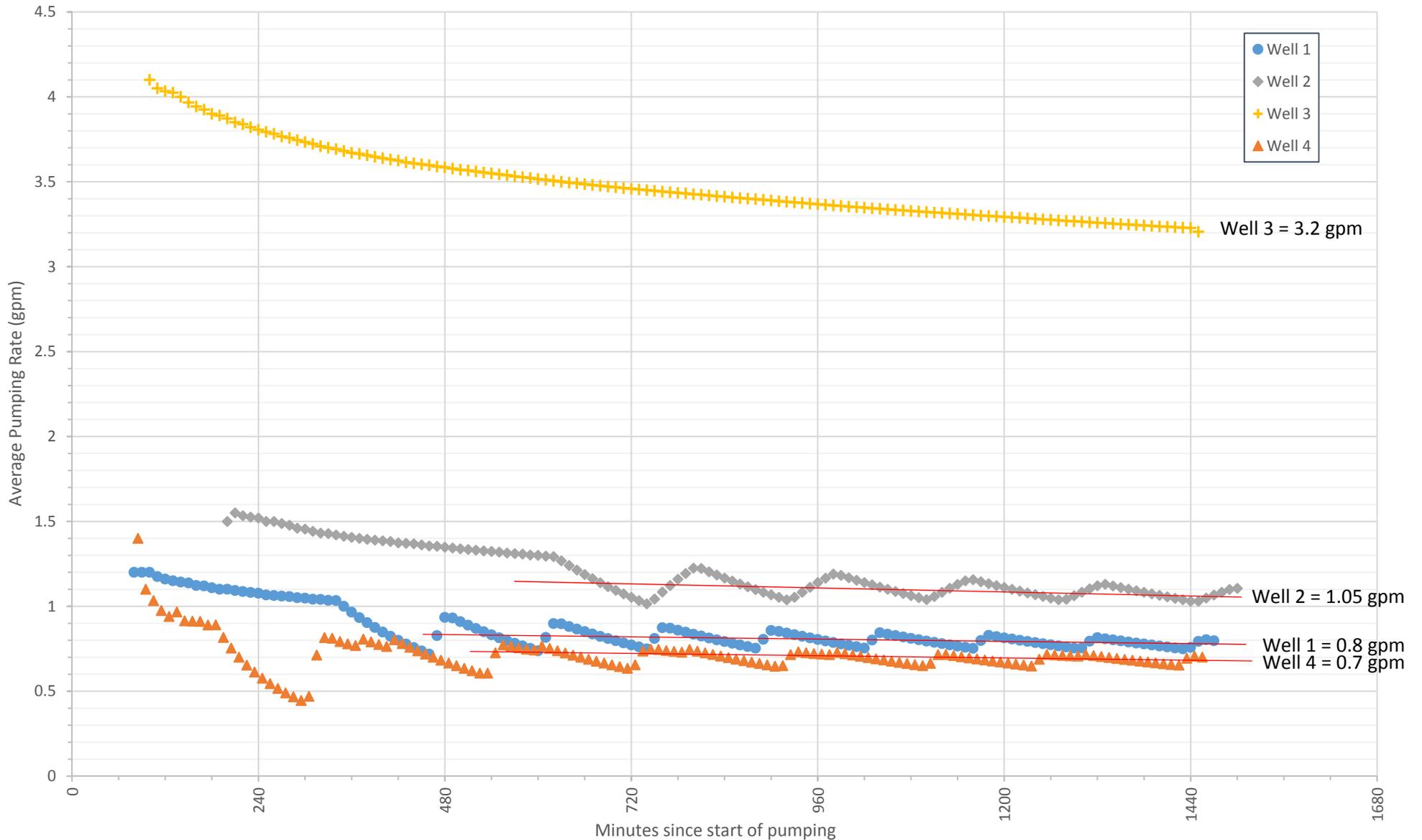
Base source: Google Earth imagery date 8/31/2017; USGS Tassajara Quadrangle, 7.5 Minute Series, 1991.



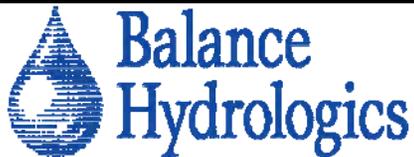


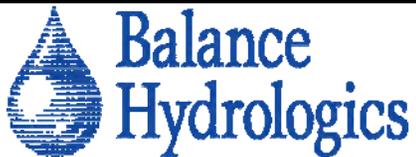
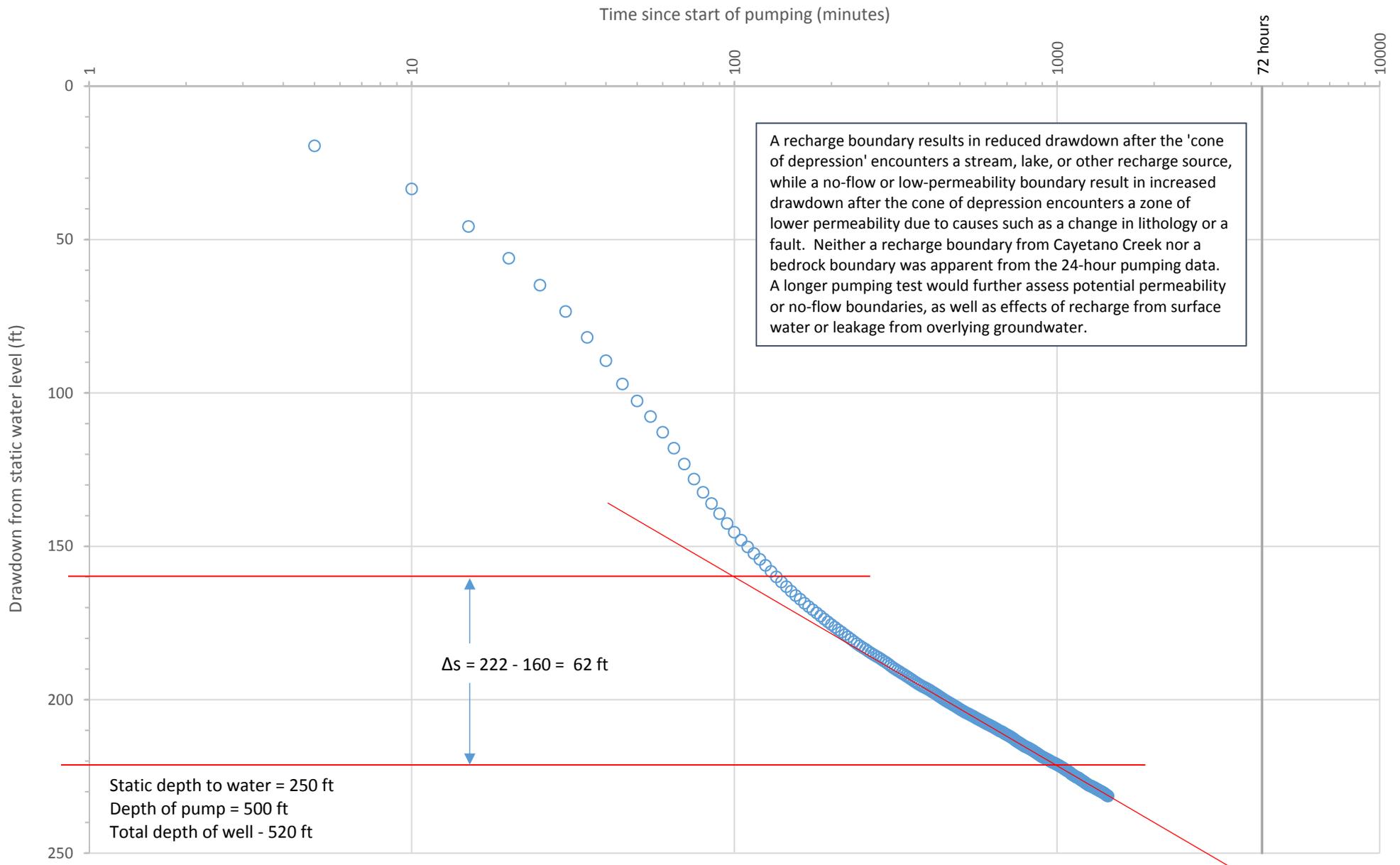
**Figure 6. Soils map, Oasis Venture Livermore Grow Facility, APN 903-7-1-1, Alameda County, CA**  
 Soil survey: Welch, L.E., Huff, R.C., Dierking, R.A., Cook, T.D., Bates, L.A., and Andrews, W.F., 1961, Soil survey of the Alameda Area, California: U.S. Department of Agriculture. Soil Conservation Service, in cooperation with the University of California Agricultural Experiment Station, Series 1961, No. 41, issued March 1966, 97 pp + 42 map sheets.  
 Base source: Google Earth imagery date 4/2/2018.





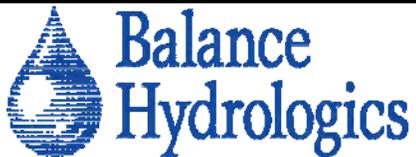
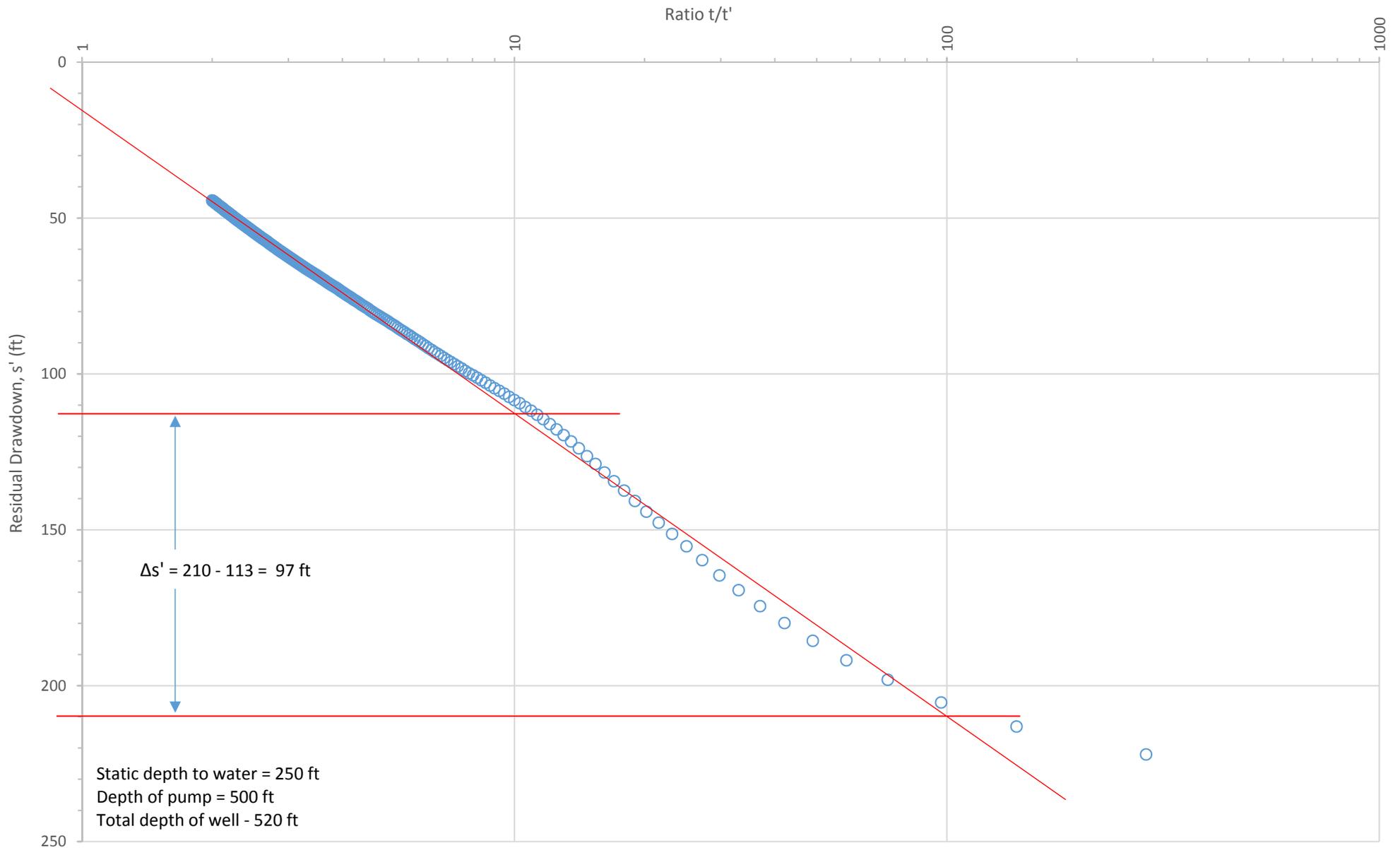
**Figure 7. Average pumping rate after purging initial well storage during 24-hour pumping tests, Oasis Venture Livermore Grow Facility, Alameda County, CA.** At Wells 1, 2, and 4, the pump saver turned off the pump several times during the 24-hour pumping period. A pump saver is designed to turn off the pump when the water level in the well reaches the pump intake and it cavitates. The pump saver was set with a 2-hour delay, when it would then turn the pump back on.





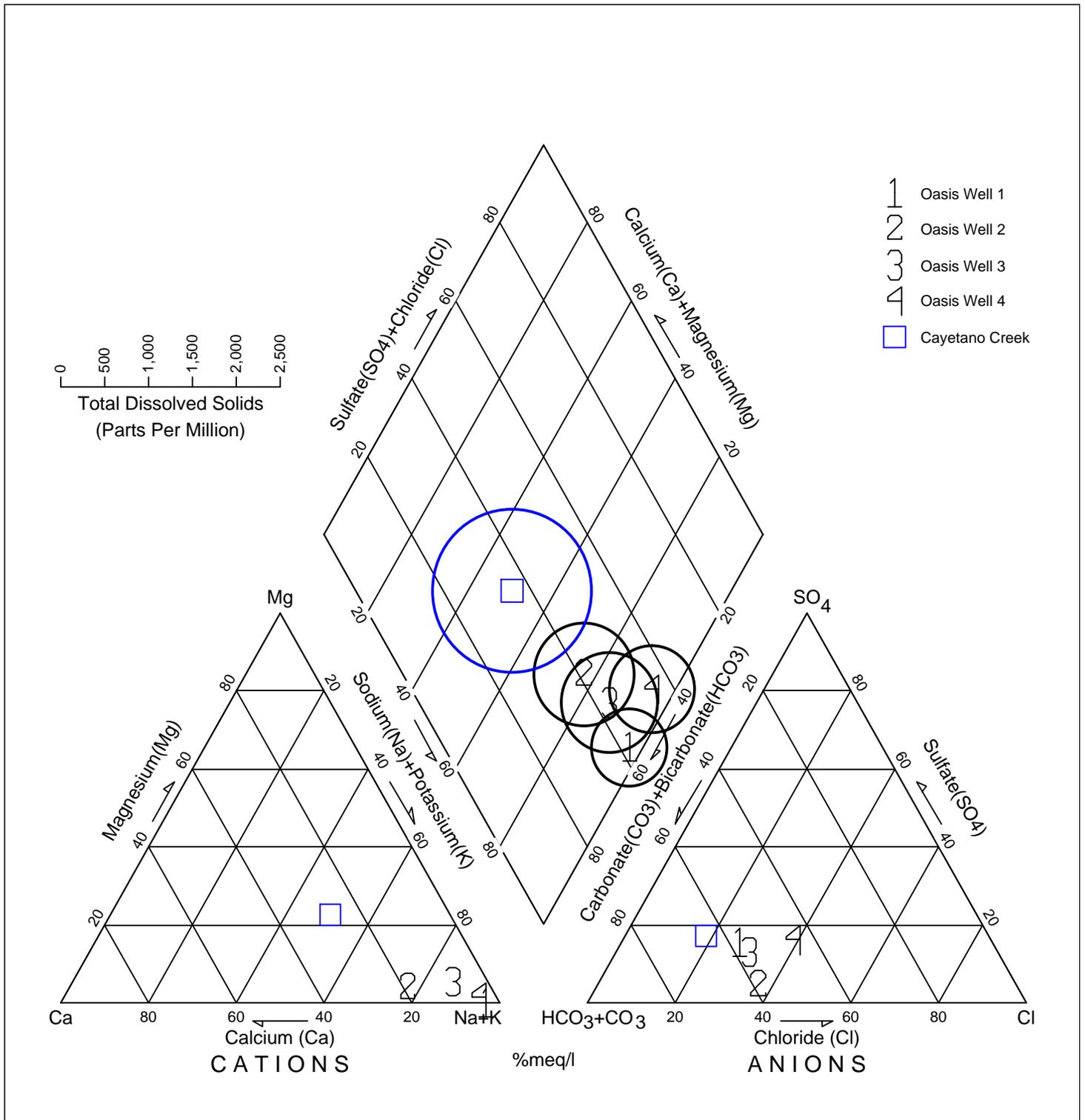
**Figure 8. Time-drawdown graph for Well #3 during constant-rate pumping test at 3.2 gallons per minute, Oasis Venture Livermore Grow Facility, Alameda County, CA.**

Refer to adjoining table for aquifer parameter calculations.

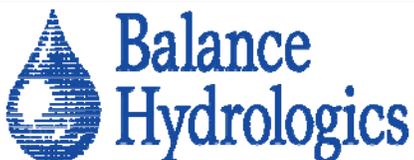


**Figure 9. Residual drawdown graph for Well #3 during recovery from constant-rate pumping test at 3.2 gallons per minute, Oasis Venture Livermore Grow Facility, Alameda County, CA.**

Refer to adjoining table for aquifer parameter calculations.



This diagram shows cations in the ternary graph on the left and anions on the right graph. The diamond graph in the center illustrates both cations and anions. Hardness dominated water plots to the left and top on the diamond graph, soft monovalent-salt dominated water to the right, and soft alkaline water towards the bottom. The radius of circle around the plotted points represents the concentration of dissolved solids, calibrated to the scale shown.



**Figure 10. Piper diagram illustrating ionic signatures of source water samples, Oasis Venture Livermore Grow Facility, Alameda County, California.**

## **APPENDICES**

## **APPENDIX A**

### **On-site Wastewater Treatment System Conceptual Design, Plan and Details**

Conceptual  
**Onsite Wastewater  
Treatment System  
Basis of Design**

---

Location of property:  
7033 Morgan Territory Road  
Livermore, Alameda County

---

Prepared By:



Acorn Onsite, Inc.  
2288 Buena Vista Avenue  
Livermore, CA 94550  
(925) 447-5200

---

Prepared Along with OWTS Plan Set for Review by:  
Alameda County  
Department of Environmental Health  
1131 Harbor Bay Parkway  
2nd Floor  
Alameda, CA 94502

August 15, 2019

# Onsite Wastewater Treatment System Basis of Design

---

Location of property:  
7033 Morgan Territory Road  
Livermore, Alameda County

---

Prepared By:

**ACORN**  
ONSITE, Inc.

Acorn Onsite, Inc.  
2288 Buena Vista Avenue  
Livermore, CA 94550  
(925) 447-5200

---

Prepared Along with OWTS Plan Set for Review by:

Alameda County  
Department of Environmental Health  
1131 Harbor Bay Parkway  
2nd Floor  
Alameda, CA 94502

August 15, 2019



## **Introduction:**

Purpose: This report presents the results of investigation of site and soil conditions with recommendations of an OWTS to support the domestic sewage generated from the proposed agricultural or industrial operation at the subject property.

The information presented in this Basis of Design and accompany plan sheets is conceptual description only. This is intended to present a possible design showing concepts to be used in a forthcoming final design after Planning approval and CUP issuance.

Details such as underground water pipe locations, process water holding tank (for pump and haul) location have not yet been determined so these can not be shown in the conceptual plan documents. All code specified setback shall be provided in any final design.

Summary of Results: Based upon the results of our evaluation, the site has conditions suitable for an appropriate OWTS to receive sewage from the proposed improvements.

## **Site Use:**

The property currently has two single family dwellings. Proposed project does not impact the current dwellings. The property owners desire to add an industrial cannabis growing operation to the property.

The balance of the site is bare land.

## **Existing Systems:**

In the early 2000s with the construction of the existing dwelling, a permitted and approved OWTS was installed to serve the dwelling. This system appears to be operating within the design intent. The proposed OWTS from the industrial operation will not impact the existing OWTS.

No building work is proposed on either of the existing dwellings.

## **Site Conditions:**

The existing dwellings are generally in the Westerly portion of the parcel. The Easterly portion of the parcel is bare land.

The proposed industrial operation is generally between the existing dwelling and Morgan Territory Road. The site is gently sloping in the vicinity of the proposed facility and associated leach field area. Several water wells are located on the parcel generally near the creek running North-South along Morgan Territory Road.

## **Availability of Public Sanitary Sewer:**

Public sanitary sewer service is not available within 200 feet of this parcel.

## **Water Supply:**

Existing well locations are indicated on the OWTS design plan. All proposed OWTS components propose a 100' setback from all locatable existing wells.

## **FEMA Flood Mapping:**

The current online Federal Emergency Management Agency's (FEMA) flood mapping shows the entire project area located in an area of minimal flood hazard risk zone X<sup>1</sup>, FEMA's lowest flood risk designation.

## **Subsurface Investigation:**

Soil profiles were recently conducted and found generally clay soil underlaid by a sandy loam. Soil profiles were excavated with a rubber tire backhoe. Field techniques, including hand texturing of soil, were used for determining soil characteristics. Soil profile logs can be found in Appendix A.

Soil percolation testing was conducted in the early 2000s as part of the leach field feasibility determination for the existing dwelling leach field. A letter regarding this is in the ACDEH file and is repeated in Appendix B.

Soil percolation testing was recently conducted in the vicinity of the proposed dispersal field, at locations as indicated on the OWTS plan. Results of this testing can be found in Appendix C.

## **Sanitary Wastewater Flow:**

The proposed industrial facility will have sewage flows based on the following uses:

DOMESTIC: DOMESTIC SEWAGE ONLY: 23 EMPLOYEES @ 20GPD PLUS 6 VISITORS @ 15 GPD, TOTAL 550 GPD (DOMESTIC SEWAGE ONLY)

## **OWTS Sizing:**

The following sizing details have been followed in the OWTS Design:

### DOMESTIC SEWAGE:

Domestic sewage flow: 550 gpd

Septic tank size: 2000 gallon

Application rate: 0.46 gallons per square foot per day

Separation to groundwater: exceeds 5 feet

Trench rating: 4 square feet per linear foot of leach line

Minimum length of leach field: 300 linear feet primary and duplicate area available for reserve.

Design leach field: primary leach field 4 lines at 100' each, 200% reserve area 8 lines at 100' each available.

---

<sup>1</sup> FEMA Flood Map Service, Panel 06001C0170Geffective 08/03/2009

## **Wastewater Treatment and Dispersal Conclusions and Recommendations:**

Based on specific details of the site, as explained above, an OWTS consisting of the following treatment trains:

DOMESTIC:

Septic tank, Anua Purasys SBR, discharge pump tank, then shallow trench pressure distribution leach field system is appropriate for the proposed domestic use.

If subsequent final design preparation determines, based on nutrient loading or otherwise, pretreatment is necessary then an Anua Sequencing Batch Reactor will be specified. Sample information is shown on the accompanying plan sheet sets.

## **Installation of OWTS:**

After a final OWTS design is submitted and is accepted by the DEH and installation permit received then installation can be undertaken. There are several critical construction phase observations that shall be arranged by installer; these are noted on the plan sheet notes.

## **Ongoing Operations and Maintenance of OWTS:**

Maintenance of any OWTS is an important component to assist in maximizing life of the OWTS and help provide maximum treatment capacity.

Operation and maintenance shall be done by a qualified service provider.

## **General Conditions:**

Construction observations: As noted on the construction plan sheets, a representative of our firm shall observe the finished work at several stages during construction of the OWTS. As it is not possible to explore all areas and depth of the soil during a design preparation, there may be localized irregularities found during construction which will make adjustments necessary in a design. Any adjustment in design shall be proposed by engineer and accepted by DEH prior to making such change.

During construction, installer shall keep accurate measurements of location of components and details of construction sufficient to prepare accurate as-built plan of the project.

Limitations: The interpretation and recommendations presented in this report are professional judgments based on technical information obtained during investigation, noted field conditions, our understanding of the characteristics of the conditions, and our general experience with similar projects in other areas. We do not guarantee the performance of this project in any respect, only that the engineering work and judgments meet the standard of care normally exercised by our profession.

It is assumed that the profiles and percolation results are representative of the soil conditions throughout the area of design. Unanticipated soil conditions are commonly encountered and cannot fully be determined by performing exploratory soil profiles and percolation tests.

If, during construction, soil conditions differ from those indicated in this report, Acorn Onsite, Inc. should be advised at once so we can review the conditions and reconsider our recommendations. Any changes in design shall be submitted to and accepted by DEH prior to proceeding with modification to design.

If site conditions have changed, such as grading soil other than as noted in OWTS plan, or site improvements with potential to impact OWTS are present or proposed that differ from conditions used for OWTS report and plan preparation then we recommend that this report and corresponding plan and details be reviewed to determine the appropriateness of the conclusions and recommendations.

# Appendix A

## Soil Profile Data

Location: 7033 Morgan Territory Road

Date of profile: July 26, 2018

Investigators: Tim Johnston, P.E., Kevin Johnston, Muhammed Khan

Excavation Method: Rubber tire backhoe, CAT 416cit

Weather Lighting: Bright, clear

### Profile 1:

0-27": Dark brown (10YR3/3) color; clay; strong coarse, subangular blocky structure; very firm; many medium roots; common fine pores; moist.

27-41": Very dark brown (10YR2/2) color; clay; moderate medium angular blocky structure; firm consistence; few fine roots; few fine pores; moist.

41-57": Brown (10YR5/3) color; clay; strong fine angular blocky structure; friable consistence; few fine pores; moist.

72-108": Brown (10YR5/3) color; sandy loam; moderate fine subangular blocky structure; very friable consistence; common fine pores; moist.

### Profile 2:

0-18": Very dark grayish brown (10YR3/2) color; clay; moderate coarse subangular blocky structure; firm consistence; common fine roots; common fine pores; moist.

18-42": Very dark brown (10YR2/2) color; clay; strong fine subangular blocky structure; firm consistence; few fine roots; few fine pores; moist.

42-57": Yellowish brown (10YR5/4) color; sandy loam; moderate fine subangular blocky structure; friable consistence; few fine roots; few fine pores; moist.

57-65": similar to 42-57" horizon

65-84": Brown (10YR5/3) color; sandy loam; moderate fine subangular blocky structure; very friable consistence; common fine pores; moist.

### Profile 3:

0-15": Very dark brown (10YR2/2) color; clay; strong medium subangular blocky structure; very hard consistence; common fine roots; few fine pores; moist.

15-42": Very dark brown (10YR2/2) color; clay; strong medium subangular blocky structure; firm consistence; few fine roots; common fine pores; moist.

42-57": Yellowish brown (10YR 5/4) color; clay loam; strong fine subangular blocky structure; friable consistence; few fine pores; moist.

Continuing to 67"

67-80": Pale brown (10YR6/3) color; sandy loam; moderate medium angular blocky structure; weakly cemented; few fine pores; moist.

## **Appendix B**

Soil percolation test paperwork from 2001 (in ACDEH file).

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



0720 0119 0111

April 16, 2001

ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-8577  
(510) 567-8700

William Hogerty  
6693 Owens Drive  
Pleasanton, CA 94588

Subject: Percolation Test Conducted on Property Located at 7058  
Morgan Territory Road, Livermore. APN #903-0007-001-  
01.

Dear Mr. Hogerty:

This is to inform you that a percolation test was conducted on April 2, 2001 at your request.

The percolation rate was satisfactory. Therefore, you may now submit to our office three (3) sets of plans and specifications for the installation of a private sewage disposal system utilizing the sites tested.

In designing the system, the test results indicate that a minimum of 150 square feet of absorption area (trench bottom) will be needed. Also, there appears to be sufficient suitable area in which to install a system, including the two (2) drainfields, to accommodate a house having no more than 7 bedrooms. Plans must include all information contained in the enclosed guidelines.

The above information is for design purposes only and does not constitute approval of this property as a building site.

Should you have any questions regarding this matter, please call me at (510) 567-6700.

Respectfully,

A handwritten signature in black ink, appearing to read "Joe R. Winchester".

Joe R. Winchester,  
Senior Environmental Health Specialist

JRW:sms

cc Building Department  
enclosure

## Appendix C

A soil percolation test was conducted on October 3, 2018 according to ACDEH specifications. The results are presented here:

Stabilized percolations rates are as follows:

Percolation Test Hole Number	Depth (in)	Stabilized Percolation Rate (mpi)
1	48	22
2	48	24
3	48	24
4	48	27
5	48	27
6	48	24

Use 27 minutes per inch, then with 1.6 multiplier use 44 minutes per inch.

# Appendix D

## Major Components

MAJOR COMPONENT SCHEDULE				
COMPONENT	SIZE	MANUFACTURER	MODEL NUMBER	NOTES
SEWER PIPE	4"	NORTH AMERICAN PRODUCTS	DWV	FROM HOUSE TO SEPTIC TANK @ 2% SLOPE
SEPTIC TANK	2000 GALLON	SELVAGE CONCRETE	2000 ST TR	SEPTIC TANK TRAFFIC RATED
PRETREATMENT UNIT	PS-1	ANVA	PS-1	
RISERS	24" DIAMETR	SELVAGE CONCRETE	GRADE RINGS	HEIGHT AS NEEDED TO PLACE LID 2" ABOVE GRADE
PUMP TANK	2000 GALLON	SELVAGE CONCRETE	2000 FT TR	TRAFFIC RATED 2000 GALLON PUMP TANK
CONDUIT	3/4"	VARIOUS	SCH 40	BELOW GROUND
CONDUIT	3/4"	VARIOUS	SCH 80	ABOVE GROUND
WIRE	DETERMINE FROM LENGTH	VARIOUS	DETERMINE	POWER FOR PUMP
WIRE	#14	VARIOUS	THHN 14	CONTROL/ALARM CIRCUIT
CONTROL PANEL		ALDERON		ON DEMAND DOSING
PIPE TO FIELD	2"	NORTH AMERICAN PRODUCTS	SCH 40	INSTALL MINIMUM 24" BFG
LATERAL PIPE	1-1/4"	NORTH AMERICAN PRODUCTS	SCH 40	ORIFICES @ 36" SPACING
BALANCING VALVE	1-1/4"	KING BROTHERS		GATE VALVE
PURGE VALVE	1-1/4"	KING BROTHERS		BALL VALVE
VALVE BOXES	10"	NATIONAL DRAINAGE SYSTEMS		TOP OF BOX 2" ABOVE GRADE
FABRIC	18" WIDTH	MARAFI	140N	
GRAVEL	3/8" = 2-1/2"	VARIOUS	3/8" X 2-1/2"	DOUBLE WASHED WITH <1% FINES



**ASTM D1785/D2665 Sch. 40 PVC Pressure/DWV Pipe  
ASTM D1785 Sch. 80 PVC Pressure Pipe  
SOLVENT WELD**

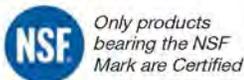
North American Pipe Corporation's ASTM D1785 Solvent Weld PVC Pipe product line is manufactured to meet the needs of residential, commercial, & industrial plumbing systems, and other pressure applications. With top quality raw materials and modern processing technology, our ASTM D1785 pipe meets all industry standards in addition to our own rigorous quality control standards.

For sizes 1 1/4" and larger, our ASTM D1785 Schedule 40 pipe is also dual rated to ASTM D2665 for DWV applications. This gives the designer, installer, and end user the flexibility of one product for two distinct applications. North American Pipe produces ASTM D1785 Solvent Weld pipe in both solid wall and various perforated styles.



Short Form Specification		
<b>Pipe Standard:</b>	ASTM D1785 & ASTM D2665** Sch. 40	ASTM D1785 Sch. 80
<b>Applications:</b>	Water DWV**	Water
<b>Diameter Std.:</b>	Iron Pipe Size (IPS)	
<b>Nominal Sizes:</b>	1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 4", 5", 6", 8", 10", 12", 14", 16", 18", 20", 24"	
<b>Pressure Ratings:</b>	See Next Page	
<b>Lay Length:</b>	10' or 20'	
<b>Color:</b>	White	Gray
<b>Pipe Compound:</b>	ASTM D1784 Cell Class 12454	
<b>Pipe Joint Std.:</b>	ASTM D2672	
<b>Pipe Options:</b>	Solid Wall Plain End (M x M) Solid Wall Bell End (M x F) 2 Hole Perforated Bell End (M x F) 3 Hole Perforated Bell End (M x F)	
<b>Certifications:</b>	NSF 14 & NSF 61 IAPMO Uniform Plumbing Code*	
<b>Installation Std.:</b>	ASTM D2774 & ASTM D2855	

\*IAPMO Uniform Plumbing Code listed products must be requested at time of order.  
\*\*Sizes 1/2", 3/4", 1" & 5" are not included in the ASTM D2665 DWV pipe standard.



**USE OF PVC PIPE IN EXHAUST SYSTEMS**

**WARNING:** Failure to follow these instructions exactly could result in serious injury, death, or property damage.

**WARNING:** Flue gas temperature should not exceed 140° Fahrenheit. PVC pipe exposed to temperatures higher than 140° Fahrenheit may melt or change shape, resulting in leakage of exhaust fumes and property damage.

**WARNING CARBON MONOXIDE POISONING HAZARD:** Vent pipe must be properly installed in accordance with all local and national plumbing and HVAC installation standards and codes.

North American Pipe Corporation assumes no responsibility for equipment installed in violation of any code or regulation.

**NorthAmericanPipe.com**

1.855.624.7473 PL-PS-001 0716

North American Pipe Corporation, a Westlake company

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# IAPMO RESEARCH AND TESTING, INC.

5001 E. Philadelphia Street, Ontario, CA 91761-2816 • (909) 472-4100 • Fax (909) 472-4244 • www.iapmort.org



## IAPMO R&T Product Listing



This IAPMO R&T Listing is current as of 8/15/2019

Product: Prefabricated Septic Tanks

File No. 2975

Issued To: SELVAGE CONCRETE PRODUCTS  
3309 SEBASTOPOL RD  
SANTA ROSA, CA 95407-6740

Identification: Each tank shall be clearly and permanently marked with the manufacturer's name and/or registered trademark, model number, working liquid volume (expressed at least in gallons), date (i.e. month and year), date code, or identifier traceable to the date of manufacture, maximum design load, maximum burial depth for which the tank is designed, inlet and outlet. The markings shall be applied on permanently-affixed metal plates, etched, mechanically stamped, stamped with permanent (non-water-soluble) ink, or molded. Adhesive labels that comply with UL 969 shall also be considered permanent when placed on a surface that is not normally submerged in water. The product shall also bear the UPC® certification mark.

Characteristics: Prefabricated septic tanks made of concrete, fiber reinforced polyester (FRP), thermoplastic, or steel to be installed in accordance with the manufacturer's instructions and the latest edition of the Uniform Plumbing Code.

Products listed on this certificate have been tested by an IAPMO R&T recognized laboratory. This recognition has been granted based upon the laboratory's compliance to the applicable requirements of ISO/IEC 17025.

Products are in compliance with the following code(s):

Uniform Plumbing Code (UPC®)  
International Plumbing Code (IPC®)

Products are in compliance with the following standard(s):

IAPMO/ANSI Z1000-2013

### MODELS:

Precast Reinforced Concrete  
800, 1200, 1500, 2000 gallons

H20 Traffic Rating  
H810, H1200, H1500, H2000

Holding Tanks  
SU500, SU810, SU1200, SU1500, SU2000

This IAPMO R&T Listing is current as of 8/15/2019



## PuraSys<sub>SBR</sub>

The PuraSys SBR brings the reliability of proven Sequencing Batch Reactor (SBR) technology to the residential market and can be scaled up for commercial applications. It transforms an ordinary septic tank into a compact, advanced treatment unit. The PuraSys SBR offers a modular solution for space constrained sites or nutrient limited watersheds.

The PuraSys SBR batches treatment through cycles, including aerobic and anaerobic steps, to clean the water and reduce total nitrogen.

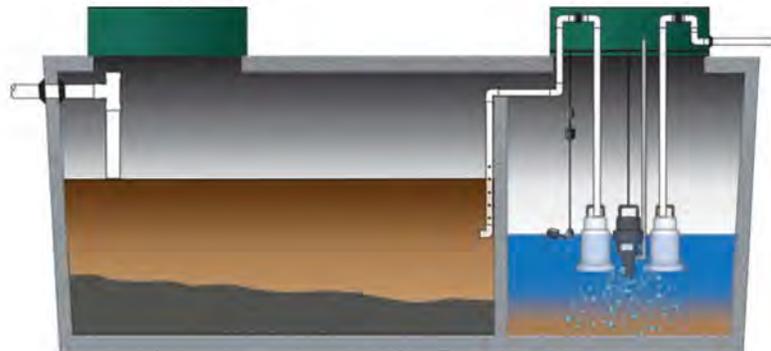
Since the process is batched, the smart control can recognize water flow and then adjust aeration accordingly. This not only saves energy, but also improves treatment efficiency and avoids bulking.

# PuraSys<sub>SBR</sub>



## Why Choose PuraSys SBR?

- Certified to NSF/ANSI Standards 40 and 245 and European Committee for Standardization EN 12566-3
- Can be dropped into a standard septic tank
- Simple system uses no chemical additives, filters or fixed media
- PuraSys SBR can be installed through a standard 24" or 30" tank access port
- Smart control panel which automatically adjusts aeration to water flow based on occupancy
- Process control saves energy and prevents sludge bulking caused by over-aeration
- Only input is air which makes operation and maintenance easy



## Applications

- Residential new construction
- Retrofit existing septic tanks
- Commercial or community
- Nitrogen sensitive areas
- Very small properties



Only models bearing the NSF logo and designated PS1-XX are certified to NSF/ANSI Standards 40 and 245



Call: 336-547-9338 or visit: [anuainternational.com](http://anuainternational.com)



## PuraSys<sub>SBR</sub>

### Specifications

#### PS1-4 through PS1-8 (≤800 gpd)

1 aerator, 2 pumps with mounting hardware, float switch and smart control panel with NEMA 4X rated enclosure

#### PS1-9 through PS1-14 (≤1,400 gpd)

1 large aerator, 2 pumps with mounting hardware, 2 float switches and smart control panel with NEMA 4X rated enclosure

#### PS2-XXXXX

2 large aerators, 2 pumps with mounting hardware, fill pump, 5 float switches and smart control panel with NEMA 4X rated enclosure

#### PS3-XXXXX

3 large aerators, 2 pumps with mounting hardware, fill pump, 5 float switches and smart control panel with NEMA 4X rated enclosure

#### PS4-XXXXX

4 large aerators, 2 pumps with mounting hardware, fill pump, 5 float switches and smart control panel with NEMA 4X rated enclosure

XXXXX = design flow (gpd)

### Treatment Performance

Parameters	Typical Values
BOD <sub>5</sub>	≤10 – ≤30 mg/l
TSS	≤10 – ≤30 mg/l
Total Nitrogen	≤20 mg/l

### The SBR Process

The SBR is a batch process, allowing the controller to fill the reactor and adjust aeration to each batch. Since treatment occurs this way, nitrification and denitrification can occur in the same chamber.

Adjusting aeration is important in small treatment plants because flows vary widely and often. Too much air can lead to system failure through sludge bulking. The PuraSys SBR automatically recognizes when water is being used and adjusts aeration to maintain a healthy environment for the proper bacteria to thrive.

The PuraSys SBR uses a step-fill sequencing batch reactor process, meaning that it fills the reactor several times during each cycle. At the beginning of each step, water is brought from the pretreatment to the reactor. It is then aerated for nitrification to occur. Water is then brought again from the pretreatment to the reactor, bringing with it an anoxic carbon source, ideal for denitrification. In this way, the step-fill SBR can attain high levels of nitrogen reduction without an external carbon source.

### Five Steps of the SBR Process

- 1. Filling** - Water enters reactor from pretreatment.
- 2. Reaction** - Intermittent aeration allows for aerobic and anaerobic conditions which break down BOD and nitrogen.
- 3. Sedimentation** - Solids settle to the bottom of the reactor.
- 4. Clear Water Discharge** - Top portion of reactor (clear water) is pumped to effluent.
- 5. Idle and Sludge Return** - The system waits for the beginning of the next cycle.



## Maintaining a Healthy Reactor

The key to effective treatment is maintaining a healthy reactor. The PuraSys SBR provides the process control needed to maintain a healthy environment for proper floc growth. Flocs are the particles where bacteria grow that perform treatment. Proper flocs will settle well, making a cleaner effluent. The system's alarm will provide notification of any equipment failure in order to keep bacteria alive.

## Design vs Actual Flow: Two Settings

Design flow and actual flow often differ, a problem that can lead to system failure. The PuraSys SBR addresses this by allowing service providers to change two settings in the smart control panel: aeration and sludge return times. Aeration can be increased or decreased as the influent loading characteristics change. Sludge age and blanket can be increased or decreased through the sludge return timer settings.

## Kit Components



Call: 336-547-9338 or visit: [anuainternational.com](http://anuainternational.com)



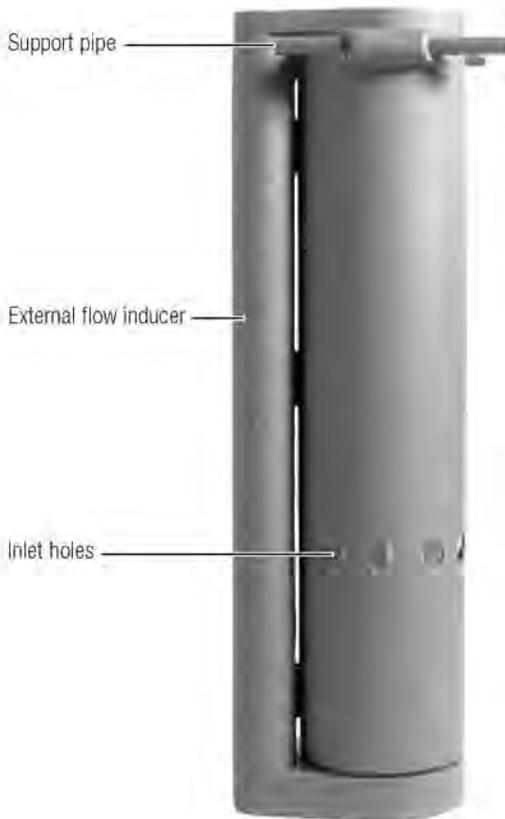
Only models bearing the NSF logo and designated PS1-XX are certified to NSF/ANSI Standards 40 and 245

# Universal Biotube® Pump Vaults

For use with Orenco® 4-inch (100-mm) Submersible Effluent Pumps

## Applications

Orenco Biotube® Pump Vaults are used to filter effluent that is pumped from septic tanks or separate dosing tanks in STEP systems and onsite wastewater treatment systems. They remove two-thirds of suspended solids, on average. Pump vaults house a Biotube effluent filter and one or two Orenco high-head effluent pumps and can be used in single-compartment septic tanks with flows up to 40 gpm (2.5 L/sec). When flows are greater than 40 gpm (2.5 L/sec), a double-compartment septic tank or separate dosing tank is recommended.



Side view

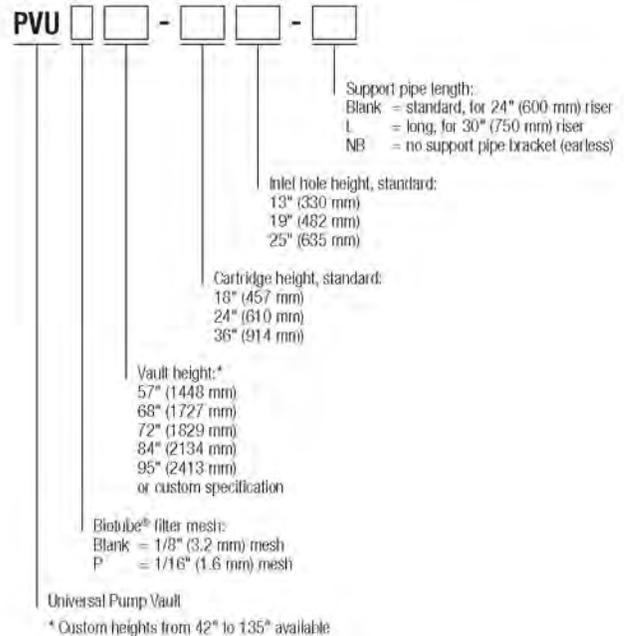
## General

The Orenco Biotube Pump Vault includes a molded polyethylene housing with an internal Biotube filter cartridge constructed of polypropylene and PVC. Schedule 80 PVC support pipes are included to suspend the vault in a tank opening. "Earless" 68-inch (1727-mm) vaults, which rest on the bottom of the tank instead of on support pipes, are also available. The filter cartridge can be removed without pulling the pump or the vault. Effluent enters through inlet holes around the perimeter of the Biotube vault and flows through the Biotubes to the external flow inducer. The external flow inducer accommodates one or two pumps. Orenco Biotube Pump Vaults are covered by U.S. patents #4,439,323 and 5,492,635.

## Standard Models

PVU57-1819, PVU68-2419, PVU84-2419, PVU95-3625.

## Product Code Diagram

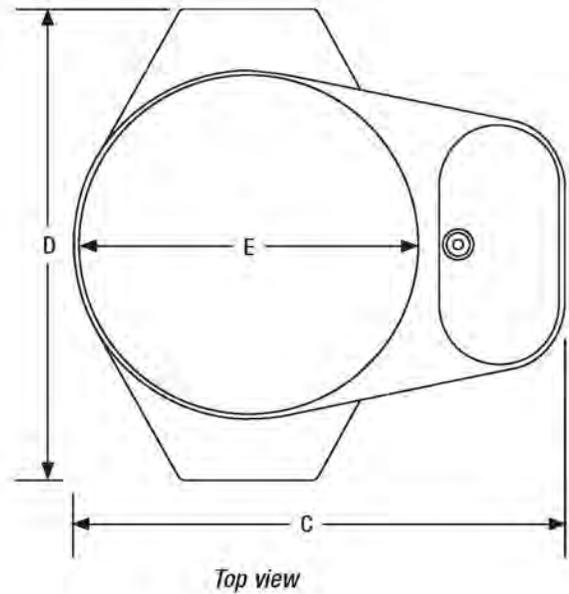
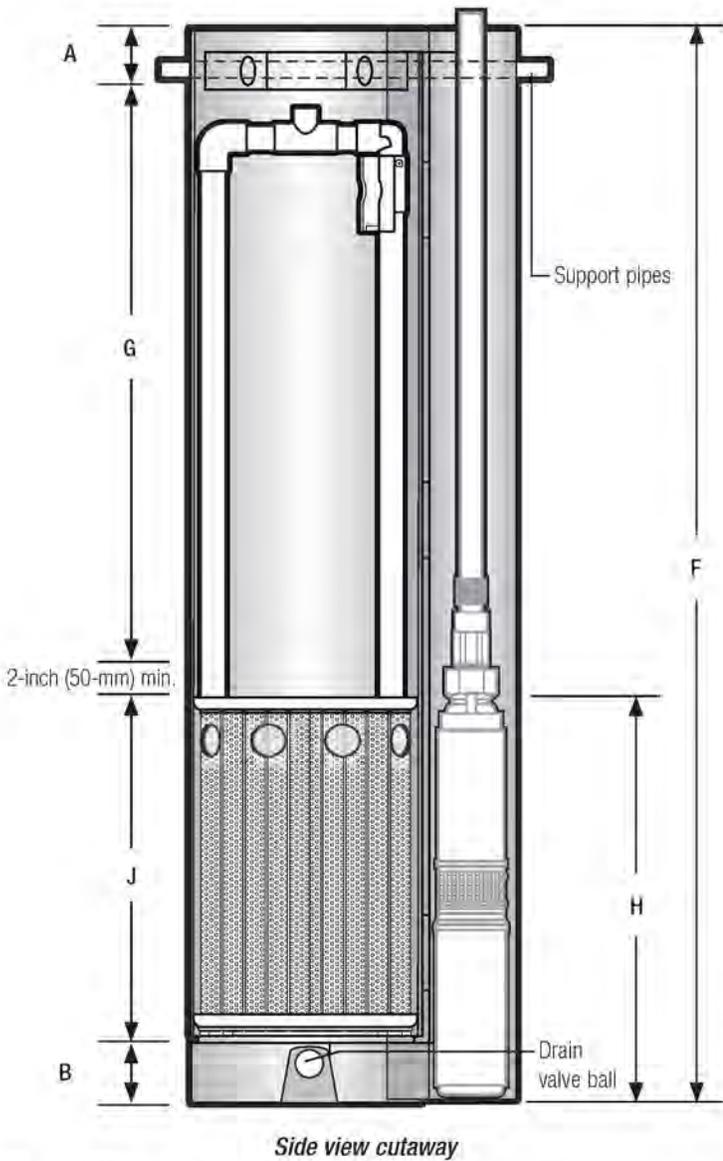


## Tank Access and Riser Diameters

Diameter, in. (mm)	PVU with simplex pump	PVU with duplex pumps
Tank access, minimum	19 (483)	19 (483)
Tank access, recommended	20 (508)	20 (508)
Riser, minimum	24 (600)	30 (750)

## Materials of Construction

Support pipe	Schedule 80 PVC
Biotube® vault	Polyethylene
Biotube filter cartridge	Polypropylene/PVC
Float stem	Schedule 40 PVC
Drain valve ball	Polypropylene



**Dimensions**

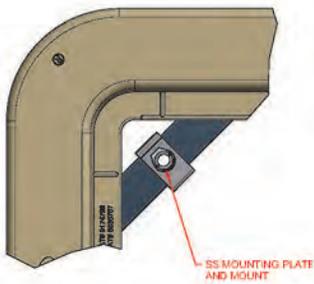
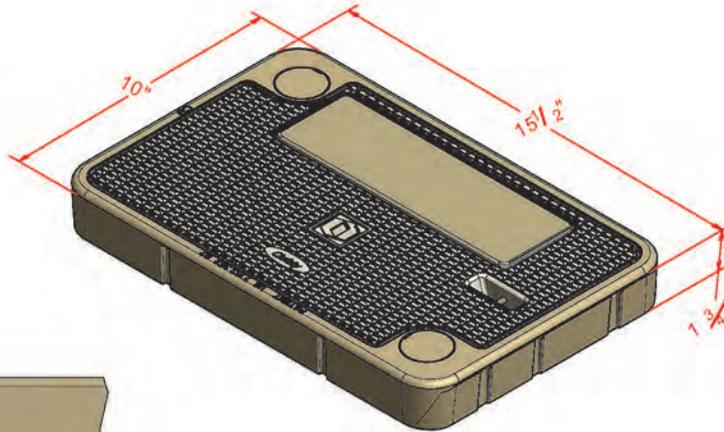
A, in. (mm)	3 (76)
B, in. (mm)	4 (102)
C, in. (mm)	17.3 (439)
D, in. (mm)	16.6 (422)
E, in. (mm)	12 (305)

**Specifications**

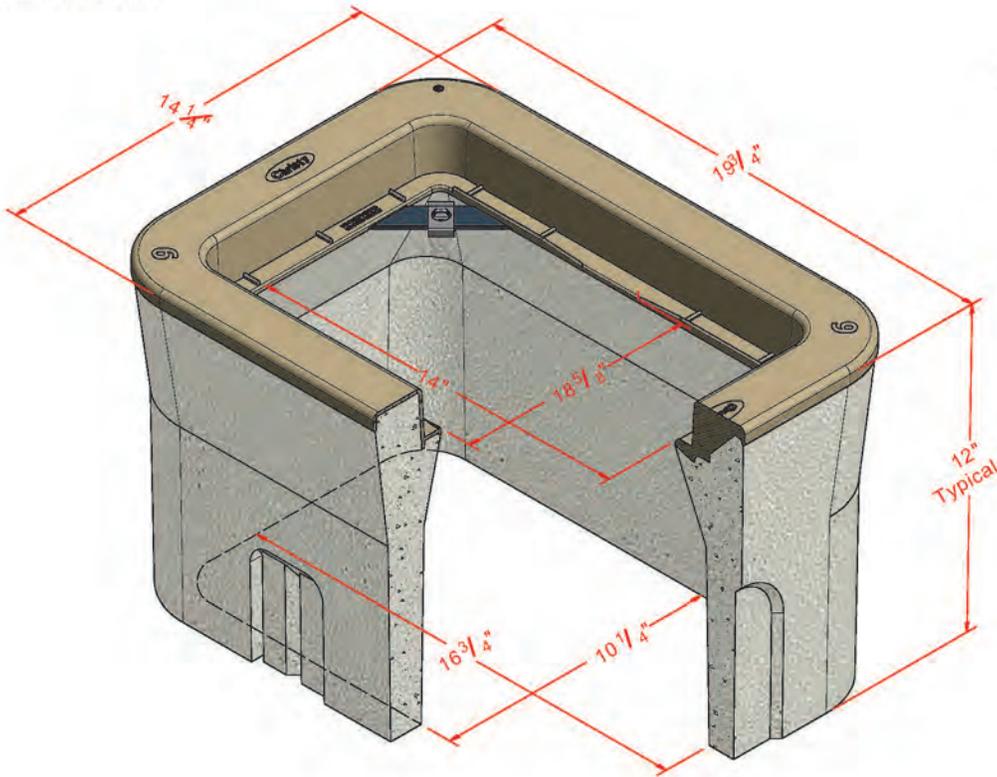
Model	PVU57-1819	PVU68-2419	PVU84-2419	PVU95-3625
F, vault height, in. (mm)	57 (1448)	68 (1727)	84 (1727)	95 (2413)
G, lowest float setting point, in. (mm)	29 (737)	35 (889)	51 (1295)	50 (1270)
H, inlet hole height, in. (mm)*	19 (483)	19 in. (483)	19 (482)	25 (635)
J, Biotube® cartridge height, in. (mm)	18 (457)	24 (610)	24 (610)	36 (914)
Biotube mesh opening, in. (mm)	0.125 (3)	0.125 (3)	0.125 (3)	0.125 (3)
Filter flow area, ft <sup>2</sup> (m <sup>2</sup> )	4.4 (0.4)	5.9 (0.5)	5.9 (0.5)	9.0 (0.84)
Filter surface area, ft <sup>2</sup> (m <sup>2</sup> )	14.5 (1.35)	19.7 (1.83)	19.7 (1.83)	30 (2.79)
Maximum flow rate, gpm (L/sec)	140 (8.8)	140 (8.8)	140 (8.8)	140 (8.8)

\* May vary depending on the configuration of the tank.

# N09



Bolt Down Detail



**COVER:**

Style: Flush  
 Material: Composite with UV Inhibitor  
 Model: 10" x 15"  
 Weight: 20 lbs  
 Options: Bolt Down Kit  
 Special Markings  
 Surface: Skid Resistant & Marked\*  
 Coefficient of Friction: >0.6 ASTM 1028  
 Performance: ASTM C 857, WUC 3.6

**BODY:**

Material: Reinforced Concrete with Composite Cap  
 Model: 20" x 15"  
 Weight: 12" Depth: 90 lbs  
 Wall Type: Straight  
 Mouseholes: 0 - 2  
 Performance: ASTM C 857, WUC 3.6

**EXTENSION:**

Material: Reinforced Concrete  
 Depth: 12"  
 Weight: 87 lbs



Light Duty:  
Pedestrian Only

\*Cover comes standard with permanent markings for manufacturer, load rating, model size and manufacturing location.

Contact your Oldcastle Enclosure Solutions Distribution Center for specific information and additional options.

Actual load rating is determined by the box and cover combination. Weights and dimensions may vary slightly

# N09

**Options:**

**R-Series Covers:**

Flush Solid  
Bolt Down Locking Available

**Concrete Covers:**

Flush Solid  
Slab

**Cast Iron Covers:**

Flush Solid  
Universal TL Key Locking Available

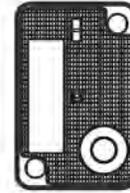
**Steel Checker Plate Covers:**

Flush Solid  
Galvanizing Available

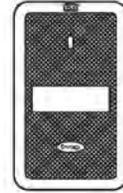
**Add On Options:**

EMS Marker  
Lid Gaskets\*

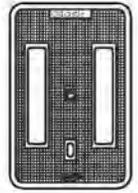
\*Lid Gaskets inhibit water flow into the box,  
they do not make Enclosure fully waterproof.



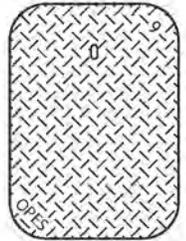
R-Series



Concrete



Cast Iron



Steel

**Product Load  
Rating:**



Light Duty : Pedestrian Only

**Note:**

Actual load rating is determined by the box and cover combination. Weights and dimensions may vary slightly. All information contained on this sheet is current at the time of printing. Oldcastle Precast, Inc. reserves the right to discontinue or update product information without notice.





The Professional's Choice

King Bros. Industries

29101 The Old Road, Valencia, CA 91355

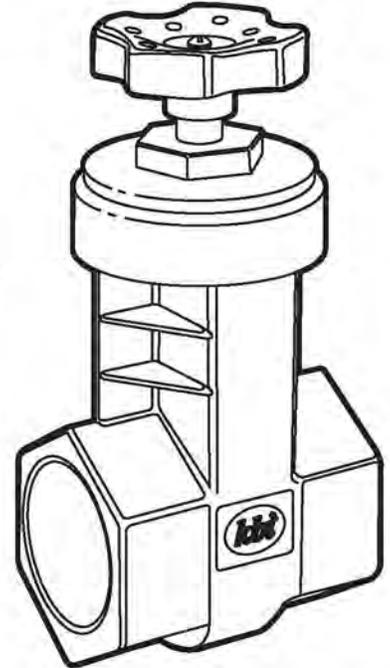
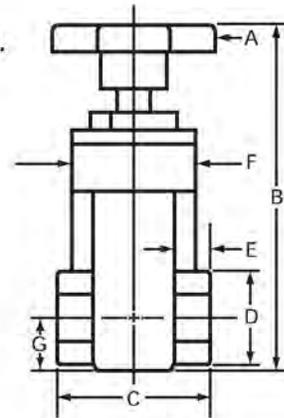
Toll Free: (800) 325-9468 Fax: (661) 257-4320

E-mail: valves@kbico.com Web: www.kbico.com

# PVC Schedule 80 Gate Valves

## Features:

- Polypropylene wedge for smooth sealing and longer service. (EPDM O'ring).
- Meets/Exceeds ASTM schedule 80 socket and material standards.
- Strong non-rising stem construction.
- Made with Hi-Impact PVC Type II Cell Class 15344-C.
- Molded in the **USA** by KBI.
- 150 psi working pressure (tested to 500 psi static @ 72°F).
- NSF listed.



Models		Size	Dimensions							Case	Weight	List
Socket	Thread		A	B	C	D	E	F	G			
GVG-0500-S	GVG-0500-T	1/2"	2 <sup>19</sup> / <sub>64</sub> "	4 <sup>53</sup> / <sub>64</sub> "	2 <sup>3</sup> / <sub>16</sub> "	1 <sup>21</sup> / <sub>64</sub> "	1/2"	1 <sup>23</sup> / <sub>32</sub> "	3/4"	24	8.5	\$ 8.40
GVG-0750-S	GVG-0750-T	3/4"	2 <sup>19</sup> / <sub>64</sub> "	5 <sup>1</sup> / <sub>32</sub> "	2 <sup>9</sup> / <sub>32</sub> "	1 <sup>7</sup> / <sub>8</sub> "	9/16"	1 <sup>23</sup> / <sub>32</sub> "	15/16"	20	8.4	\$10.40
GVG-1000-S	GVG-1000-T	1"	2 <sup>19</sup> / <sub>64</sub> "	5 <sup>7</sup> / <sub>16</sub> "	2 <sup>53</sup> / <sub>64</sub> "	1 <sup>57</sup> / <sub>64</sub> "	5 <sup>3</sup> / <sub>64</sub> "	1 <sup>53</sup> / <sub>64</sub> "	1 <sup>1</sup> / <sub>32</sub> "	16	8.2	\$13.20
GVG-1250-S	GVG-1250-T	1 1/4"	2 <sup>25</sup> / <sub>32</sub> "	7 <sup>3</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>16</sub> "	2 <sup>37</sup> / <sub>64</sub> "	1 <sup>3</sup> / <sub>16</sub> "	2 <sup>13</sup> / <sub>16</sub> "	1 1/2"	8	8.3	\$18.35
GVG-1500-S	GVG-1500-T	1 1/2"	2 <sup>25</sup> / <sub>32</sub> "	7 <sup>29</sup> / <sub>32</sub> "	3 <sup>1</sup> / <sub>16</sub> "	2 <sup>39</sup> / <sub>64</sub> "	1 <sup>3</sup> / <sub>16</sub> "	2 <sup>13</sup> / <sub>16</sub> "	1 <sup>33</sup> / <sub>64</sub> "	6	6.5	\$23.15
GVG-2000-S	GVG-2000-T	2"	3 <sup>5</sup> / <sub>16</sub> "	9"	4 <sup>3</sup> / <sub>16</sub> "	3 <sup>1</sup> / <sub>2</sub> "	1 <sup>3</sup> / <sub>8</sub> "	3 <sup>5</sup> / <sub>16</sub> "	1 <sup>3</sup> / <sub>4</sub> "	4	7.4	\$27.80

## FEATURES COMMON TO KBI PVC PRODUCTS

- NSF listed \*
- Molded in the USA by KBI
- Limited LIFETIME Warranty
- 150 psi working pressure (tested to 500 psi static @ 72°F)
- Meets/Exceeds ASTM Standards
- Made with Hi-Impact PVC Type II Cell Class 15344-C
- \* See individual products for details



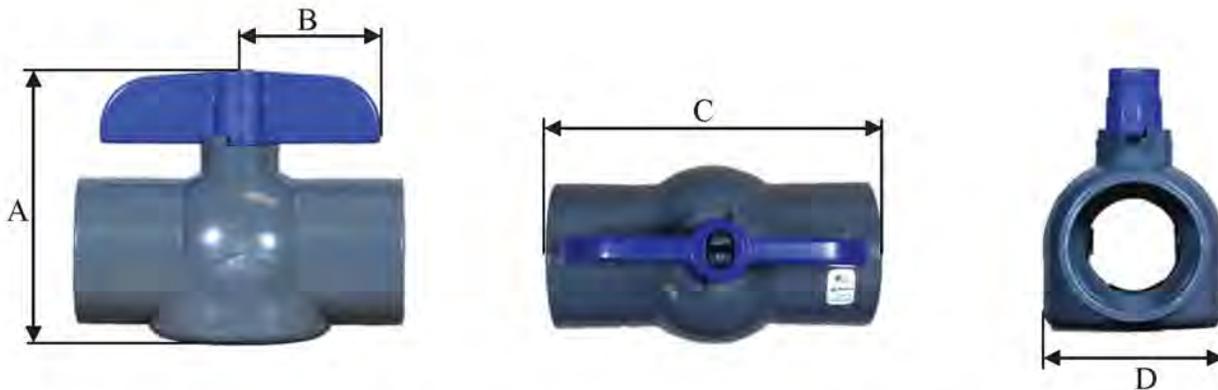
## GRAY PVC ECONOMY BALL VALVE

RATED @150 PSI @ 72°F STATIC PRESSURE  
 MOLDED IN THE USA  
 BODY IS MADE FROM PVC TYPE II  
 HANDLE IS MADE FROM ABS  
 EPDM O-RINGS

FPT—FEMALE PIPE THREAD  
 IPS—IRON PIPE SIZE (SAME AS SCHEDULE 40)

NSF / ANSI 61 + 372 LISTED  
 UPC LISTED

“S” - IPS SLIP CONNECTION  
 “T” - IPS FPT CONNECTION



PART NUMBER		A (INCHES)	B (INCHES)	C (INCHES)	D (INCHES)	WEIGHT (LBS)	CONNECTION SIZE
EBVG-0500-S	EBVG-0500-T	2.15	1.19	2.80	1.57	0.15	1/2" IPS
EBVG-0750-S	EBVG-0750-T	2.52	1.43	3.11	1.84	0.20	3/4" IPS
EBVG-1000-S	EBVG-1000-T	2.78	1.64	3.68	2.22	0.30	1" IPS
EBVG-1250-S	EBVG-1250-T	3.97	2.30	4.96	2.80	0.60	1 1/4" IPS
EBVG-1500-S	EBVG-1500-T	3.97	2.30	5.23	2.80	0.65	1 1/2" IPS
EBVG-2000-S	EBVG-2000-T	4.97	2.86	6.07	3.47	1.10	2" IPS



## NDS PRO SERIES VALVE BOXES – COMMERCIAL GRADE

### Pro Series Valve Boxes by NDS

- Engineered specifically for the professional contractor and heavy-duty use
- Superior strength for commercial and utility applications

### Details

- Thicker wall dimensions for increased strength and durability
- Reinforced covers for heavier loads
- Reinforced ribs offer exceptional sidewall strength
- Stainless steel nut on boxes for bolt-down capability

### Materials and Standards

- High-impact, high-density structural foam polyethylene construction
- Overlapping covers prevent dirt and grass from settling in between body and cover
- UV inhibitors prevent discoloration and cracking

### NDS Pro Series 6" Round Valve Boxes

**Specifications:** The NDS PRO SERIES 6" round body is tapered and has a minimum wall thickness of 0.200". The body has a double wall at the top cover seat area with a minimum thickness of 0.130". The bottom of the body has a 0.250" flange. The 6" round cover has an average thickness of 0.187".



Part No.	Description - Marking	Color (Box/Cover)	Pallet Qty.	Wt. Ea. lbs.	Product Class
<b>Box &amp; Cover</b>					
208BC	6" Round Box, Round Overlapping Cover - ICV	Green/Green	250	1.50	20PR
208BCW	6" Round Box, Round Overlapping Cover - Water	Green/Green	250	1.50	20PR
208BCS	6" Round Box, Round Overlapping Cover - Sewer	Green/Green	250	1.50	20PR
<b>Cover Only</b>					
107C	6" Round Overlapping Cover - ICV	Green	800	0.40	20ND
107CW	6" Round Overlapping Cover - Water	Green	800	0.40	20NM
107CS	6" Round Overlapping Cover - Sewer	Green	800	0.40	20nm
<b>Box Only</b>					
208B	6" Round Box	Green	250	1.10	20PR

## NDS STANDARD SERIES VALVE BOXES – RESIDENTIAL/COMMERCIAL GRADE

### NDS Standard Series 10" Round Valve Boxes

**Specifications:** The NDS STANDARD SERIES 10" round body is tapered and has a minimum wall thickness of 0.200". The cover seat area has 6 structural support ribs on the underside of the seat, each with a minimum thickness of 0.250". The bottom of the body has a 0.500" flange. The 10" round cover has an average thickness of 0.250". The valve box has a 5/16" 304 Brass nut for the bolt-down as a standard feature.



Part No.	Description - Marking	Color (Box/Cover)	Pallet Qty.	Wt. Ea. lbs.	Product Class
<b>Box &amp; Cover</b>					
111BC	10" Round Box, Round Overlapping Cover - ICV	Black/Green	180	3.00	20ND
111BCB	10" Round Box, Round Overlapping Bolt-Down Cover - ICV	Black/Green	180	3.00	20ND
111BC CTN	10" Round ICV Box and Cover	N/A	72	3.90	20ND
111BC SAND	10" Round Box, Round Overlapping Cover - ICV	Sand/Sand	180	3.00	20ND
111BCR	10" Round Box, Round Overlapping Cover - Reclaimed Water	Black/Purple	180	3.00	20ND
111BCGR	10" Round ICV Box and Cover	Black/Green	180	3.00	20NM
111PBCR	10" Round Box, Round Overlapping Cover - Reclaimed Water	Purple/Purple	180	3.00	20ND
111BCW	10" Round Box, Round Overlapping Cover - Water	Black/Green	180	3.00	20NM
111BCS	10" Round Box, Overlapping Cover - Sewer	Black/Green	180	3.00	20NM
111BCBS	10" Round Box, Overlapping Bolt-Down Cover - Sewer	Black/Green	180	3.00	20NM
<b>Cover Only</b>					
111C	10" Round Overlapping Cover - ICV	Green	300	1.00	20ND
111C SAND	10" Round Overlapping Cover - ICV	Sand	300	1.00	20ND
111CR	10" Round Overlapping Cover - Reclaimed Water	Purple	300	1.00	20ND
111CE-GY	10" Round Overlapping Cover - Electrical	Gray	300	1.00	20NM
111CW	10" Round Overlapping Cover - Water	Green	300	1.00	20NM
111CS	10" Round Overlapping Cover - Sewer	Green	300	1.00	20NM
<b>Box Only</b>					
111B	10" Round Box	Black	180	2.00	20NM
111B SAND	10" Round Box	Sand	180	2.00	20ND
111PB	10" Round Box	Purple	180	2.00	20ND
111BB	1-1/4" x 5/16" SS Bolt	Steel	(Bag of 10)	0.10	20ND
112B	10" Round Box	Green	180	2.00	20ND

# Mirafi® 140N



Mirafi® 140N is a nonwoven geotextile composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. Mirafi® 140N is inert to biological degradation and resists naturally encountered chemicals, alkalis, and acids. Mirafi® 140N meets AASHTO M288-06 Class 3 for Elongation > 50%.

TenCate Geosynthetics Americas Laboratories are accredited by [a2La](#) (The American Association for Laboratory Accreditation) and Geosynthetic Accreditation Institute – Laboratory Accreditation Program ([GAI-LAP](#)). [NTPEP Listed](#)

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Grab Tensile Strength	ASTM D4632	lbs (N)	120 (534)	120 (534)
Grab Tensile Elongation	ASTM D4632	%	50	50
Trapezoid Tear Strength	ASTM D4533	lbs (N)	50 (223)	50 (223)
CBR Puncture Strength	ASTM D6241	lbs (N)	310 (1380)	
			Maximum Opening Size	
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	70 (0.212)	
			Minimum Roll Value	
Permittivity	ASTM D4491	sec <sup>-1</sup>	1.7	
Flow Rate	ASTM D4491	gal/min/ft <sup>2</sup> (l/min/m <sup>2</sup> )	135 (5500)	
			Minimum Test Value	
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	70	

Physical Properties	Unit	Roll Sizes	
Roll Dimensions (width x length)	ft (m)	12.5 x 360 (3.8 x 110)	15 x 360 (4.5 x 110)
Roll Area	yd <sup>2</sup> (m <sup>2</sup> )	500 (418)	600 (502)

**Disclaimer:** TenCate assumes no liability for the accuracy or completeness of this information or for the ultimate use by the purchaser. TenCate disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

Mirafi® is a registered trademark of Nicolon Corporation.

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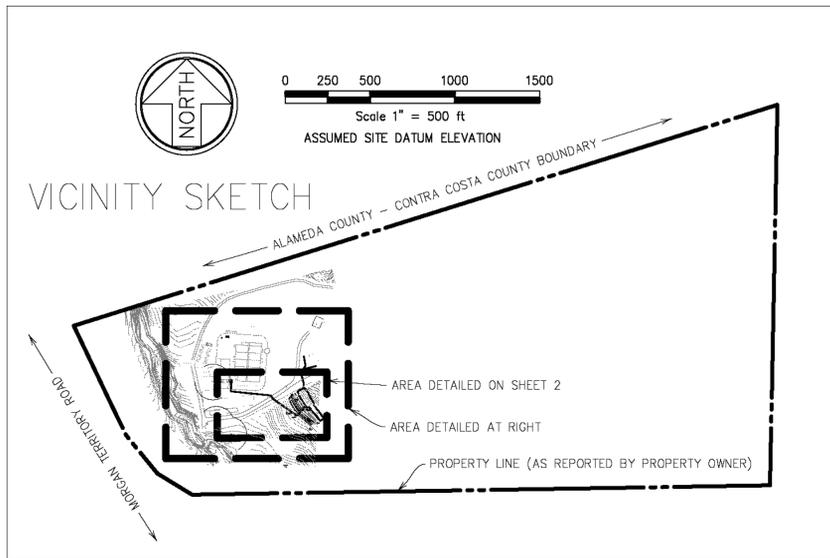
FGS000385  
ETQR77



*Conceptual OWTS Basis of Design  
for 7033 Morgan Territory Rd*



Acorn Onsite, Inc.  
2288 Buena Vista Avenue  
Livermore, CA 94550



CONCEPTUAL ONSITE WASTEWATER TREATMENT SYSTEM PLAN TO ACCOMPANY CONCEPTUAL BASIS OF DESIGN  
 THIS PROJECT IS CURRENTLY BEING REVIEWED FOR PLANNING AND CONDITIONAL USE PERMITTING. THIS IS NOT A FINAL DESIGN. AFTER PROGRESS WITH PLANNING APPROVAL AND OTHER SITE FEATURES ARE REFINED THEN A FINAL OWTS PLAN AND DOCUMENTS CAN BE PREPARED. THESE DOCUMENTS ARE NOT FOR ACTUAL CONSTRUCTION.

PROJECT LOCATION: 7033 MORGAN TERRITORY ROAD (CANNABIS OPERATION)  
 MAXIMUM DAILY DESIGN FLOW: DOMESTIC: DOMESTIC SEWAGE ONLY; 23 EMPLOYEES @ 20GPD PLUS 6 VISITORS @ 15 GPD, TOTAL 550 GPD (DOMESTIC SEWAGE ONLY)  
 ALL OTHER PROCESS WATER OR CLEANING WATER TREATMENT IS BY OTHER MEANS, LIKELY PUMP AND HAUL.

GREENHOUSE/PROCESSING AREA CLEANING OPERATIONS 250GPD AND COOLING TOWER FLUSH WATER ONLY 250GPD  
 PROJECT CLASSIFICATION: NEW OWTS TO SERVE PROPOSED CANNABIS OPERATION DOMESTIC SEWAGE  
 SITE CONSTRAINTS: TOPOGRAPHY, SOILS  
 DISPERSAL METHOD: SHALLOW TRENCH PRESSURE DISTRIBUTION  
 DOMESTIC SEWAGE PRETREATMENT TECHNIQUE: ANUA PURASYS SBR IF NEEDED DEPENDING ON NUTRIENT LOADING CONCERNS. A PRETREATMENT SYSTEM IS SHOWN ON THIS CONCEPTIONS DOCUMENT, DEPENDING ON FINAL DESIGN CRITERIA. PRETREATMENT MAY OR MAY NOT BE SPECIFIED.  
 THERE ARE TWO EXISTING DWELLING THAT ARE INTENDED TO REMAIN AS DWELLINGS.

**GENERAL NOTES:**

- OWTS TO BE INSTALLED IN ACCORDANCE WITH REGULATORY AGENCY.
- OWTS TO BE INSTALLED BY A LICENSED CONTRACTOR WITH AT LEAST THREE YEARS EXPERIENCE INSTALLING OWTS.
- CONSTRUCTION OF OWTS SHALL NOT BEGIN PRIOR TO APPROVAL OF A CONSTRUCTION PLAN AND ISSUANCE OF AN INSTALLATION PERMIT FROM THE COUNTY ENVIRONMENTAL HEALTH.
- INSTALLER SHALL FIELD VERIFY ALL EXISTING UTILITIES INCLUDING INSTALLER MUST NOTIFY UNDERGROUND SERVICE ALERT (CALL 811) AT LEAST TWO WORKING DAYS, NOT INCLUDING THE DATE OF NOTIFICATION, PRIOR TO EXCAVATION.
- CONSTRUCTION OBSERVATION INSPECTION BY ENGINEER-OF-RECORD REQUIRED. INSTALLER SHALL COORDINATE INSPECTIONS:
  - PRECONSTRUCTION (ALL COMPONENT LOCATIONS MARKED IN FIELD, DISPERSAL FIELD LAYOUT TO BE DONE BY ENGINEER-OF-RECORD OR LAND SURVEYOR, INSTALLER SHALL PROVIDE A CONSTRUCTION SCHEDULE AND GENERAL PROCEDURE FOR INSTALLATION)
  - START OF INSTALLATION OF DISPERSAL FIELD
  - SEPTIC TANKS, REACTOR TANK, AND PUMP TANKS WATERTIGHTNESS TEST
  - HYDRAULIC LOADING TEST (SQUIRT TEST)
  - ALL PIPING
  - FINAL BACKFILL AND COVER
- INSTALLER SHALL SUBMIT SHOP DRAWINGS FOR REVIEW BY ENGINEER-OF-RECORD PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
- INSTALLER SHALL PROMPTLY NOTIFY ENGINEER-OR-RECORD OF ANY DISCREPANCIES FOUND OR DISCOVERY OF DIFFERING SITE CONDITIONS FROM THOSE NOTED.
- DISPERSAL FIELD SHALL NOT BE INSTALLED IN OVERLY MOIST SOIL.
- DISPERSAL FIELD EXCAVATIONS SHALL NOT BE LEFT UNCOVERED DURING ANY RAIN EVENT OR FOR AN EXTENDED PERIOD OF TIME.
- EXISTING UTILITIES SHALL BE FIELD VERIFIED AND RELOCATED TO ACCOMMODATE ADEQUATE SETBACK FOR SEPTIC SYSTEM COMPONENTS
- ANY SITE CONDITIONS OR IMPROVEMENTS CONFLICTING WITH THE PROPOSED OWTS DISCOVERED DURING CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER-OF-RECORD. BASED ON WHAT IS DISCOVERED ENGINEER-OF-RECORD SHALL SPECIFY THE APPROPRIATE ACTION TO TAKE.

**LONG TERM NOTES:**

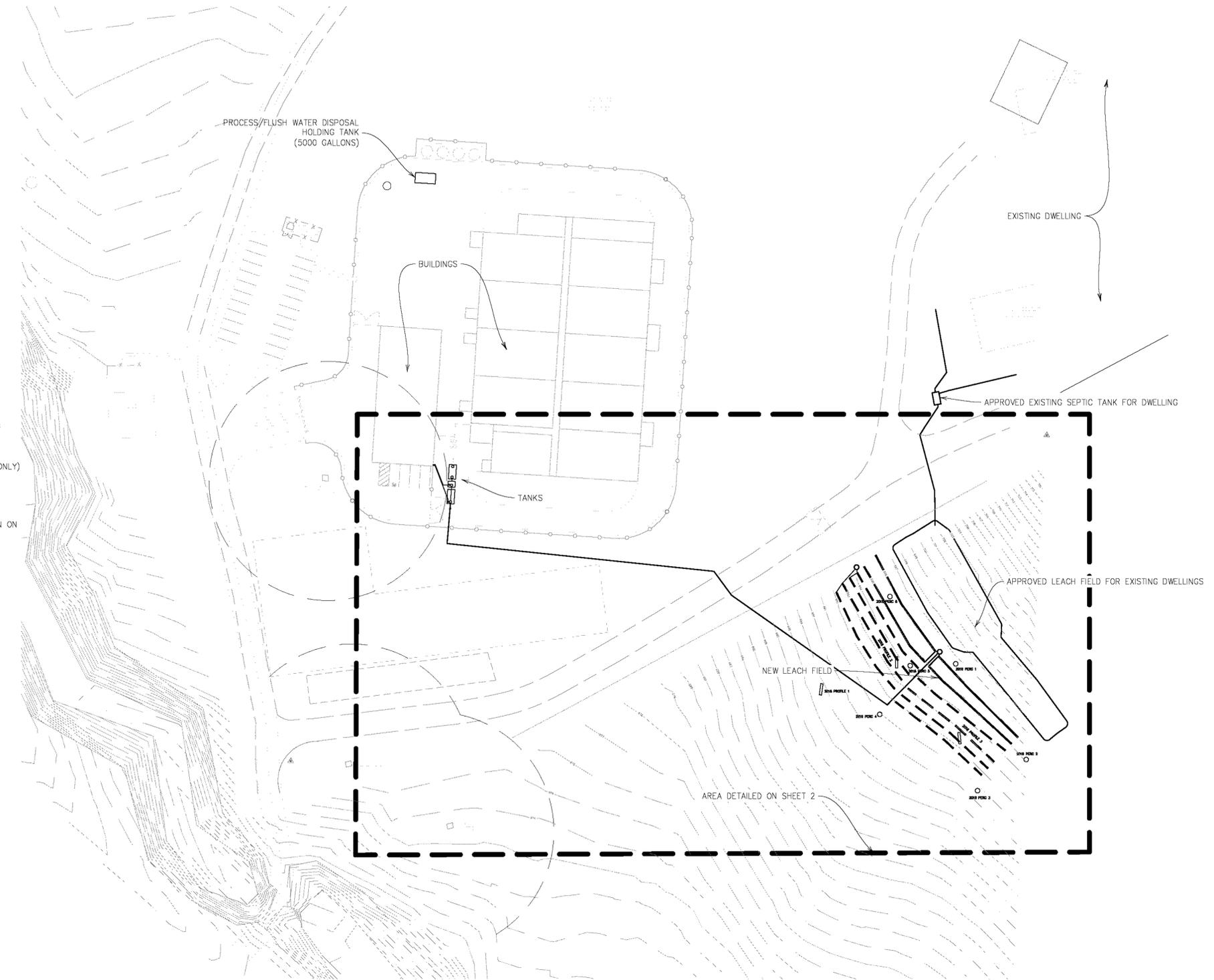
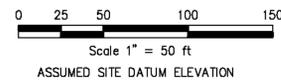
- IN ACCEPTING THIS PLAN, THE OWNER REALIZES THAT EXPANSION OF THE DISPERSAL FIELD MAY BE REQUIRED IF LIQUID LOADING IS NOT DISPOSED OF BY THE PROPOSED DISPERSAL FIELD.
- EVERY EFFORT SHOULD BE MADE TO MINIMIZE LIQUID LOADING ON THE OWTS.
- LOW FLOW PLUMBING FIXTURES ARE REQUIRED.
- NO FILL SHALL BE PLACED OVER THE DISPERSAL FIELD AREA.
- NO EXCAVATION OR CUTTING SOIL SHALL OCCUR DOWNSLOPE OF DISPERSAL FIELD, CONTACT ENGINEER-OF-RECORD FOR APPROPRIATE SETBACK REQUIREMENTS.
- NO VEHICULAR TRAFFIC OR OTHER ACTIVITIES THAT WILL COMPACT SOIL ARE ALLOWED IN DISPERSAL FIELD AREA.
- DOWNSPOUTS OR HOT TUBS SHALL NOT DRAIN INTO OWTS.

**MAINTENANCE:**

- ANNUAL SERVICE SHALL INCLUDE: CHECK CONDITION OF COMPONENTS INSIDE PUMP CHAMBER, RECORD WATER METER READINGS, CHECK PERFORMANCE WELLS, MONITOR LEACH FIELD AREA FOR GENERAL OPERATION, MONITOR GENERAL SITE CONDITIONS IN DISPERSAL FIELD VICINITY TO VERIFY SERVICEABILITY OF SITE, AND RESPOND TO CONDITIONS FOUND.
- INSPECTION OF SEPTIC TANK AT LEAST ONCE EVERY TWO YEARS AND CLEAN IF COMBINED THICKNESS OF SLUDGE AND SCUM EQUALS MORE THAN 1/4 OF THE LIQUID HEIGHT INSIDE THE SEPTIC TANK.

THIS DOCUMENT AND ASSOCIATED REPORTS AND TESTING ARE FOR THE CONSTRUCTION OF THE OWTS SHOWN. ANYONE USING THIS INFORMATION FOR ANY OTHER PURPOSE DOES SO AT THEIR OWN RISK. THIS IS NOT A BOUNDARY SURVEY, PROPERTY LINES SHOWN ARE PROVIDED BY PROPERTY OWNER.

SINCE DETAILS FOR THIS PROJECT HAVE NOT YET BEEN FULLY DECIDED THIS CONCEPTUAL DESIGN DOES NOT ADDRESS ALL SETBACK DETAILS. FOR EXAMPLE, WATER PIPE LOCATIONS HAVE NOT YET BEEN DETERMINED. CODE SPECIFIED SETBACK FROM SEPTIC SYSTEM COMPONENTS TO ALL UNDERGROUND WATER PIPES SHALL BE PROVIDED. OTHER SETBACKS WILL BE DETERMINED AND DESCRIBED IN ANY FINAL DESIGN.



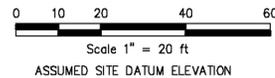
**CONCEPTUAL OWTS PLAN**  
 7033 MORGAN TERRITORY ROAD  
 LIVERMORE CALIFORNIA

PROPERTY OWNER: <b>OASIS</b> 7033 MORGAN TERRITORY ROAD LIVERMORE CA 94551	APN: 903-7-1-1
<b>ACORN</b> <b>ONSITE, Inc.™</b> ACORN ONSITE, INC. 2288 BUENA VISTA AVENUE, LIVERMORE, CALIFORNIA 94550 (925) 447-5200 FAX (925) 447-0919 www.AcornOnsite.com SEPTIC SYSTEM ENGINEERING	SCALE: 1" = 500' & 100'
	CONTOUR INTERVAL: ONE FOOT
	DATE: AUG. 15, 2019
	PROJECT NO. 475-18
	SHEET NO. 1 OF 4

THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES SHOWN FROM SITE MAP PROVIDED BY PROPERTY OWNER.

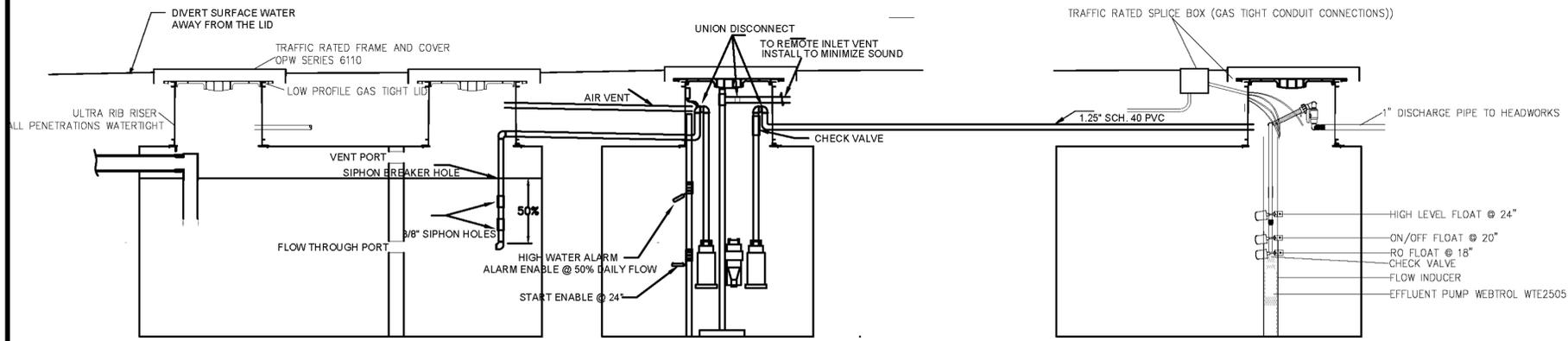


THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES SHOWN FROM SITE MAP PROVIDED BY PROPERTY OWNER.



<b>CONCEPTUAL OWTS PLAN</b> 7033 MORGAN TERRITORY ROAD LIVERMORE CALIFORNIA	
PROPERTY OWNER: OASIS 7033 MORGAN TERRITORY ROAD LIVERMORE CA 94551	APN: 903-7-1-1
<b>ACORN</b> <b>ONSITE, Inc.™</b> ACORN ONSITE, INC. 2288 BUENA VISTA AVENUE, LIVERMORE, CALIFORNIA 94550 (925) 447-5200 FAX (925) 447-0919 www.AcornOnsite.com SEPTIC SYSTEM ENGINEERING	SCALE: 1" = 20'
	CONTOUR INTERVAL: ONE FOOT
	DATE: AUG. 15, 2019
	PROJECT NO. 475-18
	SHEET NO. 2 OF 4

THIS IS A CONCEPTUAL DESIGN. FINAL DESIGN SHALL DESCRIBE EMERGENCY STORAGE ABOVE HIGH LEVEL ALARM FLOAT.

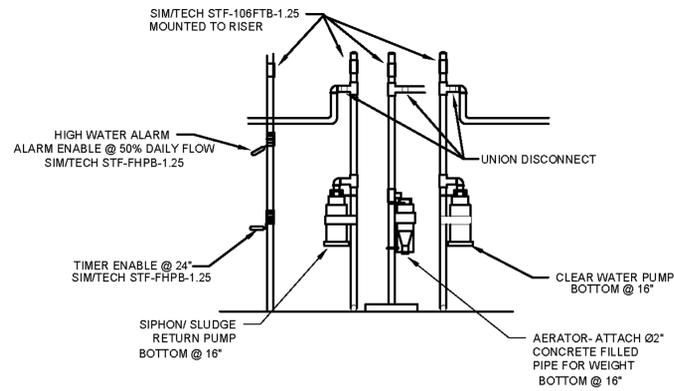


**DOMESTIC SEWAGE SEPTIC TANK**  
SELVAGE 2000 GALLON, TRAFFIC RATED  
NOT TO SCALE

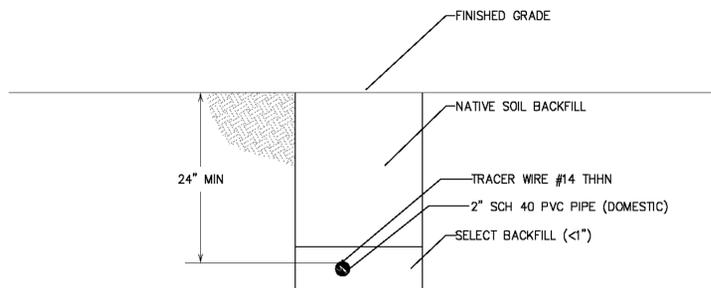
**REACTOR TANK**  
SELVAGE 800 GALLON, TRAFFIC RATED  
NOT TO SCALE

**DISCHARGE TANK**  
SELVAGE 2000 GALLON, TRAFFIC RATED  
NOT TO SCALE

- NOTE: ALL TANK COMPONENTS SHALL BE WATERTIGHT INCLUDING:
- SEPTIC TANK
  - REACTOR AND PUMP TANK
  - RISER CONNECTION TO TANKS
  - PIPE PENETRATION WITH RUBBER GROMMETS



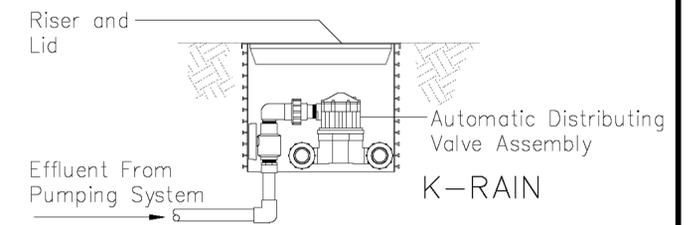
**PURASYS DETAILS**  
REACTOR COMPARTMENT HEIGHTS  
NOT TO SCALE



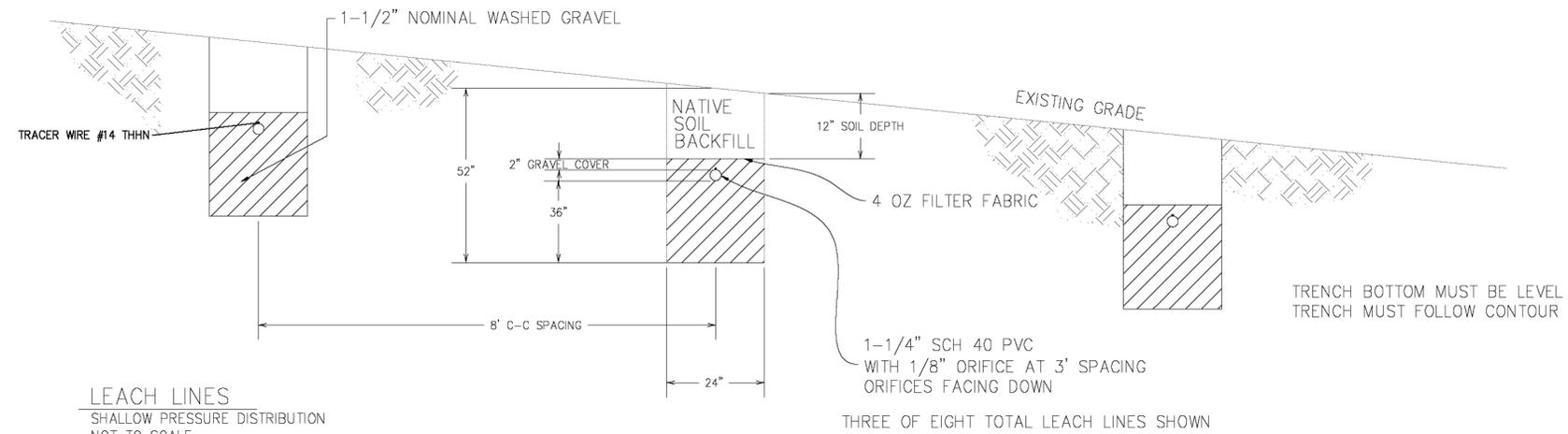
**EFFLUENT TRANSPORT PIPE**  
NOT TO SCALE



<b>CONCEPTUAL OWTS PLAN</b> 7033 MORGAN TERRITORY ROAD LIVERMORE CALIFORNIA	
PROPERTY OWNER: OASIS 7033 MORGAN TERRITORY ROAD LIVERMORE CA 94551	APN: 903-7-1-1
<b>ACORN</b> ONSITE, Inc.™ ACORN ONSITE, INC. 2288 BUENA VISTA AVENUE, LIVERMORE, CALIFORNIA 94550 (925) 447-5200 FAX (925) 447-0919 www.AcornOnsite.com SEPTIC SYSTEM ENGINEERING	SCALE: 1" = NTS
	CONTOUR INTERVAL: NONE
	DATE: AUG. 15, 2019
	PROJECT NO. 475-18
	SHEET NO. 3 OF 4



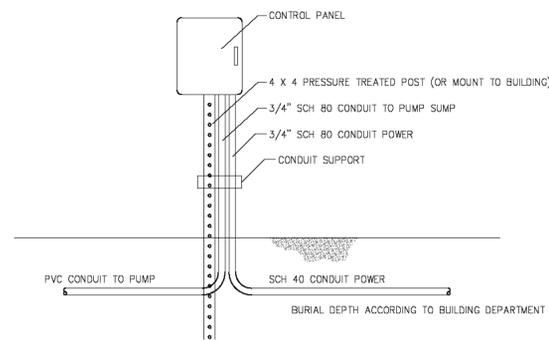
AUTOMATIC DISTRIBUTING VALVE DETAIL  
K-RAIN - MODEL 4402  
NOT TO SCALE



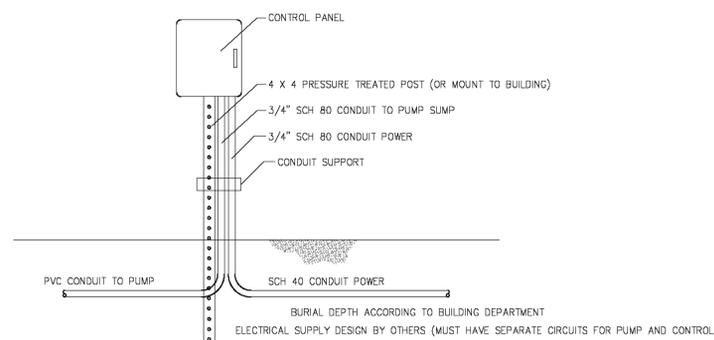
LEACH LINES  
SHALLOW PRESSURE DISTRIBUTION  
NOT TO SCALE

1-1/4" SCH 40 PVC  
WITH 1/8" ORIFICE AT 3' SPACING  
ORIFICES FACING DOWN  
THREE OF EIGHT TOTAL LEACH LINES SHOWN

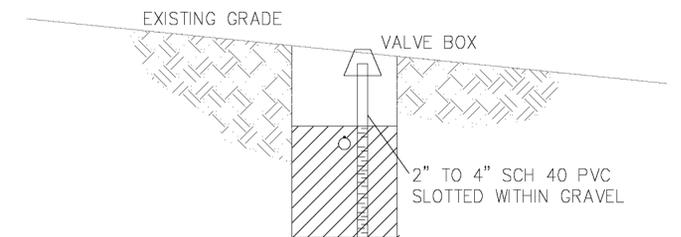
TRENCH BOTTOM MUST BE LEVEL  
TRENCH MUST FOLLOW CONTOUR



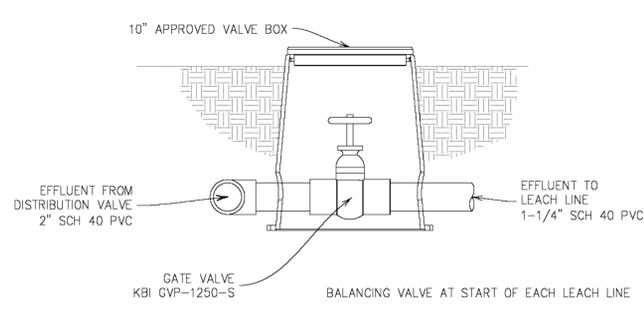
PURASYS CONTROL PANEL  
SBR CONTROL PANEL  
NOT TO SCALE



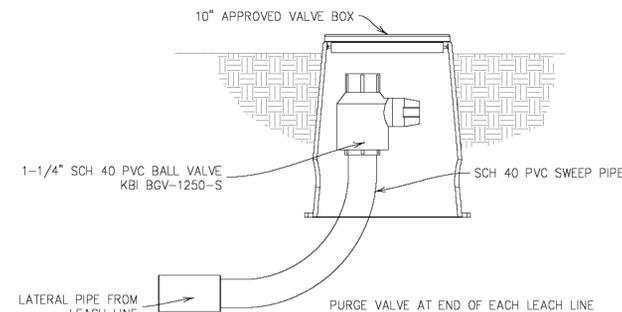
DOMESTIC SEWAGE PUMP TANK CONTROL PANEL DETAIL  
ALDERON SMARTPANEL, ON DEMAND DOSING  
NOT TO SCALE



INSPECTION WELL  
ONE AT END OF EACH LEACH LINE  
NOT TO SCALE



BALANCING VALVE DETAIL  
NOT TO SCALE



PURGE VALVE DETAIL  
NOT TO SCALE



CONCEPTUAL OWTS PLAN 7033 MORGAN TERRITORY ROAD LIVERMORE CALIFORNIA	
PROPERTY OWNER: OASIS 7033 MORGAN TERRITORY ROAD LIVERMORE CA 94551	APN: 903-7-1-1
 <b>ACORN</b> <b>ONSITE, Inc.™</b> ACORN ONSITE, INC. 2288 BUENA VISTA AVENUE, LIVERMORE, CALIFORNIA 94550 (925) 447-5200 FAX (925) 447-0919 www.AcornOnsite.com SEPTIC SYSTEM ENGINEERING	SCALE: 1" = NTS
	CONTOUR INTERVAL: NONE
DATE: AUG. 15, 2019	PROJECT NO. 475-18
	SHEET NO. 4 OF 4

**APPENDIX B**

**Revised Notice of Applicability  
Conditional Waiver of Water Quality  
San Francisco Bay Regional Water Quality Control Board  
Order WQ-2017-0023-DWQ**

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## San Francisco Bay Regional Water Quality Control Board

*Sent by email. No hard copy to follow.*

March 28, 2019

CIWQS WDID #2\_01CC405892

Casey Daniels  
Oasis Venture, LLC  
7033 Morgan Territory Rd  
Livermore, CA 94551  
[daniels@greencp.com](mailto:daniels@greencp.com)

John Sinadinos  
The Oasis Fund, LLC  
7700 College Town Dr, Suite 250  
Sacramento, CA 95826  
[sino@cw.com](mailto:sino@cw.com)

### **REVISED NOTICE OF APPLICABILITY, CONDITIONAL WAIVER OF WATER QUALITY ORDER WQ-2017-0023-DWQ, OASIS VENTURE, LLC, ALAMEDA COUNTY**

#### **BACKGROUND**

On November 2, 2018, Casey Daniels of Oasis Venture, LLC (hereafter “Discharger”), applied for coverage under the State Water Board’s General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities, Order No. WQ-2017-0023-DWQ (General Order) for discharges of waste at the Oasis Venture, LLC, site, located at 7033 Morgan Territory Rd, Livermore, CA 94551 (assessor’s parcel number 903-0007-001-01, hereafter referred to as the “Site”), an outdoor cannabis cultivation facility.

On November 16, 2018, the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) issued a Notice of Applicability (NOA) to the Discharger. The Site was assigned waste discharge identification (WDID) number 2\_01CC405892.

On February 19, 2019, Regional Water Board staff determined that the Site was an indoor cannabis cultivation facility, not an outdoor one, based on reviews of the Site Management Plan submitted by the Discharger. The Discharger confirmed on March 5, 2019, that wastewater from the indoor cultivation will discharge to a storage tank and be hauled to a sewer system that accepts cannabis cultivation wastewater.

This revised NOA reflects: 1) the change in cultivation type from outdoor to indoor; and, 2) that all indoor cultivation generated wastewater will be collected in a storage tank for containment and proper disposal. All other requirements of the November 16, 2018, NOA remain unchanged, and the Discharger is responsible for complying with all applicable requirements of the Policy, General Order, and NOA.

#### **1. FACILITY AND DISCHARGE DESCRIPTION**

The information submitted by the Discharger states that (1) the cannabis cultivation activities

occur within a structure with a permanent roof, a permanent relatively impermeable floor (e.g., concrete or asphalt paved), (2) irrigation tailwater, hydroponic wastewater, or other miscellaneous industrial wastewaters are discharged to an appropriate collection tank, and (3) the wastewater in the collection tank is regularly collected by an authorized waste hauler who disposes of the wastewater to a community sewer system consistent with the sewer system requirements. Based on the facility and discharge description, the cultivation activities are consistent with the requirements of the Waiver of Waste Discharge Requirements (Conditional Waiver). Coverage under this Conditional Waiver expires on December 18, 2022, and the Discharger will be required to re-apply for coverage at that time to continue any cannabis cultivation activities.

Based on the information submitted by the Discharger, the cannabis cultivation activities are classified as conditionally exempt and meet the requirements of the Waiver.

## 2. SITE-SPECIFIC REQUIREMENTS

The Policy and General Order are available at <http://www.waterboards.ca.gov/cannabis>. The Discharger shall ensure that all site operating personnel know, understand, and comply with the requirements contained in the Policy, General Order, this NOA, and, if required, the Monitoring and Reporting Program (Attachment B of the General Order). Note that the General Order contains standard provisions, general requirements, and prohibitions that apply to all cannabis cultivation activities.

The application requires the Discharger to self-certify that all applicable Best Practicable Treatment or Control (BPTC) measures are being implemented, or will be implemented by the onset of the winter period (November 15 to April 1), following the enrollment date. Dischargers that cannot implement all applicable BPTC measures by the onset of the winter period following their enrollment date, or in winter periods in following years, shall include in their *Site Management Plan* a time schedule and scope of work for use by the San Francisco Bay Regional Water Board (Regional Water Board) in developing a compliance schedule, as described in Attachment A of the General Order. This time schedule and scope of work should be submitted by email at [sanfranciscobay.cannabis@waterboards.ca.gov](mailto:sanfranciscobay.cannabis@waterboards.ca.gov).

The Discharger shall permit representatives of the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) and/or the State Water Board, upon presentation of credentials, to do the following:

1. Enter premises where cannabis is cultivated or processed, wastes are treated, stored, or disposed of, and facilities in which any records are kept;
2. Copy any records required under terms and conditions of the General Order;
3. Inspect at reasonable hours, monitoring equipment required by the General Order; and
4. Sample, photograph, and/or video record any cultivation activity, discharge, waste material, waste treatment system, or monitoring device.

The Discharger shall keep all records of wastewater collected from the cannabis cultivation site by waste haulers, including (1) the quantity and quality of the wastewater, (2) the wastewater collection date, (3) the business name, contact phone number, and contact email of the hauler, and (4) the business name, contact phone number, and contact email of the entity/utility accepting the wastewater. Records shall be kept for a minimum of three years and shall be made available to the Regional Water Board for review upon request.

### 3. TECHNICAL REPORT REQUIREMENTS

The Discharger shall submit a Site Closure Report 90 days prior to permanently ending cannabis cultivation activities and seeking to rescind coverage under the Conditional Waiver. The Site Closure Report must be consistent with the requirements of General Order Provision C.1.e., and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of the Site Closure Report.

### 4. MONITORING AND REPORTING PROGRAM

There are no Monitoring and Reporting requirements associated with the issuance of this Conditional Waiver.

### 5. ANNUAL FEE

There is no annual fee associated with the issuance of this Conditional Waiver.

### 6. TERMINATION OF COVERAGE UNDER THE GENERAL ORDER & REGIONAL WATER BOARD CONTACT INFORMATION

Cannabis cultivators that propose to terminate coverage under the Conditional Waiver or General Order must submit a Notice of Termination (NOT). The NOT must include a *Site Closure Report* (see Technical Report Requirements above) and a final monitoring report. The Regional Water Board reserves the right to inspect the site before approving an NOT. Attachment C of the General Order includes the NOT form and Attachment D provides guidance on the contents of the *Site Closure Report*.

All monitoring reports, submittals, discharge notifications, and questions regarding compliance and enforcement should be directed to the Regional Water Board at [sanfranciscobay.cannabis@waterboards.ca.gov](mailto:sanfranciscobay.cannabis@waterboards.ca.gov).

Sincerely,

Michael Montgomery  
Executive Officer

Copy to:

Kevin Porzio, State Water Board, Division of Water Quality,  
[dwq.cannabis@waterboards.ca.gov](mailto:dwq.cannabis@waterboards.ca.gov)  
James Ponton, Regional Water Board, Cannabis and Vineyard Regulatory Unit,  
[james.ponton@waterboards.ca.gov](mailto:james.ponton@waterboards.ca.gov)  
Ronald Browder, County of Alameda Environmental Health,  
[ronald.browder@acgov.org](mailto:ronald.browder@acgov.org)  
Timothy Hildreth, County of Alameda Environmental Health,  
[timothy.hildreth@acgov.org](mailto:timothy.hildreth@acgov.org)

## **APPENDIX C**

### **DWR Well Completion Reports**

*5 + 25 25 - 51*  
*Dry*

STATE OF CALIFORNIA  
**WELL COMPLETION REPORT**

Refer to Instruction Pamphlet

No. **716430**

DWR USE ONLY -- DO NOT FILL IN

**2S 2E 17G 1**

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Page 1 of 1

Owner's Well No. 716430

Date Work Began 3/9/01, Ended 3/14/01

Local Permit Agency Zone 7 Water Agency

Permit No. 21044 Permit Date 2/20/01

**GEOLOGIC LOG**

**WELL OWNER**

ORIENTATION (✓)  VERTICAL  HORIZONTAL  ANGLE \_\_\_\_\_ (SPECIFY)

Name William Hogarty

DEPTH FROM SURFACE DRILLING METHOD Hard Rock FLUID Water

Mailing Address 6693 Owens Dr.

Pleasanton CA 94588

DESCRIPTION Describe material, grain, size, color, etc.

CITY STATE ZIP

Ft.	to	Ft.	DESCRIPTION
0	35		Dirt
35	191		Shale-Clay
191	192		Quartz 1/2 gal
192	324		Shale-Clay
324	325		Quartz 1 gal
325	340		Shale-Clay
340	342		Quartz
342	343		Quartz 1 1/2 gal
343	410		Shale-Clay-Stone
410	500		Shale-Clay-Stone
			Total Water 3 gals

Address 7058 Morgan Territory Rd

City Livermore CA

County Alameda

APN Book 903 Page 0007 Parcel 0101

Township 2S Range 2E Section 17

Latitude \_\_\_\_\_

**LOCATION SKETCH**

WEST

EAST

SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

*SEE BACK*

**ACTIVITY (✓)**

NEW WELL  
MODIFICATION/REPAIR  
 Deepen  
 Other (Specify)

DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

**PLANNED USES (✓)**

WATER SUPPLY  
 Domestic  Public  
 Irrigation  Industrial

MONITORING   
TEST WELL   
CATHODIC PROTECTION   
HEAT EXCHANGE   
DIRECT PUSH   
INJECTION   
VAPOR EXTRACTION   
SPARGING   
REMEDICATION   
OTHER (SPECIFY) \_\_\_\_\_

TOTAL DEPTH OF BORING \_\_\_\_\_ (Feet)  
TOTAL DEPTH OF COMPLETED WELL 480 (Feet)

**WATER LEVEL & YIELD OF COMPLETED WELL**

DEPTH TO FIRST WATER 192 (Ft.) BELOW SURFACE **1**

DEPTH OF STATIC

WATER LEVEL \_\_\_\_\_ (Ft.) & DATE MEASURED \_\_\_\_\_

ESTIMATED YIELD 3 (GPM) & TEST TYPE Air Lift

TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN ? (Ft.)

May not be representative of a well's long-term yield.

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	CASING (S)						DEPTH FROM SURFACE Ft. to Ft.	ANNULAR MATERIAL TYPE				
		TYPE (✓)	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)	CE-MENT (✓)		BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)		
0	500	12"		PVC	4 1/2	SR21	3200	0	50				
191	192		✓										
324	325		✓										
342	343		✓										
0	500			PVC	4 1/2		3200						

**ATTACHMENTS (✓)**

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analysis
- Other \_\_\_\_\_

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

**CERTIFICATION STATEMENT**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME YOSEMITE FALLS WELL DRILLING  
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

P.O. Box 1808 Mariposa CA 95338

ADDRESS CITY STATE ZIP

Signed Mark W. Hagan DATE SIGNED 05/07/01 691117 C-57 LICENSE NUMBER

WELL DRILLER/AUTHORIZED REPRESENTATIVE

*Well #1 North Well - Dry - since 2001*

ORIGINAL  
File with DWR

*North Wall*  
*Barn*

STATE OF CALIFORNIA  
**WELL COMPLETION REPORT**  
Refer to Instruction Pamphlet

DWR USE ONLY — DO NOT FILL IN

2 | S | 2 | E | 1 | 7 | G | 2 |

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Page 1 of 1

Owner's Well No. \_\_\_\_\_

No. **725397**

Date Work Began 04-22-02, Ended 04-26-02

Local Permit Agency Alameda County Zone 7

Permit No. #22053 Permit Date 03-14-02

**GEOLOGIC LOG**

ORIENTATION (≠)			DRILLING METHOD		FLUID		DESCRIPTION <i>Describe material, grain size, color, etc.</i>
X VERTICAL _____ HORIZONTAL _____ ANGLE _____ (SPECIFY)			Mud Rotary		Water		
DEPTH FROM SURFACE							
Ft.	to	Ft.					
0	25		Clay, Little Bit Sand				
25	31		Course Sand				
31	38		Sandstone				
38	45		Clay				
45	51		Sandstone				
51	128		Blue Clay				
128	202		Clay, Sandstone				
202	206		Clay, Sandstone, Rock				
206	365		Clay, Sandstone				
365	379		Sand, Sandstone				
379	400		Sandstone, Shale				
TOTAL DEPTH OF BORING <u>400ft.</u>							
TOTAL DEPTH OF COMPLETED WELL <u>375ft.</u>							

**WELL OWNER**

Name Bill Hogarty

Mailing Address 6693 Owens Drive  
Pleasanton, CA 94566

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Address 7058 Morgan Territory Road

City Livermore

County Alameda County

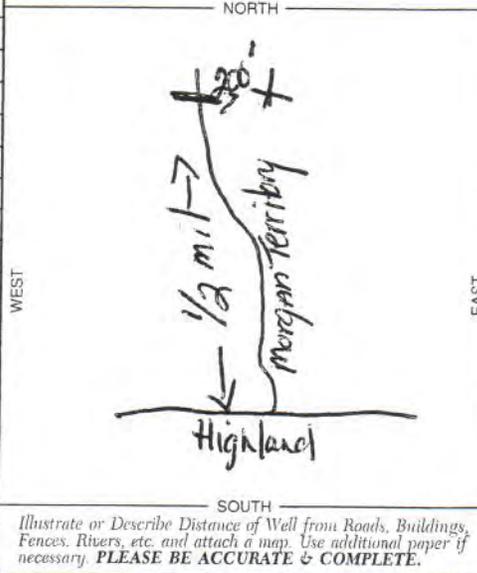
APN Book \_\_\_\_\_ Page \_\_\_\_\_ Parcel \_\_\_\_\_

Township \_\_\_\_\_ Range \_\_\_\_\_ Section \_\_\_\_\_

Latitude \_\_\_\_\_ NORTH \_\_\_\_\_ WEST \_\_\_\_\_

Longitude \_\_\_\_\_ NORTH \_\_\_\_\_ WEST \_\_\_\_\_

**LOCATION SKETCH**



**ACTIVITY (≠)**

NEW WELL

MODIFICATION/REPAIR

— Deepen

— Other (Specify) \_\_\_\_\_

— DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

**PLANNED USES (≠)**

WATER SUPPLY

Domestic \_\_\_\_\_ Public \_\_\_\_\_

— Irrigation \_\_\_\_\_ Industrial \_\_\_\_\_

MONITORING \_\_\_\_\_

TEST WELL \_\_\_\_\_

CATHODIC PROTECTION \_\_\_\_\_

HEAT EXCHANGE \_\_\_\_\_

DIRECT PUSH \_\_\_\_\_

INJECTION \_\_\_\_\_

VAPOR EXTRACTION \_\_\_\_\_

SPARGING \_\_\_\_\_

REMEDIATION \_\_\_\_\_

OTHER (SPECIFY) \_\_\_\_\_

**WATER LEVEL & YIELD OF COMPLETED WELL**

DEPTH TO FIRST WATER \_\_\_\_\_ (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 65' (Ft.) & DATE MEASURED 04-30-02

ESTIMATED YIELD \* \_\_\_\_\_ (GPM) & TEST TYPE \_\_\_\_\_

TEST LENGTH \_\_\_\_\_ (Hrs.) TOTAL DRAWDOWN \_\_\_\_\_ (Ft.)

\* May not be representative of a well's long-term yield.

DEPTH FROM SURFACE	BORE-HOLE DIA. (Inches)	CASING (S)							DEPTH FROM SURFACE	ANNULAR MATERIAL					
		TYPE (≠)				MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS		SLOT SIZE IF ANY (Inches)	TYPE				
		BLANK	SCREEN	CON-DUCTOR	FILL PIPE						CE-MENT (≠)	BEN-TONITE (≠)	FILL (≠)	FILTER PACK (TYPE/SIZE)	
0	25'	9"	X					SDR-21	6"	.316"					
25'	35'	9"		X				SDR-21	6"	.316"					
35'	200'	9"	X					SDR-21	6"	.316"					
200'	240'	9"		X				SDR-21	6"	.316"					
240'	335'	9"	X					SDR-21	6"	.316"					
335'	375'	9"		X				SDR-21	6"	.316"					

**ATTACHMENTS (≠)**

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analyses
- Other \_\_\_\_\_

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

**CERTIFICATION STATEMENT**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Dejesus Pump & Well Drilling, Inc.

ADDRESS 2382 Sellers Avenue, Brentwood, CA 94513 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Signed [Signature] WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE 04-26-02 LICENSE NUMBER 512614

*Well #2 Barn Well - minimal water - not used*

**Best**  
**DUPLICATE**  
**Driller's Copy**

*Bottom*

STATE OF CALIFORNIA  
**WELL COMPLETION REPORT**  
 Refer to Instruction Pamphlet

No. **749467**

Page 1 of 1

Owner's Well No. \_\_\_\_\_

Date Work Began 07-17-02, Ended 07-24-02

Local Permit Agency Zone 7 Alameda County

Permit No. #22086 Permit Date 07-24-02

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

**GEOLOGIC LOG**

ORIENTATION (✓)  VERTICAL \_\_\_\_\_ HORIZONTAL \_\_\_\_\_ ANGLE \_\_\_\_\_ (SPECIFY)

DRILLING METHOD Mud Rotary FLUID Water

DEPTH FROM SURFACE		DESCRIPTION
Fl.	to Fl.	
0	15	Adobe
15	270	Clay
270	280	Sandy Clay
280	310	Clay
310	320	Sand Clay
320	490	Clay
490	520	Fract rock

*Describe material, grain size, color, etc.*

**WELL OWNER**

Name William Hogarty

Mailing Address 6693 Owens Drive

Pleasanton, CA 94566 STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**WELL LOCATION**

Address 7058 Morgan Territory Road

City Livermore

County Alameda County

APN Book 903 Page 0007 Parcel 001 01

Township \_\_\_\_\_ Range \_\_\_\_\_ Section \_\_\_\_\_

Latitude \_\_\_\_\_ NORTH \_\_\_\_\_ Longitude \_\_\_\_\_ WEST

**LOCATION SKETCH**



**ACTIVITY (✓)**

- NEW WELL
- MODIFICATION/REPAIR
  - Deepen
  - Other (Specify) \_\_\_\_\_
- DESTROY (*Describe Procedures and Materials Under "GEOLOGIC LOG"*)
- PLANNED USES (✓)
  - WATER SUPPLY
    - Domestic \_\_\_\_\_ Public \_\_\_\_\_
    - Irrigation \_\_\_\_\_ Industrial \_\_\_\_\_
  - MONITORING \_\_\_\_\_
  - TEST WELL \_\_\_\_\_
  - CATHODIC PROTECTION \_\_\_\_\_
  - HEAT EXCHANGE \_\_\_\_\_
  - DIRECT PUSH \_\_\_\_\_
  - INJECTION \_\_\_\_\_
  - VAPOR EXTRACTION \_\_\_\_\_
  - SPARGING \_\_\_\_\_
  - REMIEDIATION \_\_\_\_\_
  - OTHER (SPECIFY) \_\_\_\_\_

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.**

**WATER LEVEL & YIELD OF COMPLETED WELL**

DEPTH TO FIRST WATER \_\_\_\_\_ (FL) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL \_\_\_\_\_ (FL) & DATE MEASURED \_\_\_\_\_

ESTIMATED YIELD \* \_\_\_\_\_ (GPM) & TEST TYPE \_\_\_\_\_

TEST LENGTH \_\_\_\_\_ (Hrs.) TOTAL DRAWDOWN \_\_\_\_\_ (FL)

\* May not be representative of a well's long-term yield.

TOTAL DEPTH OF BORING 530 ft. (Feet)

TOTAL DEPTH OF COMPLETED WELL 520 ft. (Feet)

DEPTH FROM SURFACE	BORE-HOLE DIA. (Inches)	CASING (S)						DEPTH FROM SURFACE	ANNULAR MATERIAL					
		TYPE (✓)				MATERIAL / GRADE	INTERNAL DIAMETER (Inches)		GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)	TYPE			
Fl.	to Fl.	BLANK	SCREEN	CON-DUCTOR	FILL PIPE									CE-MENT (✓)
0	300	10"	X				SDR-21	4"	.270"					
300	320	10"	X				SDR-21	4"	.270"	40/1000				
320	460	10"	X				SDR-21	4"	.270"					
460	520	10"	X				SDR-21	4"	.270"	40/1000				1/2" gravel

**ATTACHMENTS (✓)**

- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analyses
- Other \_\_\_\_\_

**CERTIFICATION STATEMENT**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Dejesus Pump & Well Drilling, Inc.

(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

2582 Sellers Avenue, Brentwood, CA 94513

ADDRESS \_\_\_\_\_ CITY Brentwood STATE CA ZIP 94513

Signed [Signature] DATE SIGNED 07-26-02 C-57 LICENSE NUMBER 542644

WELL DRILLER/AUTHORIZED REPRESENTATIVE

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

(1) 3 gallon min well #3 South West Pimary

State of California  
**Well Completion Report**  
 Form DWR 188 Submitted 10/24/2018  
 WCR2018-009480

Well # 4

Owner's Well Number \_\_\_\_\_ Date Work Began 08/13/2018 Date Work Ended 08/22/2018  
 Local Permit Agency Amador County Environmental Health  
 Secondary Permit Agency \_\_\_\_\_ Permit Number 2018091 Permit Date 07/10/2018

Well Owner (must remain confidential pursuant to Water Code 13752)	Planned Use and Activity
Name <u>CHUCK CAMPOS,</u>	Activity <u>New Well</u>
Mailing Address <u>7033 Morgan Territory</u>	Planned Use <u>Water Supply Irrigation - Landscape</u>
City <u>Livermore</u> State <u>CA</u> Zip <u>94551</u>	

Well Location		
Address <u>7033 Morgan Territory RD</u>	APN _____	
City <u>Livermore</u> Zip <u>94551</u> County <u>Amador</u>	Township _____	
Latitude <u>37° 45' 36.27" N</u> Longitude <u>121° 46' 44.01" W</u>	Range _____	
Deg. Min. Sec. Deg. Min. Sec.	Section _____	
Dec. Lat. _____ Dec. Long. _____	Baseline Meridian _____	
Vertical Datum _____ Horizontal Datum <u>WGS84</u>	Ground Surface Elevation _____	
Location Accuracy _____ Location Determination Method _____	Elevation Accuracy _____	
	Elevation Determination Method _____	

Borehole Information	
Orientation <u>Vertical</u> Specify _____	
Drilling Method <u>Auger</u> Drilling Fluid <u>Air</u>	
Total Depth of Boring <u>680</u> Feet	
Total Depth of Completed Well <u>680</u> Feet	

Water Level and Yield of Completed Well	
Depth to first water _____ (Feet below surface)	
Depth to Static _____	
Water Level _____ (Feet) Date Measured _____	
Estimated Yield* <u>2</u> (GPM) Test Type _____	
Test Length <u>4</u> (Hours) Total Drawdown _____ (feet)	
*May not be representative of a well's long term yield.	

Geologic Log - Free Form		
Depth from Surface	Feet to Feet	Description
0	25	clay
25	30	rock
30	70	sand stone
70	140	dry clay
140	200	gray slate
200	213	clay
213	238	sand stone
238	260	dry clay
260	300	black slate
300	445	sandy clay
445	465	sand stone
465	515	sandy clay
515	600	soft clay
600	680	sand stone

Casings										
Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	680	Conductor or Fill Pipe	PVC	OD: 5.563 in.   SDR: 21   Thickness: 0.265 in.	0.265	5.563			

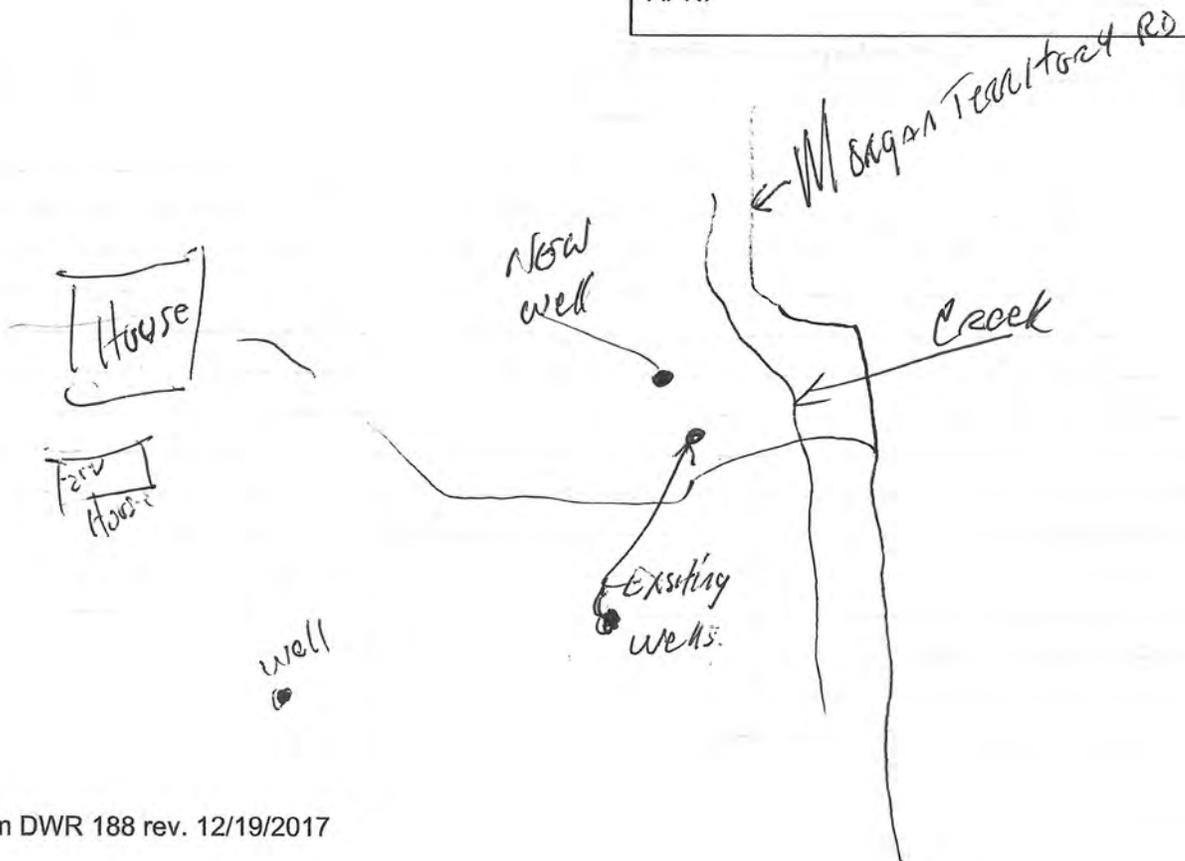
Annular Material					
Depth from Surface Feet to Feet	Fill	Fill Type Details		Filter Pack Size	Description
0	680	Filter Pack	8 x 12		

**Other Observations:**

Borehole Specifications		
Depth from Surface Feet to Feet	Borehole Diameter (inches)	
0	680	10

Certification Statement			
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief			
Name	PACIFIC COAST WELL & PUMP INC		
	Person, Firm or Corporation		
2415 SAN RAMON VALLEY BLVD	SAN RAMON	CA	94583
Address	City	State	Zip
Signed	electronic signature received	10/24/2018	810579
	C-57 Licensed Water Well Contractor	Date Signed	C-57 License Number

DWR Use Only			
CSG #	State Well Number	Site Code	Local Well Number
		N	W
Latitude Deg/Min/Sec		Longitude Deg/Min/Sec	
TRS:			
APN:			



MORGAN TERRITORY WELL

COMPANY : MORGAN TERRITORY  
 WELL : MORGAN TERRITORY WELL  
 LOCATION/FIELD : LIVERMORE  
 COUNTY : ALAMEDA  
 LOCATION : CA  
 SECTION : NA

OTHER SERVICES:  
 INVOICE  
 072718  
 900 PPM

TOWNSHIP : NA RANGE : NA

DATE : 07/27/18  
 DEPTH DRILLER : 565FT  
 LOG BOTTOM : 564.80  
 LOG TOP : 0.60

PERMANENT DATUM : G.L.  
 LOG MEASURED FROM: G.L.  
 DRL MEASURED FROM: G.L.  
 KB : NA  
 DF : NA  
 GL : NA

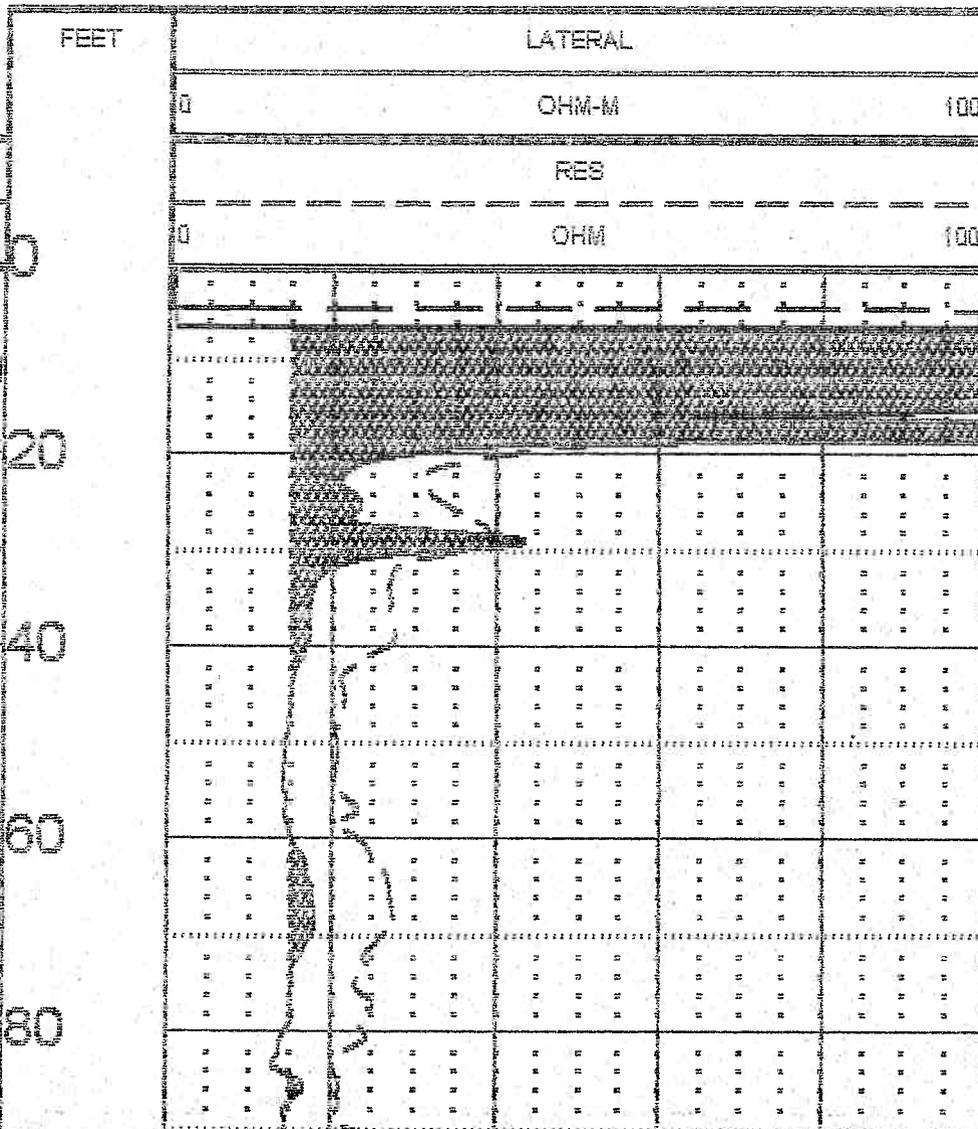
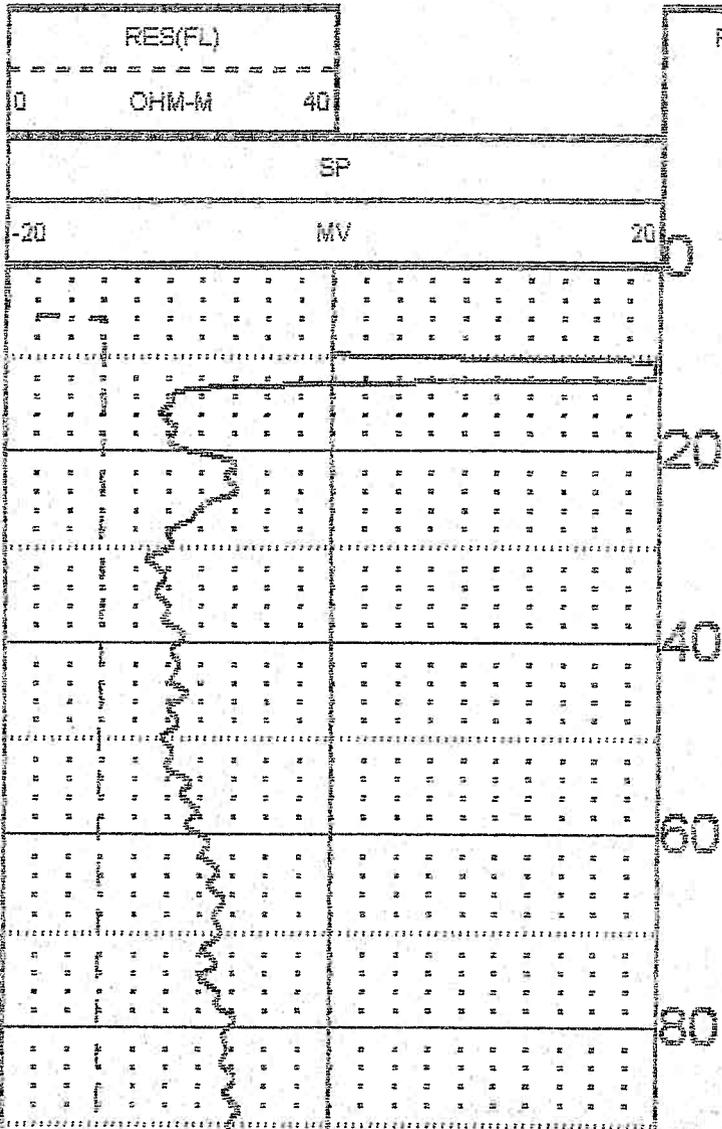
CASING DIAMETER :  
 CASING TYPE :  
 CASING THICKNESS:  
 LOGGING UNIT : 1,TR  
 FIELD OFFICE :  
 RECORDED BY : AJ

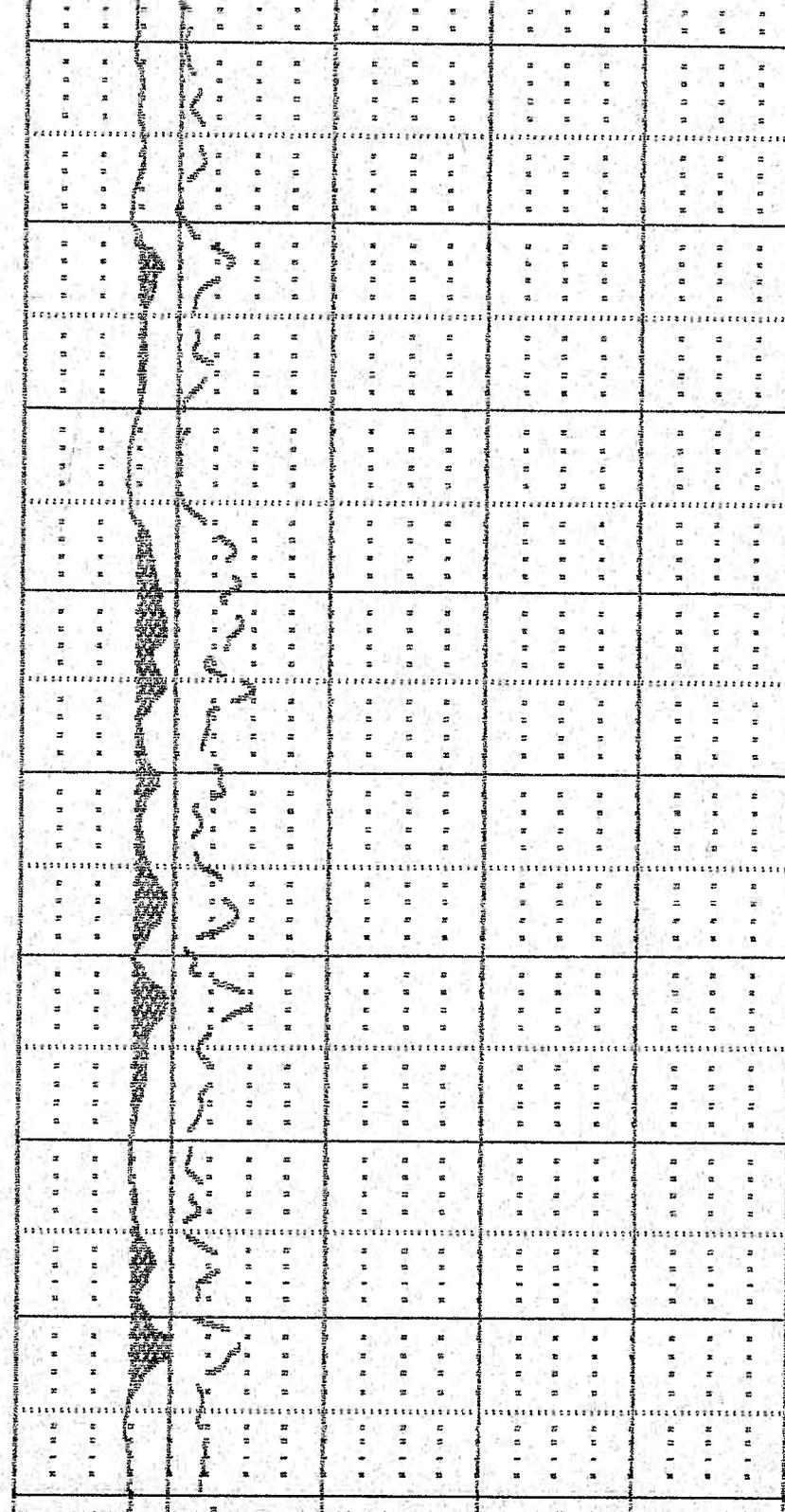
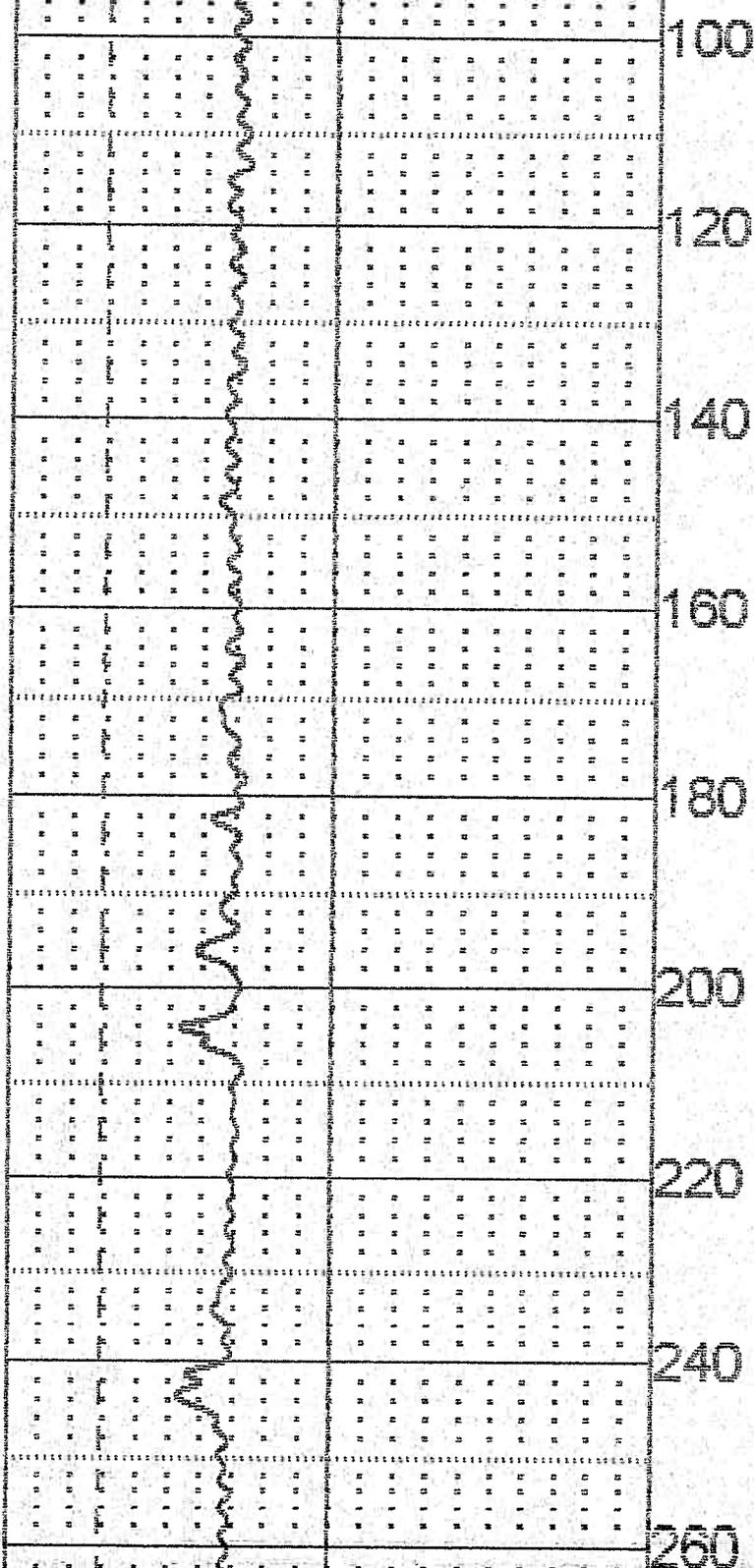
BIT SIZE : 9 7/8 I  
 MAGNETIC DECL. : 15  
 MATRIX DENSITY : 2.85  
 NEUTRON MATRIX : DOLOMITE  
 BOREHOLE FLUID : CLAYGEL  
 RM : 78  
 RM TEMPERATURE : 82  
 MATRIX DELTA T : 44  
 FILE : ORIGINAL  
 TYPE : 9144A  
 LGDATE: 07/27/18

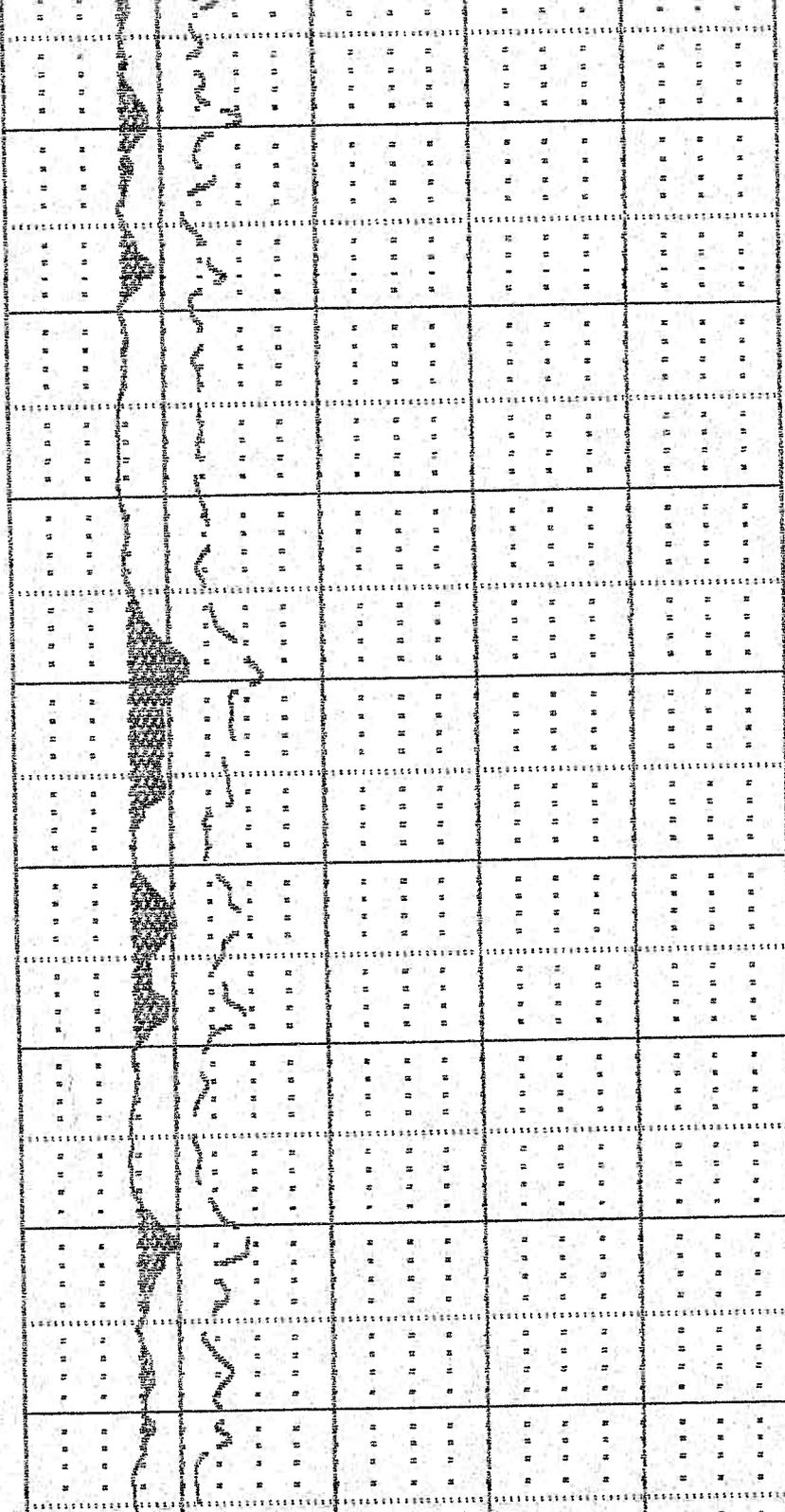
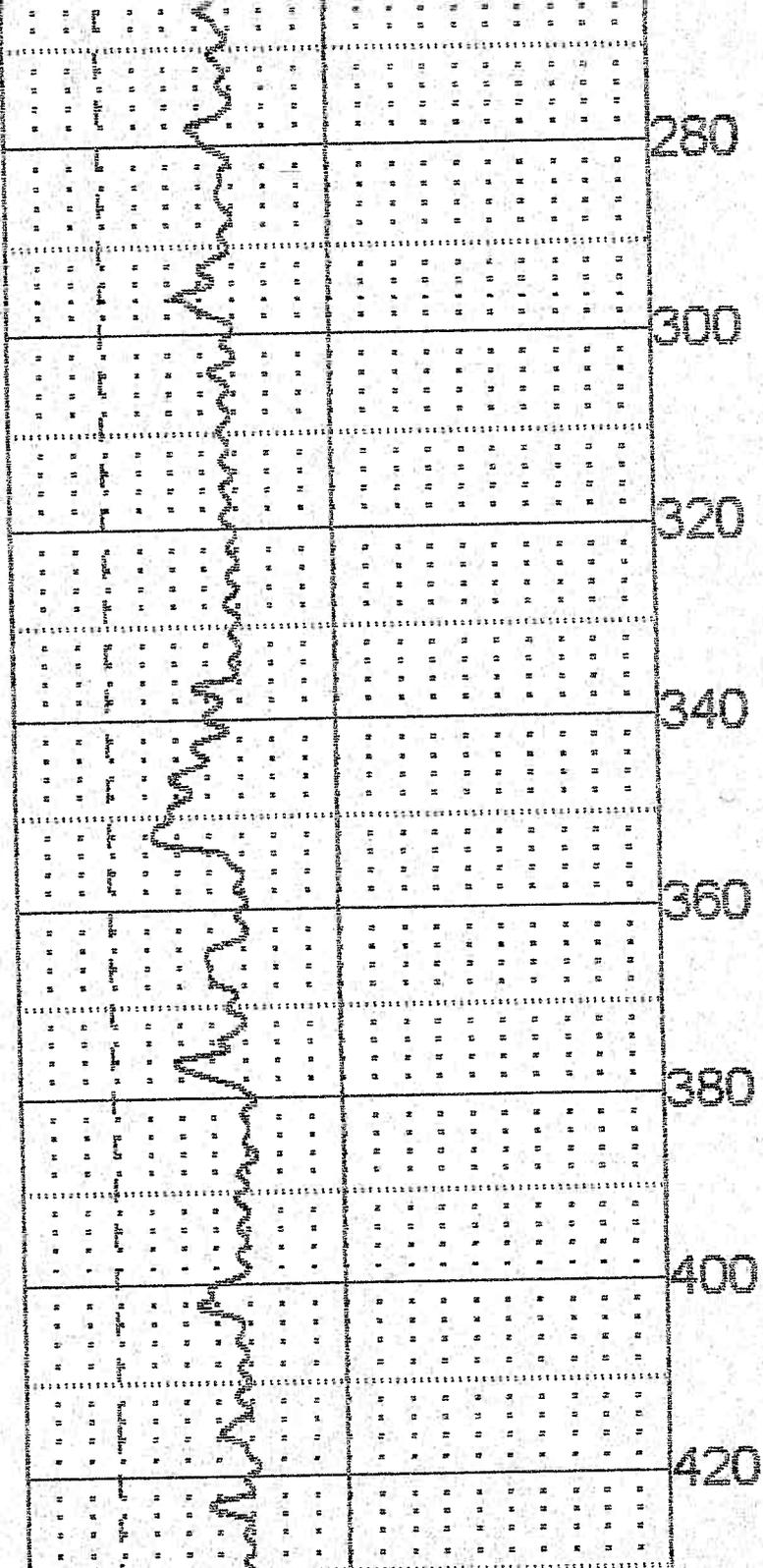
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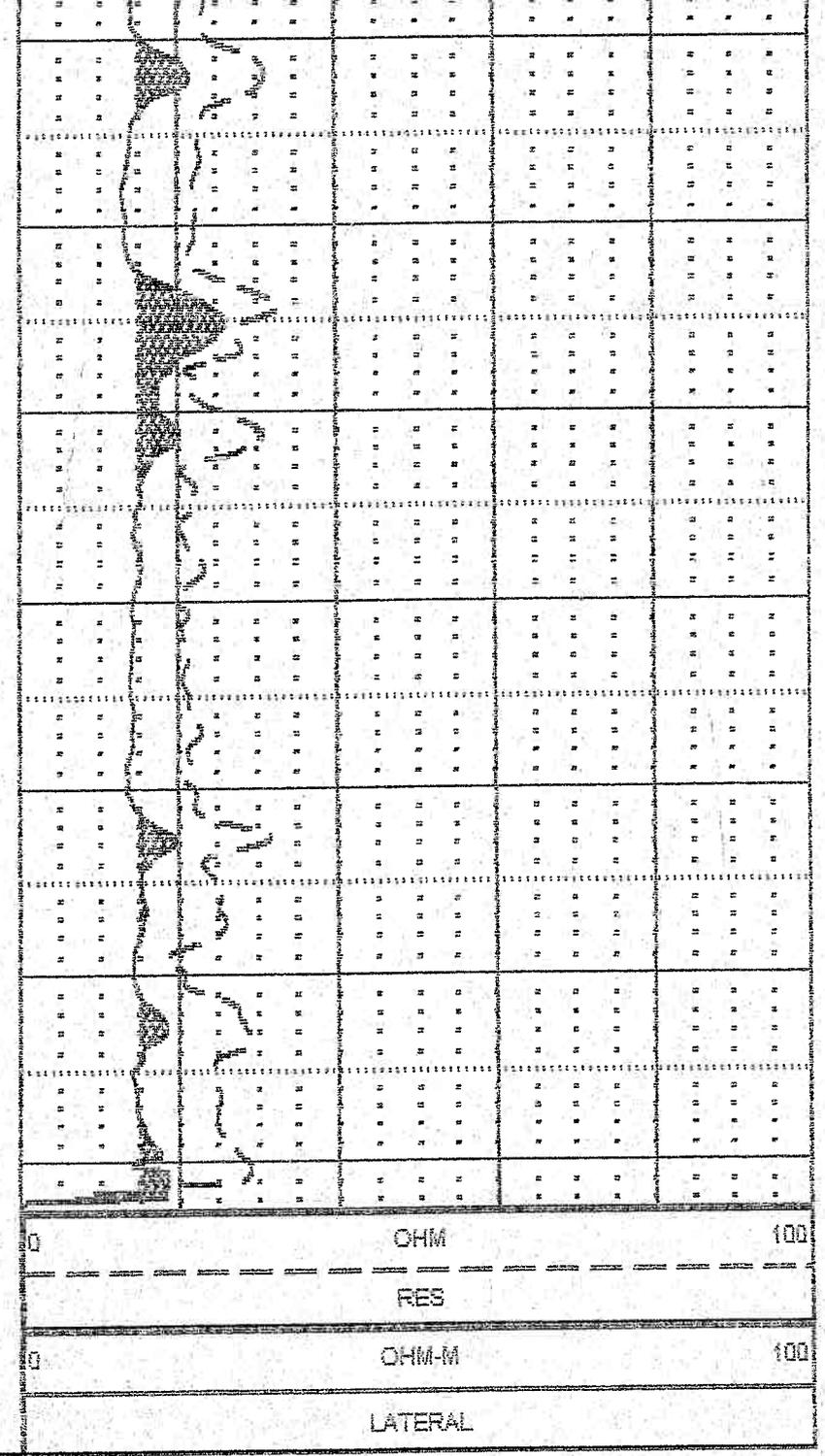
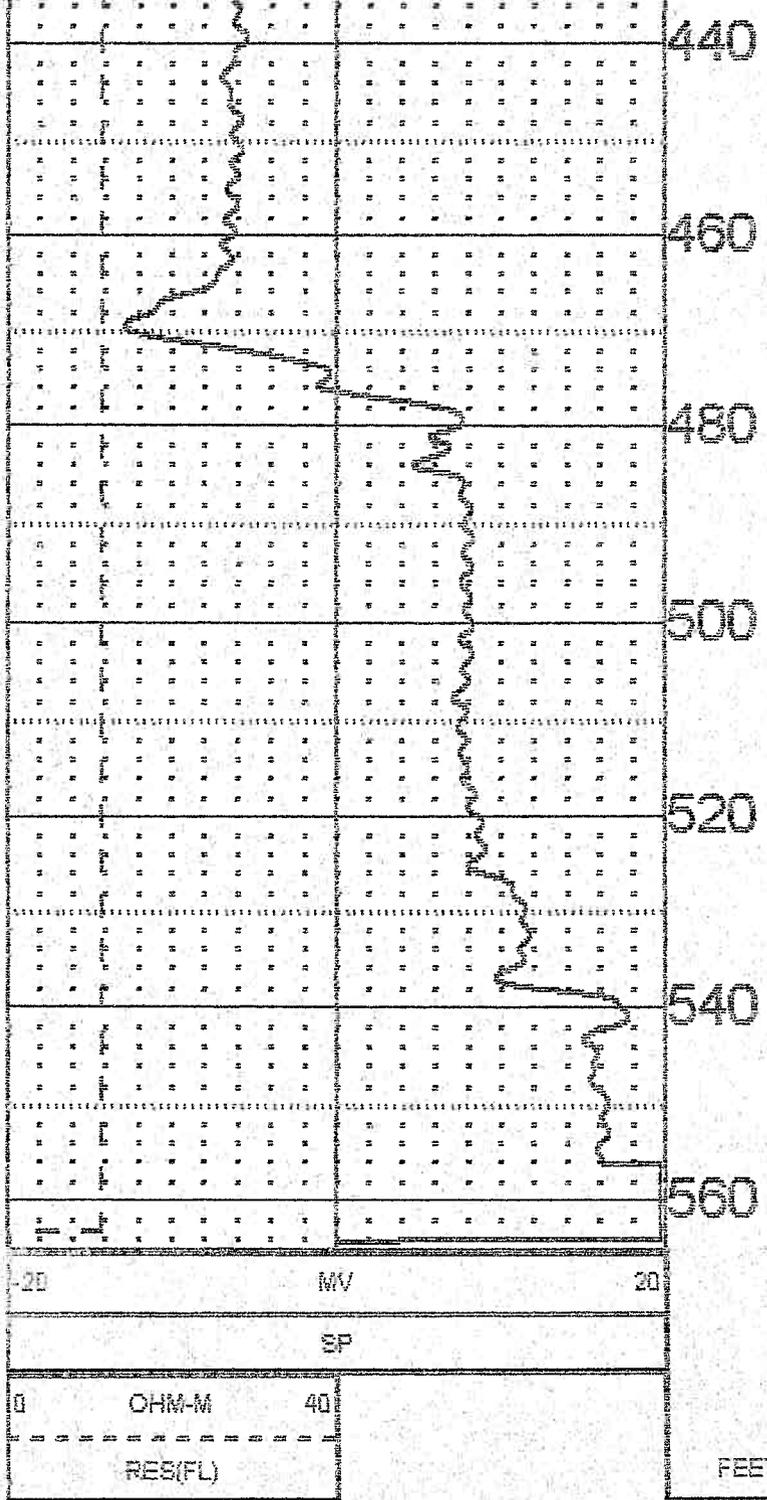
37.76007 -121.778754  
 PACIFIC COAST

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS









## **APPENDIX D**

### **Analytical Laboratory Reports**

**Balance Hydrologics, Inc.**  
 Mark Woyshner  
 800 Bancroft Way, Suite 101  
 Berkeley, CA 94710

4 Justin Court Suite D, Monterey, CA 93940  
 831.375.MBAS (6227)  
 www.MBASinc.com

ELAP Certification Number: 2385

Tuesday, July 23, 2019

**Lab Number: 190715\_01-01    Sample Description: Oasis Well #1**

Collection Date/Time: 7/13/2019    12:00    Sample Collector: Woyshner M    Client Sample #: 218172  
 Submittal Date/Time: 7/15/2019    8:44    System ID:

Analyte	Method	Unit	Result	Dil.	Qual	PQL	MCL	Analysis Date / Time	Analyst
Anion-Cation Balance	Calculation	%	6	1					
QC Anion Sum x 100	Calculation	%	95	1					
QC Cation Sum x 100	Calculation	%	108	1					
QC Ratio TDS/SEC	Calculation	NA	0.71	1					
Boron	EPA200.7	mg/L	3.25	1		0.05		7/22/2019 15:07	MW
Calcium	EPA200.7	mg/L	4	1		1		7/22/2019 15:07	MW
Magnesium	EPA200.7	mg/L	ND	1		0.5		7/22/2019 15:07	MW
Potassium	EPA200.7	mg/L	1.8	1		0.5		7/22/2019 15:07	MW
Sodium	EPA200.7	mg/L	144	1		1		7/22/2019 15:07	MW
Chloride	EPA300.0	mg/L	55	1		1	250	7/16/2019 16:35	MW
Nitrate as N	EPA300.0	mg/L	0.3	1	H	0.1	10	7/16/2019 16:35	MW
Sulfate	EPA300.0	mg/L	43	1		1	250	7/16/2019 16:35	MW
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	166	1		10		7/15/2019 16:10	OW
Bicarbonate (as HCO3-)	SM2320B	mg/L	162	1		10			
Carbonate as CaCO3	SM2320B	mg/L	33	1		10		7/15/2019 16:10	OW
Hardness (as CaCO3)	SM2340B/Calc	mg/L	12	1		10			
Specific Conductance (EC)	SM2510B	µmhos/cm	610	1		1	900	7/15/2019 16:10	OW
Total Dissolved Solids	SM2540C	mg/L	432	1		10	500	7/17/2019 16:41	LM
pH (Laboratory)	SM4500-H+B	pH (H)	8.8	1		0.1	8.5	7/15/2019 16:10	OW
SAR (Sodium Adsorption Ratio)	Suarez, 1981	NA	18.6	1					
SAR, Adjusted	Suarez, 1981	NA	18.6	1					

Report Approved by:



David Holland, Laboratory Director

mg/L : Milligrams per liter (=ppm)  
 H = Analyzed outside of hold time  
 MDL = Method Detection Limit

µg/L : Micrograms per liter (=ppb)  
 E = Analysis performed by External Laboratory; See Report attachments  
 J = Result is less than PQL

PQL : Practical Quantitation Limit  
 ND = Non Detect

MCL : Maximum Contamination Level  
 T = Temperature Exceedance

**Balance Hydrologics, Inc.**  
 Mark Woyshner  
 800 Bancroft Way, Suite 101  
 Berkeley, CA 94710

4 Justin Court Suite D, Monterey, CA 93940  
 831.375.MBAS (6227)  
 www.MBASinc.com

ELAP Certification Number: 2385

Tuesday, July 23, 2019

## QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
QC19071708	190715_23-03: Duplicate 1	Alkalinity, Total (as CaCO <sub>3</sub> )	128.0	mg/L		0.8	0 - 10
	CCVB 1	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1	
	LCS 1	Alkalinity, Total (as CaCO <sub>3</sub> )	41.0	mg/L	103		95 - 105
	LCSD 1	Alkalinity, Total (as CaCO <sub>3</sub> )	40.0	mg/L	100	2.5	0 - 10
	LCSL 1	Alkalinity, Total (as CaCO <sub>3</sub> )	9.8	mg/L	98		80 - 120
	Method Blank 1	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1	
QC19072313	190715_23-01: MS 1	Boron	1.4	mg/L	106		70 - 130
	190715_23-01: MSD 1	Boron	1.41	mg/L	107	0.7	0 - 20
	CCVB 1	Boron	ND	mg/L		< 0.1	
	LCB 1	Boron	ND	mg/L		< 0.1	
	LCS 1	Boron	1.03	mg/L	103		95 - 105
	LCSD 1	Boron	1.07	mg/L	107	3.2	0 - 10
	LFB 1	Boron	1.11	mg/L	111		85 - 115
	LFBD 1	Boron	1.13	mg/L	113	1.3	0 - 20
	Method Blank 1	Boron	ND	mg/L		< 0.1	
	QCS 1	Boron	1.02	mg/L	102		95 - 105
	190715_23-01: MS 1	Calcium	120.0	mg/L	109		70 - 130
	190715_23-01: MSD 1	Calcium	119.1	mg/L	108	1.7	0 - 20
	CCVB 1	Calcium	ND	mg/L		< 0.1	
	LCB 1	Calcium	ND	mg/L		< 0.1	
	LCS 1	Calcium	51.72	mg/L	103		95 - 105
	LCSD 1	Calcium	52.8	mg/L	106	2.1	0 - 10
	LFB 1	Calcium	54.99	mg/L	110		85 - 115
	LFBD 1	Calcium	55.35	mg/L	111	0.7	0 - 20
	Method Blank 1	Calcium	ND	mg/L		< 0.1	
	QCS 1	Calcium	50.87	mg/L	102		95 - 105
QC19071712	190716_02-02: MS 1	Chloride	19.87	mg/L	96		80 - 120
	190716_02-02: MSD 1	Chloride	19.56	mg/L	95	1.6	0 - 10
	CCVB 1	Chloride	ND	mg/L		< 0.1	
	LCS 1	Chloride	19.83	mg/L	99		90 - 110
	LCSD 1	Chloride	20.06	mg/L	100	1.1	0 - 10
	LCSL 1	Chloride	1.69	mg/L	84		50 - 150
	Method Blank 1	Chloride	ND	mg/L		< 0.1	
QC19072313	190715_23-01: MS 1	Magnesium	92.04	mg/L	111		70 - 130
	190715_23-01: MSD 1	Magnesium	93.34	mg/L	114	2.3	0 - 20

**Balance Hydrologics, Inc.**  
 Mark Woyshner  
 800 Bancroft Way, Suite 101  
 Berkeley, CA 94710

4 Justin Court Suite D, Monterey, CA 93940  
 831.375.MBAS (6227)  
 www.MBASinc.com

ELAP Certification Number: 2385

Tuesday, July 23, 2019

## QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
	CCVB 1	Magnesium	ND	mg/L		< 0.1	
	LCB 1	Magnesium	ND	mg/L		< 0.1	
	LCS 1	Magnesium	51.59	mg/L	103		95 - 105
	LCSD 1	Magnesium	53.75	mg/L	107	4.1	0 - 10
	LFB 1	Magnesium	51.9	mg/L	104		85 - 115
	LFBD 1	Magnesium	52.2	mg/L	104	0.6	0 - 20
	Method Blank 1	Magnesium	ND	mg/L		< 0.1	
	QCS 1	Magnesium	51.5	mg/L	103		95 - 105
QC19071712	190716_02-02: MS 1	Nitrate as N	1.94	mg/L	93		80 - 120
	190716_02-02: MSD 1	Nitrate as N	1.88	mg/L	90	3.1	0 - 10
	CCVB 1	Nitrate as N	ND	mg/L		< 0.1	
	LCS 1	Nitrate as N	1.98	mg/L	99		90 - 110
	LCSD 1	Nitrate as N	2.0	mg/L	100	1.4	0 - 10
	LCSL 1	Nitrate as N	0.16	mg/L	81		50 - 150
	Method Blank 1	Nitrate as N	ND	mg/L		< 0.1	
QC19071705	190715_23-03: Duplicate 1	pH (Laboratory)	7.3	pH (H)		< 0.1	0 - 10
	LCS 1	pH (Laboratory)	6.84	pH (H)	99		95 - 105
QC19072313	190715_23-01: MS 1	Potassium	33.95	mg/L	107		70 - 130
	190715_23-01: MSD 1	Potassium	33.68	mg/L	105	2.6	0 - 20
	CCVB 1	Potassium	ND	mg/L		< 0.1	
	LCB 1	Potassium	ND	mg/L		< 0.1	
	LCS 1	Potassium	10.34	mg/L	103		95 - 105
	LCSD 1	Potassium	10.96	mg/L	110	5.9	0 - 10
	LFB 1	Potassium	10.4	mg/L	104		85 - 115
	LFBD 1	Potassium	11.31	mg/L	113	8.4	0 - 20
	Method Blank 1	Potassium	ND	mg/L		< 0.1	
	QCS 1	Potassium	10.1	mg/L	101		95 - 105
	190715_23-01: MS 1	Sodium	143.8	mg/L	83		70 - 130
	190715_23-01: MSD 1	Sodium	148.4	mg/L	92	10.3	0 - 20
	CCVB 1	Sodium	ND	mg/L		< 0.1	
	LCB 1	Sodium	ND	mg/L		< 0.1	
	LCS 1	Sodium	51.45	mg/L	103		95 - 105
	LCSD 1	Sodium	51.94	mg/L	104	0.9	0 - 10
	LFB 1	Sodium	55.53	mg/L	111		85 - 115
	LFBD 1	Sodium	53.8	mg/L	108	3.2	0 - 20

**Balance Hydrologics, Inc.**  
 Mark Woyshner  
 800 Bancroft Way, Suite 101  
 Berkeley, CA 94710

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 831.375.MBAS (6227)  
 www.MBASinc.com

ELAP Certification Number: 2385

Tuesday, July 23, 2019

### QC Results

<u>QC Batch ID</u>	<u>QC ID</u>	<u>Parameter</u>	<u>Results</u>	<u>Units</u>	<u>% Rec</u>	<u>% RPD</u>	<u>Control Limit</u>
	Method Blank 1	Sodium	ND	mg/L		< 0.1	
	QCS 1	Sodium	49.92	mg/L	100		95 - 105
QC19071704	190710_23-01: Duplicate 1	Specific Conductance (EC)	532.0	µmhos/cm		7.6	0 - 25
	190711_49-01: Duplicate 2	Specific Conductance (EC)	1181.0	µmhos/cm		1.0	0 - 25
	190715_23-03: Duplicate 3	Specific Conductance (EC)	1221.0	µmhos/cm		0.6	0 - 25
	LCS 1	Specific Conductance (EC)	1352.0	µmhos/cm	96		80 - 120
	LCSH 1	Specific Conductance (EC)	24610.0	µmhos/cm	99		80 - 120
	LCSL 1	Specific Conductance (EC)	147.0	µmhos/cm	100		80 - 120
QC19071712	190716_02-02: MS 1	Sulfate	20.04	mg/L	97		80 - 120
	190716_02-02: MSD 1	Sulfate	19.65	mg/L	95	2.0	0 - 10
	CCVB 1	Sulfate	ND	mg/L		< 0.1	
	LCS 1	Sulfate	20.33	mg/L	102		90 - 110
	LCSD 1	Sulfate	20.67	mg/L	103	1.7	0 - 10
	LCSL 1	Sulfate	1.64	mg/L	82		50 - 150
	Method Blank 1	Sulfate	ND	mg/L		< 0.1	
QC19071905	190715_23-03: Duplicate 1	Total Dissolved Solids	736.0	mg/L		1.9	0 - 10
	CCVB 1	Total Dissolved Solids	2.0	mg/L	2	2.0	
	LCS 1	Total Dissolved Solids	494.0	mg/L	99		90 - 110
	LCSD 1	Total Dissolved Solids	504.0	mg/L	101	2.0	0 - 10
	LCSL 1	Total Dissolved Solids	42.0	mg/L	84		50 - 150
	Method Blank 1	Total Dissolved Solids	ND	mg/L		< 0.1	



**Monterey Bay Analytical Services**

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Tuesday, July 23, 2019

**Balance Hydrologics, Inc.**

Mark Woyshner

800 Bancroft Way, Suite 101

Berkeley, CA 94710

**Sample Condition Upon Receipt**

**Order ID: 190715\_01**

Is there evidence of chilling?

Yes, received via Fed Ex.

\*NOTE: Systems are encouraged but not required to hold samples  
<10°C (Microbiology) or <6°C (Chemistry) during transit.

---

Did bottle arrive intact?

Yes

---

Did bottle labels agree with COC?

Yes

---

Adequate sample volume?

Yes

---

Sample preservative (HNO<sub>3</sub>, NaOH, H<sub>2</sub>SO<sub>4</sub>, Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, HCl, Other)

#01 = 250mL pres. w/ HNO<sub>3</sub>, pH<2 IG

190715\_01

# Monterey Bay Analytical Services Chain Of Custody / Analysis Request

4 Justin Ct. Suite D • Monterey, Ca 93940 • (831) 375-MBAS (6227) • (831) 641-0734 (Fax)



Client/Company Name: <i>Balance Hydrologics</i>	Attention: <i>Mark Woyshner</i>	irrigation suitability	Analysis Requested			
Billing Address: <i>800 Bancroft Way, Suite 101, Berkeley, CA</i>						
E-Mail Address(es): <i>mwoyshner@balancehydro.com</i>	Contract/P.O. #: <i>218172</i>					
Turn Around Time: STD (7-14 Days) <input type="checkbox"/> 48-Hour <input type="checkbox"/> 5-Day <input type="checkbox"/> 24-Hour <input type="checkbox"/>			Phone # <i>510-459-1522</i>			
System ID Number: _____		Fax #				
Project/System Information:		Drinking water <input type="checkbox"/> Wastewater <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Soil <input type="checkbox"/> Sludge <input type="checkbox"/> Other <input checked="" type="checkbox"/>				

For Regulatory Compliance? YES  NO   
 For State or Local Health Department reporting:  
 Electronic Data Transfer (EDT)? YES  NO   
 System ID Number: \_\_\_\_\_

MBAS Lab #	Project ID or Source Code #	Sample Site / Description (Well Name, APN#, Address, Stormdrain #)	Sampling		Receiving Temp.	CL2 Residual	Coliform Analysis					# Cont.	Container					
			Date	Time			Routine	Other	Repeat	Special	Type		Size					
<i>01</i>	<i>218172</i>	<i>Oasis Well #1</i>	<i>7/13/19</i>	<i>12:00</i>	<i>3.9</i>						<i>2</i>	<i>plastic</i>	<i>250ml</i> <i>1L</i> <i>EG</i>	<i>X</i>				

	Printed Name	Signature	Date	Time	Comments or Special Instructions:
Sampled by:	<i>Mark Woyshner</i>	<i>Mark Woyshner</i>			<i>rec'd via fedex 7/15/19 0844</i>
Relinquished by:					
Received by:	<i>Holly Chiswell</i>	<i>Holly Chiswell</i>	<i>7/15/19</i>	<i>0844</i>	
Relinquished by:					
Received by:					

Payment received      Check # \_\_\_\_\_      Amount: \_\_\_\_\_      Receipt # \_\_\_\_\_      Date: \_\_\_\_\_

Report Amendments Date: 7/25/19 Initials: SS  
 This amended report supersedes any previous reports issued by the laboratory. Amendments to this report are as follows: Corrected result for Bicarbonate and updated results for Boron (and other EPA 200.7 analytes) with data from reanalysis 7/24/19, per M. Woyshner's e-mail request 7/24 for re-check.



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ELAP Certification Number: 2385

Thursday, July 25, 2019

**Balance Hydrologics, Inc.**  
 Mark Woyshner  
 800 Bancroft Way, Suite 101  
 Berkeley, CA 94710

**Lab Number: 190711\_10-01 Sample Description: Oasis Well #2**

Collection Date/Time: 7/10/2019 14:30 Sample Collector: Woyshner M Client Sample #: 218172  
 Submittal Date/Time: 7/11/2019 10:00 System ID:

Analyte	Method	Unit	Result	Dil.	Qual	PQL	MCL	Analysis Date / Time	Analyst
Anion-Cation Balance	Calculation	%	1	1					
QC Anion Sum x 100	Calculation	%	115	1					
QC Cation Sum x 100	Calculation	%	116	1					
QC Ratio TDS/SEC	Calculation	NA	0.67	1					
Boron	EPA200.7	mg/L	0.41	1		0.05		7/24/2019 14:57	MW
Calcium	EPA200.7	mg/L	30	1		1		7/24/2019 14:57	MW
Magnesium	EPA200.7	mg/L	7	1		0.5		7/24/2019 14:57	MW
Potassium	EPA200.7	mg/L	2.9	1		0.5		7/24/2019 14:57	MW
Sodium	EPA200.7	mg/L	138	1		1		7/24/2019 14:57	MW
Chloride	EPA300.0	mg/L	100	1	LN	1	250	7/11/2019 21:32	BS
<i>LN: MS and/or MSD below acceptance limits.</i>									
Nitrate as N	EPA300.0	mg/L	9.2	1		0.1	10	7/11/2019 21:32	BS
Sulfate	EPA300.0	mg/L	17	1		1	250	7/11/2019 21:32	BS
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	226	1		10		7/15/2019 14:00	OW
Bicarbonate (as HCO3-)	SM2320B	mg/L	276	1		10		7/15/2019 14:00	OW
Carbonate as CaCO3	SM2320B	mg/L	ND	1		10		7/15/2019 14:00	OW
Hardness (as CaCO3)	SM2340B/Calc	mg/L	95	1		10			
Specific Conductance (EC)	SM2510B	µmhos/cm	728	1		1	900	7/15/2019 11:52	OW
Total Dissolved Solids	SM2540C	mg/L	488	1		10	500	7/11/2019 16:17	OW
pH (Laboratory)	SM4500-H+B	pH (H)	7.7	1		0.1	8.5	7/11/2019 16:45	OW
SAR (Sodium Adsorption Ratio)	Suarez, 1981	NA	6.6	1					
SAR, Adjusted	Suarez, 1981	NA	8.0	1					

Report Approved by:   
 David Holland, Laboratory Director

mg/L : Milligrams per liter (=ppm)      µg/L : Micrograms per liter (=ppb)      PQL : Practical Quantitation Limit      MCL : Maximum Contamination Level  
 H = Analyzed outside of hold time      E = Analysis performed by External Laboratory; See Report attachments      T = Temperature Exceedance  
 MDL = Method Detection Limit      J = Result is less than PQL      ND = Non Detect



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ELAP Certification Number: 2385

Thursday, July 25, 2019

## QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
QC19071508	190712_04-01: Duplicate 1	Alkalinity, Total (as CaCO <sub>3</sub> )	310.0	mg/L		< 0.1	0 - 10
	CCVB 1	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1	
	LCS 1	Alkalinity, Total (as CaCO <sub>3</sub> )	38.0	mg/L	95		95 - 105
	LCSD 1	Alkalinity, Total (as CaCO <sub>3</sub> )	39.0	mg/L	98	2.6	0 - 10
	Method Blank 1	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1	
QC19072419	190723_21-01: MS 1	Boron	1.07	mg/L	91		70 - 130
	190723_21-01: MSD 1	Boron	1.07	mg/L	91	0.3	0 - 20
	CCVB 1	Boron	ND	mg/L		< 0.1	
	LCB 1	Boron	ND	mg/L		< 0.1	
	LCS 1	Boron	0.97	mg/L	97		95 - 105
	LCSD 1	Boron	0.97	mg/L	97	0.2	0 - 10
	LFB 1	Boron	0.98	mg/L	98		85 - 115
	LFBD 1	Boron	1.01	mg/L	101	2.7	0 - 20
	Method Blank 1	Boron	ND	mg/L		< 0.1	
	QCS 1	Boron	0.96	mg/L	96		95 - 105
	190723_21-01: MS 1	Calcium	48.14	mg/L	95		70 - 130
	190723_21-01: MSD 1	Calcium	47.93	mg/L	94	0.4	0 - 20
	CCVB 1	Calcium	ND	mg/L		< 0.1	
	LCB 1	Calcium	ND	mg/L		< 0.1	
	LCS 1	Calcium	48.1	mg/L	96		95 - 105
	LCSD 1	Calcium	48.21	mg/L	96	0.2	0 - 10
	LFB 1	Calcium	51.29	mg/L	103		85 - 115
	LFBD 1	Calcium	50.31	mg/L	101	1.9	0 - 20
	Method Blank 1	Calcium	ND	mg/L		< 0.1	
	QCS 1	Calcium	48.01	mg/L	96		95 - 105
QC19071215	190711_10-01: MS 1	Chloride	110.8	mg/L	53		80 - 120
	190711_10-01: MSD 1	Chloride	110.5	mg/L	52	3.5	0 - 10
	CCVB 1	Chloride	ND	mg/L		< 0.1	
	LCS 1	Chloride	19.27	mg/L	96		90 - 110
	LCSD 1	Chloride	19.43	mg/L	97	0.8	0 - 10
	LCSL 1	Chloride	1.92	mg/L	96		50 - 150
	Method Blank 1	Chloride	ND	mg/L		< 0.1	
QC19072419	190723_21-01: MS 1	Magnesium	47.61	mg/L	95		70 - 130
	190723_21-01: MSD 1	Magnesium	47.93	mg/L	96	0.7	0 - 20
	CCVB 1	Magnesium	ND	mg/L		< 0.1	



Balance Hydrologics, Inc.  
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ELAP Certification Number: 2385

Thursday, July 25, 2019

## QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
	LCB 1	Magnesium	ND	mg/L		< 0.1	
	LCS 1	Magnesium	48.99	mg/L	98		95 - 105
	LCSD 1	Magnesium	49.05	mg/L	98	0.1	0 - 10
	LFB 1	Magnesium	50.74	mg/L	101		85 - 115
	LFBD 1	Magnesium	50.96	mg/L	102	0.4	0 - 20
	Method Blank 1	Magnesium	ND	mg/L		< 0.1	
	QCS 1	Magnesium	48.56	mg/L	97		95 - 105
QC19071215	190711_10-01: MS 1	Nitrate as N	10.87	mg/L	84		80 - 120
	190711_10-01: MSD 1	Nitrate as N	10.82	mg/L	81	3.1	0 - 10
	CCVB 1	Nitrate as N	ND	mg/L		< 0.1	
	LCS 1	Nitrate as N	1.92	mg/L	96		90 - 110
	LCSD 1	Nitrate as N	1.91	mg/L	95	0.5	0 - 10
	LCSL 1	Nitrate as N	0.18	mg/L	88		50 - 150
	Method Blank 1	Nitrate as N	ND	mg/L		< 0.1	
QC19071205	190711_49-01: Duplicate 1	pH (Laboratory)	7.2	pH (H)		1.4	0 - 10
	LCS 1	pH (Laboratory)	6.87	pH (H)	100		95 - 105
	LCSD 1	pH (Laboratory)	6.87	pH (H)	100	< 0.1	0 - 10
QC19072419	190723_21-01: MS 1	Potassium	9.92	mg/L	98		70 - 130
	190723_21-01: MSD 1	Potassium	10.14	mg/L	100	2.3	0 - 20
	CCVB 1	Potassium	ND	mg/L		< 0.1	
	LCB 1	Potassium	ND	mg/L		< 0.1	
	LCS 1	Potassium	9.75	mg/L	98		95 - 105
	LCSD 1	Potassium	10.11	mg/L	101	3.6	0 - 10
	LFB 1	Potassium	10.28	mg/L	103		85 - 115
	LFBD 1	Potassium	10.05	mg/L	101	2.3	0 - 20
	Method Blank 1	Potassium	ND	mg/L		< 0.1	
	QCS 1	Potassium	9.7	mg/L	97		95 - 105
	190723_21-01: MS 1	Sodium	225.6	mg/L	108		70 - 130
	190723_21-01: MSD 1	Sodium	228.2	mg/L	113	4.7	0 - 20
	CCVB 1	Sodium	ND	mg/L		< 0.1	
	LCB 1	Sodium	ND	mg/L		< 0.1	
	LCS 1	Sodium	48.34	mg/L	97		95 - 105
	LCSD 1	Sodium	50.11	mg/L	100	3.6	0 - 10
	LFB 1	Sodium	52.8	mg/L	106		85 - 115
	LFBD 1	Sodium	49.87	mg/L	100	5.7	0 - 20



## Monterey Bay Analytical Services

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ELAP Certification Number: 2385

Thursday, July 25, 2019

### Balance Hydrologics, Inc.

Mark Woyshner

800 Bancroft Way, Suite 101

Berkeley, CA 94710

## QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
	Method Blank 1	Sodium	ND	mg/L		< 0.1	
	QCS 1	Sodium	48.0	mg/L	96		95 - 105
QC19071501	190712_04-01: Duplicate 1	Specific Conductance (EC)	559.0	µmhos/cm		0.9	0 - 10
	LCS 1	Specific Conductance (EC)	1412.0	µmhos/cm	100		90 - 110
QC19071215	190711_10-01: MS 1	Sulfate	34.96	mg/L	90		80 - 120
	190711_10-01: MSD 1	Sulfate	35.11	mg/L	90	0.8	0 - 10
	CCVB 1	Sulfate	ND	mg/L		< 0.1	
	LCS 1	Sulfate	19.3	mg/L	96		90 - 110
	LCS D 1	Sulfate	19.41	mg/L	97	0.6	0 - 10
	LCS L 1	Sulfate	1.79	mg/L	89		50 - 150
	Method Blank 1	Sulfate	ND	mg/L		< 0.1	
QC19071507	190711_10-01: Duplicate 1	Total Dissolved Solids	464.0	mg/L		5.0	0 - 10
	CCVB 1	Total Dissolved Solids	ND	mg/L		< 0.1	
	LCS 1	Total Dissolved Solids	460.0	mg/L	92		90 - 110
	LCS D 1	Total Dissolved Solids	464.0	mg/L	93	0.9	0 - 10
	LCS L 1	Total Dissolved Solids	52.0	mg/L	104		50 - 150
	Method Blank 1	Total Dissolved Solids	ND	mg/L		< 0.1	



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ELAP Certification Number: 2385

Thursday, July 25, 2019

### **Sample Condition Upon Receipt**

**Order ID: 190711\_10**

Is there evidence of chilling?

Yes (Received via FedEx)

\*NOTE: Systems are encouraged but not required to hold samples  
 <10°C (Microbiology) or <6°C (Chemistry) during transit.

Did bottle arrive intact?

Yes

Did bottle labels agree with COC?

Yes

Adequate sample volume?

Yes

Sample preservative (HNO<sub>3</sub>, NaOH, H<sub>2</sub>SO<sub>4</sub>, Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, HCl, Other)

#01 = 250mL pres. w/ HNO<sub>3</sub>, pH<2 IG

190711 10 = MBAS Lab #

# Monterey Bay Analytical Services Chain Of Custody / Analysis Request

4 Justin Ct. Suite D • Monterey, Ca 93940 • (831) 375-MBAS (6227) • (831) 641-0734 (Fax)



Client/Company Name: <i>Balance Hydrologics</i>	Attention: <i>Mark Woyshner</i>	Analysis Requested			
Billing Address: <i>300 Bancroft Way, Suite 101, Berkeley, CA</i>					
E-Mail Address(es): <i>mwoyshner@balancehydro.com</i>	Contract/P.O. #: <i>213172</i>				
Turn Around Time: STD (7-14 Days) <input type="checkbox"/> 48-Hour <input type="checkbox"/> 5-Day <input type="checkbox"/> 24-Hour <input type="checkbox"/>	Phone #: <i>510-459-1522</i>				
Drinking water <input type="checkbox"/> Wastewater <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Soil <input type="checkbox"/> Sludge <input type="checkbox"/> Other <input checked="" type="checkbox"/>		Irrigation Suitability			

Project/System Information:

For Regulatory Compliance? YES  NO

For State or Local Health Department reporting: YES  NO

Electronic Data Transfer (EDT)? YES  NO

System ID Number: \_\_\_\_\_

MBAS Lab #	Project ID or Source Code #	Sample Site / Description (Well Name, APN#, Address, Stormdrain #)	Sampling		Receiving Temp.	CL2 Residual	Coliform Analysis				# Cont.	Container							
			Date	Time			Routine	Other	Repeat	Special		Type	Size						
01	213172	Oasis Well #2	7/10/19	14:30							1	plastic	L	X					

	Printed Name	Signature	Date	Time	Comments or Special Instructions:
Sampled by:	<i>Mark Woyshner</i>	<i>Mark Woyshner</i>			<i>Rec'd: FedEx</i>
Relinquished by:					
Received by:	<i>Levi Matsushin</i>	<i>Levi Matsushin</i>	<i>7/11/19</i>	<i>10:00</i>	
Relinquished by:					
Received by:					

Payment received      Check # \_\_\_\_\_      Amount: \_\_\_\_\_      Receipt # \_\_\_\_\_      Date: \_\_\_\_\_

This report has been amended  
The carbonate value was corrected.



**Balance Hydrologics, Inc.**  
Mark Woyshner  
800 Bancroft Way, Suite 101  
Berkeley, CA 94710

4 Justin Court Suite D, Monterey, CA 93940  
831.375.MBAS (6227)  
www.MBASinc.com

ELAP Certification Number: 2385

Friday, July 19, 2019

**Lab Number: 190619\_02-01 Sample Description: Well #3**

Collection Date/Time: 6/18/2019 13:08 Sample Collector: Porras G Client Sample #: 218172  
Submittal Date/Time: 6/19/2019 9:27 System ID:

Analyte	Method	Unit	Result	Dil.	Qual	PQL	MCL	Analysis Date / Time	Analyst
Anion-Cation Balance	Calculation	%	-2	1					
QC Anion Sum x 100	Calculation	%	100	1					
QC Cation Sum x 100	Calculation	%	97	1					
QC Ratio TDS/SEC	Calculation	NA	0.59	1					
Turbidity	EPA180.1	NTU	1.20	1		0.05	1	6/19/2019 10:10	IG
Boron	EPA200.7	mg/L	2.61	1	LO	0.05		6/20/2019 21:54	MW
<i>LO: MSD result unavailable. Acceptability based on LCS recovery.</i>									
Calcium	EPA200.7	mg/L	12	1	LO	1		6/20/2019 21:54	MW
Copper, Total	EPA200.7	µg/L	12	1	LO	10	1300	6/20/2019 21:54	MW
<i>LO: MSD result unavailable. Acceptability based on LCS recovery.</i>									
Iron, Total	EPA200.7	µg/L	25	1	LO	10	300	6/20/2019 21:54	MW
Magnesium	EPA200.7	mg/L	5	1	LO	0.5		6/20/2019 21:54	MW
Manganese, Total	EPA200.7	µg/L	ND	1	LO	10	50	6/20/2019 21:54	MW
Potassium	EPA200.7	mg/L	2.5	1	LO	0.5		6/20/2019 21:54	MW
Silica (SiO <sub>2</sub> ), Total	EPA200.7	mg/L	59	1	LO	0.5		6/20/2019 21:54	MW
Sodium	EPA200.7	mg/L	148	1	LO	1		6/20/2019 21:54	MW
Zinc, Total	EPA200.7	µg/L	ND	1	FX, LO	10	5000	6/20/2019 21:54	MW
<i>FX: Analyte present in the instrument blank but not in sample.; LO: MSD result unavailable. Acceptability based on LCS recovery.</i>									
Aluminum, Total	EPA200.8	µg/L	45	1		5	1000	6/25/2019 15:57	MW
Antimony, Total	EPA200.8	µg/L	ND	1		0.5	6	6/25/2019 15:57	MW
Arsenic, Total	EPA200.8	µg/L	39.9	1		0.5	10	6/25/2019 15:57	MW
Barium, Total	EPA200.8	µg/L	37.1	1		5	1000	6/25/2019 15:57	MW
Beryllium, Total	EPA200.8	µg/L	ND	1		0.5	4	6/25/2019 15:57	MW
Cadmium, Total	EPA200.8	µg/L	ND	1		0.25	5	6/25/2019 15:57	MW
Chromium, Total	EPA200.8	µg/L	1.3	1		1	50	6/25/2019 15:57	MW
Lead, Total	EPA200.8	µg/L	ND	1		1	15	6/25/2019 15:57	MW
Mercury, Total	EPA200.8	µg/L	ND	1		0.2	2	6/25/2019 15:57	MW
Nickel, Total	EPA200.8	µg/L	ND	1		5	100	6/25/2019 15:57	MW
Selenium, Total	EPA200.8	µg/L	1.5	1		1	50	6/25/2019 15:57	MW
Silver, Total	EPA200.8	µg/L	ND	1		1	100	6/25/2019 15:57	MW
Thallium, Total	EPA200.8	µg/L	ND	1		0.5	2	6/25/2019 15:57	MW
Bromide	EPA300.0	mg/L	0.2	1		0.1		6/19/2019 22:36	BS
Chloride	EPA300.0	mg/L	83	1		1	250	6/19/2019 22:36	BS
Fluoride	EPA300.0	mg/L	0.6	1		0.1	2	6/19/2019 22:36	BS

mg/L : Milligrams per liter (=ppm)  
H = Analyzed outside of hold time  
MDL = Method Detection Limit

µg/L : Micrograms per liter (=ppb)  
E = Analysis performed by External Laboratory; See Report attachments  
J = Result is less than PQL  
ND = Non Detect

PQL : Practical Quantitation Limit

MCL : Maximum Contamination Level  
T = Temperature Exceedance

**Balance Hydrologics, Inc.**  
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Friday, July 19, 2019

**Lab Number: 190619\_02-01    Sample Description: Well #3**

Collection Date/Time: 6/18/2019    13:08    Sample Collector: Porras G    Client Sample #: 218172  
 Submittal Date/Time: 6/19/2019    9:27    System ID:

Analyte	Method	Unit	Result	Dil.	Qual	PQL	MCL	Analysis Date / Time	Analyst
Nitrate as N	EPA300.0	mg/L	3.8	1	H	0.1	10	6/19/2019    22:36	BS
Nitrate+Nitrite as N	EPA300.0	mg/L	4.0	1	H, LN	0.1	10	6/19/2019    22:36	BS
<i>LN: MS and/or MSD below acceptance limits.</i>									
Nitrite as N	EPA300.0	mg/L	0.3	1	H, LN	0.1	1	6/19/2019    22:36	BS
Orthophosphate as P	EPA300.0	mg/L	ND	1	H, LM	0.1		6/19/2019    22:36	BS
<i>LM: MS and/or MSD above acceptance limits.</i>									
Sulfate	EPA300.0	mg/L	49	1		1	250	6/19/2019    22:36	BS
Cyanide, Available	OIA-1677-09	µg/L	ND	1	SS	2	150	6/28/2019    15:14	HC
<i>SS: Second Source recovery exceeds method control limit.</i>									
Color, Apparent (Unfiltered)	SM2120B	Color Units	3	1		3	15	6/19/2019    16:30	LM
Odor Threshold at 60 C	SM2150B	TON	1	1		1	3	6/19/2019    10:25	DJ
<i>Odor: ND</i>									
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	211	1		10		6/26/2019    15:50	LM
Bicarbonate (as HCO3-)	SM2320B	mg/L	257	1		10			
Carbonate as CaCO3	SM2320B	mg/L	ND	1		10		6/26/2019    15:50	LM
Hydroxide	SM2320B	mg/L	ND	1		10		6/26/2019    15:50	LM
Langlier Index, 15°C	SM2330B	NA	-0.64	1					
Langlier Index, 60°C	SM2330B	NA	0.19	1					
Hardness (as CaCO3)	SM2340B/Calc	mg/L	50	1		10			
Specific Conductance (EC)	SM2510B	µmhos/cm	772	1		1	900	6/26/2019    15:47	LM
Total Dissolved Solids	SM2540C	mg/L	456	1		10	500	6/20/2019    17:50	OW
pH (Laboratory)	SM4500-H+B	pH (H)	7.7	1		0.1	8.5	6/19/2019    17:00	LM
MBAS (Surfactants)	SM5540C	mg/L	ND	1		0.05		6/19/2019    16:42	LM

Report Approved by:   
 David Holland, Laboratory Director

mg/L : Milligrams per liter (=ppm)    µg/L : Micrograms per liter (=ppb)    PQL : Practical Quantitation Limit    MCL : Maximum Contamination Level  
 H = Analyzed outside of hold time    E = Analysis performed by External Laboratory; See Report attachments    T = Temperature Exceedance  
 MDL = Method Detection Limit    J = Result is less than PQL    ND = Non Detect

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ELAP Certification Number: 2385

Friday, July 19, 2019

### QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
QC19070103	190619_14-06: Duplicate 1	Alkalinity, Total (as CaCO <sub>3</sub> )	102.0	mg/L		1.0	0 - 10
	190619_46-01: Duplicate 2	Alkalinity, Total (as CaCO <sub>3</sub> )	155.0	mg/L		2.0	0 - 10
	190621_18-04: Duplicate 3	Alkalinity, Total (as CaCO <sub>3</sub> )	132.0	mg/L		< 0.1	0 - 10
	190625_19-02: Duplicate 4	Alkalinity, Total (as CaCO <sub>3</sub> )	180.0	mg/L		3.8	0 - 10
	190626_01-01: Duplicate 5	Alkalinity, Total (as CaCO <sub>3</sub> )	280.0	mg/L		1.8	0 - 10
	CCVB 1	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1	
	CCVB 2	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1	
	CCVB 3	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1	
	CCVB 4	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1	
	CCVB 5	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1	
	LCS 1	Alkalinity, Total (as CaCO <sub>3</sub> )	41.0	mg/L	103		95 - 105
	LCSD 1	Alkalinity, Total (as CaCO <sub>3</sub> )	39.0	mg/L	98	5.0	0 - 10
	LCSD 2	Alkalinity, Total (as CaCO <sub>3</sub> )	42.0	mg/L	105	2.4	0 - 10
	LCSD 3	Alkalinity, Total (as CaCO <sub>3</sub> )	40.0	mg/L	100	2.4	0 - 10
	LCSD 4	Alkalinity, Total (as CaCO <sub>3</sub> )	40.0	mg/L	100	2.4	0 - 10
	LCSD 5	Alkalinity, Total (as CaCO <sub>3</sub> )	40.0	mg/L	100	2.4	0 - 10
LCSL 1	Alkalinity, Total (as CaCO <sub>3</sub> )	9.9	mg/L	99		80 - 120	
Method Blank 1	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1		
QC19062710	190619_40-01: MS 1	Aluminum, Total	49.93	ug/L	94		70 - 130
	190619_40-01: MSD 1	Aluminum, Total	49.14	ug/L	93	1.7	0 - 20
	CCVB 1	Aluminum, Total	ND	ug/L		< 0.1	
	LCB 1	Aluminum, Total	ND	ug/L		< 0.1	
	LCS 1	Aluminum, Total	49.31	ug/L	99		85 - 115
	LCSD 1	Aluminum, Total	51.21	ug/L	102	3.8	0 - 20
	LFB 1	Aluminum, Total	55.97	ug/L	112		70 - 130
	LFBD 1	Aluminum, Total	55.1	ug/L	110	1.6	0 - 20
	Method Blank 1	Aluminum, Total	ND	ug/L		< 0.1	
	QCS 1	Aluminum, Total	49.96	ug/L	100		85 - 115
	190619_40-01: MS 1	Antimony, Total	57.14	ug/L	114		70 - 130
	190619_40-01: MSD 1	Antimony, Total	55.92	ug/L	112	2.2	0 - 20
	CCVB 1	Antimony, Total	ND	ug/L		< 0.1	
	LCB 1	Antimony, Total	ND	ug/L		< 0.1	
	LCS 1	Antimony, Total	52.54	ug/L	105		85 - 115
	LCSD 1	Antimony, Total	53.12	ug/L	106	1.1	0 - 20
LFB 1	Antimony, Total	52.52	ug/L	105		70 - 130	

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### QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
	LFBD 1	Antimony, Total	51.63	ug/L	103	1.7	0 - 20
	Method Blank 1	Antimony, Total	ND	ug/L		< 0.1	
	QCS 1	Antimony, Total	46.79	ug/L	94		85 - 115
	190619_40-01: MS 1	Arsenic, Total	62.65	ug/L	121		70 - 130
	190619_40-01: MSD 1	Arsenic, Total	62.14	ug/L	120	0.9	0 - 20
	CCVB 1	Arsenic, Total	ND	ug/L		< 0.1	
	LCB 1	Arsenic, Total	ND	ug/L		< 0.1	
	LCS 1	Arsenic, Total	50.72	ug/L	101		85 - 115
	LCSD 1	Arsenic, Total	55.2	ug/L	110	8.5	0 - 20
	LFB 1	Arsenic, Total	54.52	ug/L	109		70 - 130
	LFBD 1	Arsenic, Total	55.3	ug/L	111	1.4	0 - 20
	Method Blank 1	Arsenic, Total	ND	ug/L		< 0.1	
	QCS 1	Arsenic, Total	49.29	ug/L	99		85 - 115
	190619_40-01: MS 1	Barium, Total	185.9	ug/L	106		70 - 130
	190619_40-01: MSD 1	Barium, Total	183.7	ug/L	102	4.2	0 - 20
	CCVB 1	Barium, Total	ND	ug/L		< 0.1	
	LCB 1	Barium, Total	ND	ug/L		< 0.1	
	LCS 1	Barium, Total	52.26	ug/L	105		85 - 115
	LCSD 1	Barium, Total	51.75	ug/L	103	1.0	0 - 20
	LFB 1	Barium, Total	53.5	ug/L	107		70 - 130
	LFBD 1	Barium, Total	52.87	ug/L	106	1.2	0 - 20
	Method Blank 1	Barium, Total	ND	ug/L		< 0.1	
	QCS 1	Barium, Total	50.49	ug/L	101		85 - 115
	190619_40-01: MS 1	Beryllium, Total	56.07	ug/L	112		70 - 130
	190619_40-01: MSD 1	Beryllium, Total	54.93	ug/L	110	2.1	0 - 20
	CCVB 1	Beryllium, Total	ND	ug/L		< 0.1	
	LCB 1	Beryllium, Total	ND	ug/L		< 0.1	
	LCS 1	Beryllium, Total	50.64	ug/L	101		85 - 115
	LCSD 1	Beryllium, Total	53.37	ug/L	107	5.3	0 - 20
	Method Blank 1	Beryllium, Total	ND	ug/L		< 0.1	
QC19062110	190619_02-01: MS 1	Boron	3.34	mg/L	74		70 - 130
	CCVB 1	Boron	ND	mg/L		< 0.1	
	LCS 1	Boron	1.01	mg/L	101		95 - 105
	LCSD 1	Boron	0.97	mg/L	97	3.4	0 - 10
	LFB 1	Boron	1.07	mg/L	107		85 - 115



## Monterey Bay Analytical Services

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**Balance Hydrologics, Inc.**

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### QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
	LFBD 1	Boron	1.04	mg/L	104	2.1	0 - 20
	Method Blank 1	Boron	ND	mg/L		< 0.1	
	QCS 1	Boron	1.0	mg/L	100		95 - 105
QC19062005	190619_02-01: MS 1	Bromide	1.92	mg/L	88		80 - 120
	190619_02-01: MSD 1	Bromide	1.89	mg/L	86	2.2	0 - 10
	CCVB 1	Bromide	ND	mg/L		< 0.1	
	LCS 1	Bromide	2.04	mg/L	102		90 - 110
	LCSD 1	Bromide	2.21	mg/L	110	7.8	0 - 10
	LCSL 1	Bromide	0.15	mg/L	76		50 - 150
	Method Blank 1	Bromide	ND	mg/L		< 0.1	
QC19062710	190619_40-01: MS 1	Cadmium, Total	55.74	ug/L	111		70 - 130
	190619_40-01: MSD 1	Cadmium, Total	54.83	ug/L	110	1.6	0 - 20
	CCVB 1	Cadmium, Total	ND	ug/L		< 0.1	
	LCB 1	Cadmium, Total	ND	ug/L		< 0.1	
	LCS 1	Cadmium, Total	52.63	ug/L	105		85 - 115
	LCSD 1	Cadmium, Total	54.22	ug/L	108	3.0	0 - 20
	LFB 1	Cadmium, Total	56.24	ug/L	112		70 - 130
	LFBD 1	Cadmium, Total	54.32	ug/L	109	3.5	0 - 20
	Method Blank 1	Cadmium, Total	ND	ug/L		< 0.1	
	QCS 1	Cadmium, Total	50.77	ug/L	102		85 - 115
QC19062110	190619_02-01: MS 1	Calcium	58.17	mg/L	92		70 - 130
	CCVB 1	Calcium	ND	mg/L		< 0.1	
	LCS 1	Calcium	49.56	mg/L	99		95 - 105
	LCSD 1	Calcium	45.35	mg/L	91	8.9	0 - 10
	LFB 1	Calcium	53.34	mg/L	107		85 - 115
	LFBD 1	Calcium	52.5	mg/L	105	1.6	0 - 20
	Method Blank 1	Calcium	ND	mg/L		< 0.1	
	QCS 1	Calcium	49.95	mg/L	100		95 - 105
QC19062005	190619_02-01: MS 1	Chloride	105.7	mg/L	111		80 - 120
	190619_02-01: MSD 1	Chloride	104.5	mg/L	105	5.4	0 - 10
	CCVB 1	Chloride	ND	mg/L		< 0.1	
	LCS 1	Chloride	20.06	mg/L	100		90 - 110
	LCSD 1	Chloride	21.38	mg/L	107	6.4	0 - 10
	LCSL 1	Chloride	2.13	mg/L	106		50 - 150
	Method Blank 1	Chloride	ND	mg/L		< 0.1	

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Friday, July 19, 2019

## QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
QC19062710	190619_40-01: MS 1	Chromium, Total	59.01	ug/L	106		70 - 130
	190619_40-01: MSD 1	Chromium, Total	59.47	ug/L	107	0.9	0 - 20
	CCVB 1	Chromium, Total	ND	ug/L		< 0.1	
	LCB 1	Chromium, Total	ND	ug/L		< 0.1	
	LCS 1	Chromium, Total	50.54	ug/L	101		85 - 115
	LCSD 1	Chromium, Total	51.58	ug/L	103	2.0	0 - 20
	LFB 1	Chromium, Total	55.88	ug/L	112		70 - 130
	LFBD 1	Chromium, Total	54.9	ug/L	110	1.8	0 - 20
	Method Blank 1	Chromium, Total	ND	ug/L		< 0.1	
	QCS 1	Chromium, Total	50.94	ug/L	102		85 - 115
QC19062118	190619_02-01: Duplicate 1	Color, Apparent (Unfiltered)	3.0	Color Units		< 0.1	0 - 25
	CCVB 1	Color, Apparent (Unfiltered)	ND	Color Units		< 0.1	
	LCS 1	Color, Apparent (Unfiltered)	5.0	Color Units	100		80 - 120
	LCSD 1	Color, Apparent (Unfiltered)	5.0	Color Units	100	< 0.1	0 - 20
	Method Blank 1	Color, Apparent (Unfiltered)	ND	Color Units		< 0.1	
QC19062110	190619_02-01: MS 1	Copper, Total	912.3	µg/L	90		70 - 130
	CCVB 1	Copper, Total	ND	µg/L		< 0.1	
	LCS 1	Copper, Total	1001.0	µg/L	100		95 - 105
	LCSD 1	Copper, Total	928.7	µg/L	93	7.5	0 - 10
	LFB 1	Copper, Total	1076.0	µg/L	108		85 - 115
	LFBD 1	Copper, Total	1067.0	µg/L	107	0.8	0 - 20
	Method Blank 1	Copper, Total	ND	µg/L		< 0.1	
	QCS 1	Copper, Total	1016.0	µg/L	102		95 - 105
QC19070201	190619_40-01: MS 1	Cyanide, Available	49.81	µg/L	100		80 - 120
	190619_40-01: MSD 1	Cyanide, Available	49.9	µg/L	100	0.2	0 - 20
	CCVB 1	Cyanide, Available	ND	µg/L		< 0.1	
	LCS 1	Cyanide, Available	50.08	µg/L	100		90 - 110
	LCSD 1	Cyanide, Available	49.94	µg/L	100	0.3	0 - 10
	LCSL 1	Cyanide, Available	2.13	µg/L	106		50 - 150
	Method Blank 1	Cyanide, Available	ND	µg/L		< 0.1	
	QCS 1	Cyanide, Available	6.02	µg/L	12		90 - 110
QC19062005	190619_02-01: MS 1	Fluoride	2.35	mg/L	86		80 - 120
	190619_02-01: MSD 1	Fluoride	2.33	mg/L	85	1.4	0 - 10
	CCVB 1	Fluoride	ND	mg/L		< 0.1	
	LCS 1	Fluoride	2.01	mg/L	101		90 - 110

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### QC Results

<u>QC Batch ID</u>	<u>QC ID</u>	<u>Parameter</u>	<u>Results</u>	<u>Units</u>	<u>% Rec</u>	<u>% RPD</u>	<u>Control Limit</u>
	LCSD 1	Fluoride	2.14	mg/L	107	5.9	0 - 10
	LCSL 1	Fluoride	0.01	mg/L	7		50 - 150
	Method Blank 1	Fluoride	ND	mg/L		< 0.1	
QC19062110	190619_02-01: MS 1	Iron, Total	946.6	µg/L	92		70 - 130
	CCVB 1	Iron, Total	ND	µg/L		< 0.1	
	LCS 1	Iron, Total	990.5	µg/L	99		95 - 105
	LCSD 1	Iron, Total	938.8	µg/L	94	5.4	0 - 10
	LFB 1	Iron, Total	1051.0	µg/L	105		85 - 115
	LFBD 1	Iron, Total	1034.0	µg/L	103	1.7	0 - 20
	Method Blank 1	Iron, Total	ND	µg/L		< 0.1	
	QCS 1	Iron, Total	1002.0	µg/L	100		95 - 105
QC19062710	190619_40-01: MS 1	Lead, Total	55.01	ug/L	110		70 - 130
	190619_40-01: MSD 1	Lead, Total	53.61	ug/L	107	2.6	0 - 20
	CCVB 1	Lead, Total	ND	ug/L		< 0.1	
	LCB 1	Lead, Total	ND	ug/L		< 0.1	
	LCS 1	Lead, Total	52.08	ug/L	104		85 - 115
	LCSD 1	Lead, Total	54.47	ug/L	109	4.5	0 - 20
	LFB 1	Lead, Total	53.0	ug/L	106		70 - 130
	LFBD 1	Lead, Total	51.85	ug/L	104	2.2	0 - 20
	Method Blank 1	Lead, Total	ND	ug/L		< 0.1	
	QCS 1	Lead, Total	50.42	ug/L	101		85 - 115
QC19062110	190619_02-01: MS 1	Magnesium	49.02	mg/L	88		70 - 130
	CCVB 1	Magnesium	ND	mg/L		< 0.1	
	LCS 1	Magnesium	50.6	mg/L	101		95 - 105
	LCSD 1	Magnesium	45.9	mg/L	92	9.7	0 - 10
	LFB 1	Magnesium	54.33	mg/L	109		85 - 115
	LFBD 1	Magnesium	52.5	mg/L	105	3.4	0 - 20
	Method Blank 1	Magnesium	ND	mg/L		< 0.1	
	QCS 1	Magnesium	51.03	mg/L	102		95 - 105
	190619_02-01: MS 1	Manganese, Total	910.8	µg/L	90		70 - 130
	CCVB 1	Manganese, Total	ND	µg/L		< 0.1	
	LCS 1	Manganese, Total	984.9	µg/L	98		95 - 105
	LCSD 1	Manganese, Total	921.1	µg/L	92	6.7	0 - 10
	LFB 1	Manganese, Total	1049.0	µg/L	105		85 - 115
	LFBD 1	Manganese, Total	1035.0	µg/L	103	1.3	0 - 20

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## QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
	Method Blank 1	Manganese, Total	ND	µg/L		< 0.1	
	QCS 1	Manganese, Total	982.3	µg/L	98		95 - 105
QC19062120	190618_35-01: MS 1	MBAS (Surfactants)	0.23	mg/L	92		80 - 120
	190618_35-01: MSD 1	MBAS (Surfactants)	0.21	mg/L	85	7.2	0 - 10
	190619_02-01: MS 2	MBAS (Surfactants)	0.25	mg/L	101		80 - 120
	190619_02-01: MSD 2	MBAS (Surfactants)	0.24	mg/L	95	6.1	0 - 10
	CCVB 1	MBAS (Surfactants)	ND	mg/L		< 0.1	
	CCVB 2	MBAS (Surfactants)	ND	mg/L		< 0.1	
	LCS 1	MBAS (Surfactants)	0.25	mg/L	99		80 - 120
	LCSD 1	MBAS (Surfactants)	0.27	mg/L	108	8.9	0 - 10
	LCSD 2	MBAS (Surfactants)	0.25	mg/L	102	2.8	0 - 10
	LCSL 1	MBAS (Surfactants)	0.07	mg/L	146		50 - 150
	Method Blank 1	MBAS (Surfactants)	ND	mg/L		< 0.1	
QC19062710	190619_40-01: MS 1	Mercury, Total	1.08	ug/L	108		70 - 130
	190619_40-01: MSD 1	Mercury, Total	1.04	ug/L	105	3.4	0 - 20
	CCVB 1	Mercury, Total	ND	ug/L		< 0.1	
	LCB 1	Mercury, Total	ND	ug/L		< 0.1	
	LCS 1	Mercury, Total	0.98	ug/L	98		85 - 115
	LCSD 1	Mercury, Total	0.96	ug/L	96	2.7	0 - 20
	Method Blank 1	Mercury, Total	ND	ug/L		< 0.1	
	QCS 1	Mercury, Total	0.96	ug/L	96		85 - 115
	190619_40-01: MS 1	Nickel, Total	52.35	ug/L	102		70 - 130
	190619_40-01: MSD 1	Nickel, Total	51.44	ug/L	100	1.8	0 - 20
	CCVB 1	Nickel, Total	ND	ug/L		< 0.1	
	LCB 1	Nickel, Total	ND	ug/L		< 0.1	
	LCS 1	Nickel, Total	51.71	ug/L	103		85 - 115
	LCSD 1	Nickel, Total	51.72	ug/L	103	< 0.1	0 - 20
	LFB 1	Nickel, Total	52.61	ug/L	105		70 - 130
	Method Blank 1	Nickel, Total	ND	ug/L		< 0.1	
	QCS 1	Nickel, Total	49.97	ug/L	100		85 - 115
QC19062005	190619_02-01: MS 1	Nitrate as N	5.65	mg/L	94		80 - 120
	190619_02-01: MSD 1	Nitrate as N	5.56	mg/L	90	4.7	0 - 10
	CCVB 1	Nitrate as N	ND	mg/L		< 0.1	
	LCS 1	Nitrate as N	2.04	mg/L	102		90 - 110
	LCSD 1	Nitrate as N	2.16	mg/L	108	5.7	0 - 10

**Balance Hydrologics, Inc.**  
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 www.MBASinc.com  
 ELAP Certification Number: 2385  
 Friday, July 19, 2019

### QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
	LCSL 1	Nitrate as N	0.2	mg/L	99		50 - 150
	Method Blank 1	Nitrate as N	ND	mg/L		< 0.1	
	190619_02-01: MS 1	Nitrate+Nitrite as N	7.18	mg/L	79		80 - 120
	190619_02-01: MSD 1	Nitrate+Nitrite as N	7.07	mg/L	76	3.5	0 - 10
	CCVB 1	Nitrate+Nitrite as N	ND	mg/L		< 0.1	
	LCS 1	Nitrate+Nitrite as N	4.19	mg/L	105		90 - 110
	LCSD 1	Nitrate+Nitrite as N	4.31	mg/L	113	7.4	0 - 10
	LCSL 1	Nitrate+Nitrite as N	0.35	mg/L	89		50 - 150
	Method Blank 1	Nitrate+Nitrite as N	ND	mg/L		< 0.1	
	190619_02-01: MS 1	Nitrite as N	1.53	mg/L	77		80 - 120
	190619_02-01: MSD 1	Nitrite as N	1.51	mg/L	75	1.6	0 - 10
	CCVB 1	Nitrite as N	ND	mg/L		< 0.1	
	LCS 1	Nitrite as N	2.15	mg/L	108		90 - 110
	LCSD 1	Nitrite as N	2.16	mg/L	108	0.1	0 - 10
	LCSL 1	Nitrite as N	0.16	mg/L	78		50 - 150
	Method Blank 1	Nitrite as N	ND	mg/L		< 0.1	
QC19062404	190620_21-02: MS 1	Orthophosphate as P	3.0	mg/L	150		80 - 120
	190620_21-02: MSD 1	Orthophosphate as P	3.16	mg/L	158	5.2	0 - 10
	CCVB 1	Orthophosphate as P	ND	mg/L		< 0.1	
	LCS 1	Orthophosphate as P	2.05	mg/L	103		90 - 110
	LCSD 1	Orthophosphate as P	2.2	mg/L	110	6.9	0 - 10
	LCSL 1	Orthophosphate as P	0.27	mg/L	134		50 - 150
	Method Blank 1	Orthophosphate as P	ND	mg/L		< 0.1	
QC19062114	190619_14-09: Duplicate 1	pH (Laboratory)	7.6	pH (H)		< 0.1	0 - 10
	190619_45-03: Duplicate 2	pH (Laboratory)	7.1	pH (H)		< 0.1	0 - 10
	LCS 1	pH (Laboratory)	6.87	pH (H)	100		95 - 105
	LCSD 1	pH (Laboratory)	6.88	pH (H)	100	0.1	0 - 10
	LCSD 2	pH (Laboratory)	6.87	pH (H)	100	< 0.1	0 - 10
QC19062110	190619_02-01: MS 1	Potassium	11.93	mg/L	95		70 - 130
	CCVB 1	Potassium	ND	mg/L		< 0.1	
	LCS 1	Potassium	9.92	mg/L	99		95 - 105
	LCSD 1	Potassium	9.33	mg/L	93	6.2	0 - 10
	LFB 1	Potassium	10.44	mg/L	104		85 - 115
	LFBD 1	Potassium	10.19	mg/L	102	2.4	0 - 20
	Method Blank 1	Potassium	ND	mg/L		< 0.1	



## Monterey Bay Analytical Services

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ELAP Certification Number: 2385

Friday, July 19, 2019

**Balance Hydrologics, Inc.**

Mark Woysner

800 Bancroft Way, Suite 101

Berkeley, CA 94710

### QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
	QCS 1	Potassium	9.96	mg/L	100		95 - 105
QC19062710	190619_40-01: MS 1	Selenium, Total	54.31	ug/L	105		70 - 130
	190619_40-01: MSD 1	Selenium, Total	53.73	ug/L	104	1.1	0 - 20
	CCVB 1	Selenium, Total	ND	ug/L		< 0.1	
	LCB 1	Selenium, Total	ND	ug/L		< 0.1	
	LCS 1	Selenium, Total	51.65	ug/L	103		85 - 115
	LCSD 1	Selenium, Total	53.82	ug/L	108	4.1	0 - 20
	LFB 1	Selenium, Total	53.31	ug/L	107		70 - 130
	LFBD 1	Selenium, Total	52.35	ug/L	105	1.8	0 - 20
	Method Blank 1	Selenium, Total	ND	ug/L		< 0.1	
	QCS 1	Selenium, Total	48.61	ug/L	97		85 - 115
QC19062110	190619_02-01: MS 1	Silica (SiO2), Total	#Type!	mg/L			70 - 130
	CCVB 1	Silica (SiO2), Total	#Type!	mg/L	#Type!	#Type!	
	LCS 1	Silica (SiO2), Total	#Type!	mg/L			95 - 105
	LCSD 1	Silica (SiO2), Total	#Type!	mg/L			0 - 10
	LFB 1	Silica (SiO2), Total	#Type!	mg/L			85 - 115
	LFBD 1	Silica (SiO2), Total	#Type!	mg/L			0 - 20
	Method Blank 1	Silica (SiO2), Total	#Type!	mg/L	#Type!	#Type!	
	QCS 1	Silica (SiO2), Total	#Type!	mg/L			95 - 105
QC19062710	190619_40-01: MS 1	Silver, Total	39.48	ug/L	79		70 - 130
	190619_40-01: MSD 1	Silver, Total	39.14	ug/L	78	0.9	0 - 20
	CCVB 1	Silver, Total	ND	ug/L		< 0.1	
	LCB 1	Silver, Total	ND	ug/L		< 0.1	
	LCS 1	Silver, Total	52.06	ug/L	104		85 - 115
	LCSD 1	Silver, Total	44.52	ug/L	89	15.6	0 - 20
	LFB 1	Silver, Total	51.56	ug/L	103		70 - 130
	LFBD 1	Silver, Total	52.12	ug/L	104	1.1	0 - 20
	Method Blank 1	Silver, Total	ND	ug/L		< 0.1	
	QCS 1	Silver, Total	49.94	ug/L	100		85 - 115
QC19062110	190619_02-01: MS 1	Sodium	177.2	mg/L	89		70 - 130
	CCVB 1	Sodium	ND	mg/L		< 0.1	
	LCS 1	Sodium	50.13	mg/L	100		95 - 105
	LCSD 1	Sodium	48.96	mg/L	98		0 - 10
	LFB 1	Sodium	53.12	mg/L	106		85 - 115
	LFBD 1	Sodium	52.49	mg/L	105	1.2	0 - 20

**Balance Hydrologics, Inc.**  
 Mark Woyshner  
 800 Bancroft Way, Suite 101  
 Berkeley, CA 94710

Friday, July 19, 2019

### QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
	Method Blank 1	Sodium	ND	mg/L		< 0.1	
	QCS 1	Sodium	50.21	mg/L	100		95 - 105
QC19062823	190619_14-06: Duplicate 1	Specific Conductance (EC)	12260.0	µmhos/cm		0.7	0 - 25
	190619_46-01: Duplicate 2	Specific Conductance (EC)	658.0	µmhos/cm		1.2	0 - 25
	190621_18-04: Duplicate 3	Specific Conductance (EC)	2440.0	µmhos/cm		0.4	0 - 25
	190626_01-01: Duplicate 4	Specific Conductance (EC)	1705.0	µmhos/cm		0.5	0 - 25
	LCS 1	Specific Conductance (EC)	1410.0	µmhos/cm	100		80 - 120
	LCSH 1	Specific Conductance (EC)	24800.0	µmhos/cm	100		80 - 120
	LCSL 1	Specific Conductance (EC)	151.3	µmhos/cm	103		80 - 120
QC19062005	190619_02-01: MS 1	Sulfate	70.69	mg/L	109		80 - 120
	190619_02-01: MSD 1	Sulfate	69.98	mg/L	106	3.3	0 - 10
	CCVB 1	Sulfate	ND	mg/L		< 0.1	
	LCS 1	Sulfate	20.56	mg/L	103		90 - 110
	LCSD 1	Sulfate	21.9	mg/L	109	6.3	0 - 10
	LCSL 1	Sulfate	2.09	mg/L	104		50 - 150
	Method Blank 1	Sulfate	ND	mg/L		< 0.1	
QC19062710	190619_40-01: MS 1	Thallium, Total	51.3	ug/L	103		70 - 130
	190619_40-01: MSD 1	Thallium, Total	50.66	ug/L	101	1.3	0 - 20
	CCVB 1	Thallium, Total	ND	ug/L		< 0.1	
	LCB 1	Thallium, Total	ND	ug/L		< 0.1	
	LCS 1	Thallium, Total	48.03	ug/L	96		85 - 115
	LCSD 1	Thallium, Total	50.88	ug/L	102	5.8	0 - 20
	LFB 1	Thallium, Total	49.54	ug/L	99		70 - 130
	LFBD 1	Thallium, Total	48.81	ug/L	98	1.5	0 - 20
	Method Blank 1	Thallium, Total	ND	ug/L		< 0.1	
	QCS 1	Thallium, Total	45.94	ug/L	92		85 - 115
QC19062821	190619_14-03: Duplicate 1	Total Dissolved Solids	372.0	mg/L		3.7	0 - 10
	CCVB 1	Total Dissolved Solids	ND	mg/L		< 0.1	
	LCS 1	Total Dissolved Solids	456.0	mg/L	91		90 - 110
	LCSD 1	Total Dissolved Solids	470.0	mg/L	94	3.0	0 - 10
	LCSL 1	Total Dissolved Solids	40.0	mg/L	80		50 - 150
	Method Blank 1	Total Dissolved Solids	ND	mg/L		< 0.1	
QC19062112	190618_50-01: Duplicate 1	Turbidity	11.0	NTU		< 0.1	0 - 20
	190618_50-03: Duplicate 2	Turbidity	6.8	NTU		1.5	0 - 20
	CCVB 1	Turbidity	ND	NTU		< 0.1	



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ELAP Certification Number: 2385

Friday, July 19, 2019

### QC Results

<u>QC Batch ID</u>	<u>QC ID</u>	<u>Parameter</u>	<u>Results</u>	<u>Units</u>	<u>% Rec</u>	<u>% RPD</u>	<u>Control Limit</u>
	LCS 1	Turbidity	1.02	NTU	102		95 - 105
	LCSD 1	Turbidity	1.04	NTU	104	1.9	0 - 20
	Method Blank 1	Turbidity	ND	NTU		< 0.1	
QC19062110	190619_02-01: MS 1	Zinc, Total	884.7	µg/L	88		70 - 130
	CCVB 1	Zinc, Total	11.8	µg/L	12	11.8	
	LCS 1	Zinc, Total	964.9	µg/L	96		95 - 105
	LCSD 1	Zinc, Total	908.3	µg/L	91	6.0	0 - 10
	LFB 1	Zinc, Total	994.5	µg/L	99		85 - 115
	LFBD 1	Zinc, Total	983.6	µg/L	98	1.1	0 - 20
	Method Blank 1	Zinc, Total	ND	µg/L		< 0.1	
	QCS 1	Zinc, Total	951.5	µg/L	95		95 - 105



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ELAP Certification Number: 2385

Friday, July 19, 2019

### Sample Condition Upon Receipt

**Order ID: 190619\_02**

Is there evidence of chilling? *NOTE: Systems are encouraged but not required to hold samples <10°C (Microbiology) or <6°C (Chemistry) during transit.	Yes
Did bottle arrive intact?	Yes
Did bottle labels agree with COC?	Yes
Adequate sample volume?	Yes
Sample preservative (HNO <sub>3</sub> , NaOH, H <sub>2</sub> SO <sub>4</sub> , Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> , HCl, Other)	#01 = 250mL pres. w/ 2mL HNO <sub>3</sub> , pH<2 IG
Additional Comments	#01 = 250mL pres. w/ 10 drops NaOH, pH>12 IG

# Monterey Bay Analytical Services Chain Of Custody / Analysis Request

4 Justin Ct. Suite D • Monterey, Ca 93940 • (831) 375-MBAS (6227) • (831) 641-0734 (Fax)



Client/Company Name: <b>Balance Hydrologics, Inc.</b>	Attention: Mark Woysner
Billing Address: 800 Bancroft Way, Suite 101	

Project/System Information:	E-Mail Address(es): mwoysner@balancehydro.com	Contract/P.O. #: 218172	Title 22: Gen Min./Gen. Phys/Inorganic Panel	Boron	MBAS
For Regulatory Compliance? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Turn Around Time: STD (7-14 Days) <input checked="" type="checkbox"/> 48-Hour <input type="checkbox"/>	Phone # 510 704-1000 ext. 209			
For State or Local Health Department reporting: Electronic Data Transfer (EDT)? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	5-Day <input type="checkbox"/> 24-Hour <input type="checkbox"/>	Fax # 510 704-1001			
System ID Number: _____	Drinking water <input checked="" type="checkbox"/> Wastewater <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Soil <input type="checkbox"/> Sludge <input type="checkbox"/> Other <input type="checkbox"/>				

MBAS Lab #	Project ID or Source Code #	Sample Site / Description (Well Name, APN#, Address, Stormdrain #)	Sampling		Receiving Temp.	CL2 Residual	Coliform Analysis					# Cont.	Container								
			Date	Time			Routine	Other	Repeat	Special	Type		Size								
01	218172	Well #3	6/18/2019	13:08	4.2						2	Amber	1L	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					

	Printed Name	Signature	Date	Time	Comments or Special Instructions:
Sampled by:	Gustavo Porras				2 UNP RESERVED AMBER BOTTLES
Relinquished by:	Gustavo Porras		6/18/19	16:30	
Received by:	Isabelle Gutierrez		6/18/19	927	
Relinquished by:					
Received by:					

<input type="checkbox"/> Payment received	Check #	Amount:	Receipt #	Date:
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Enthalpy Analytical  
2323 Fifth Street  
Berkeley, CA 94710  
(510) 486-0900

enthalpy.com

Lab Job Number: 311574  
Report Level: II  
Report Date: 08/06/2019

**Analytical Report** *prepared for:*

Mark Woysner  
Balance Hydrologics  
800 Bancroft Way  
Suite 101  
Berkeley, CA 94710

Project: 218172 - Oasis

*Authorized for release by:*

---

John Goyette, Director, Client Services  
(510) 204-2233 Ext 13112  
[john.goyette@enthalpy.com](mailto:john.goyette@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 2896, NELAP# 4044-001



## Sample Summary

---

Mark Woyshner  
Balance Hydrologics  
800 Bancroft Way  
Suite 101  
Berkeley, CA 94710

Lab Job Number: 311574  
Project No: 218172  
Project Name: Oasis  
Date Received: 07/08/19

---

<b>Sample ID</b>	<b>Lab ID</b>	<b>Collected</b>	<b>Matrix</b>
OASIS WELL 4	311574-001	07/06/19 15:00	Water

## Case Narrative

---

Balance Hydrologics  
800 Bancroft Way  
Suite 101  
Berkeley, CA 94710  
Mark Woysner

Lab Job Number: 311574  
Project No: 218172  
Location: Oasis  
Date Received: 07/08/19

---

This data package contains sample and QC results for one water sample, requested for the above referenced project on 07/08/19. The sample was received cold and intact. This report was revised and reissued on 08/06/19 to include reanalysis results for alkalinity.

**Metals (EPA 6010B):**

High response was observed for calcium in the CCV analyzed 07/11/19 17:02; affected data was qualified with "b". No other analytical problems were encountered.

**Ion Chromatography (EPA 300.0):**

No analytical problems were encountered.

**Conductivity (SM2510B):**

No analytical problems were encountered.

**Alkalinity (SM2320B):**

The reanalysis was performed outside of holding time. No analytical problems were encountered.

**Total Dissolved Solids (TDS) (SM2540C):**

No analytical problems were encountered.

**pH (EPA 9040C):**

No analytical problems were encountered.

## Detection Summary for 311574

**Client:** Balance Hydrologics

**Project:** 218172

**Location:** Oasis

Sample ID: OASIS WELL 4	Lab ID: 311574-001
-------------------------	--------------------

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Boron	3,200		100	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Calcium	5,400		500	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Magnesium	1,300		500	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Potassium	2,500		500	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Sodium	150,000		50,000	ug/L	TOTAL	100.0	EPA 6010B	EPA 3010A
Chloride	97		4.0	mg/L	TOTAL	20.00	EPA 300.0	METHOD
Sulfate	55		2.5	mg/L	TOTAL	5.000	EPA 300.0	METHOD
Alkalinity, Bicarbonate	120	H	5.0	mg/L	TOTAL	1.000	SM2320B	METHOD
Alkalinity, Carbonate	46	H	5.0	mg/L	TOTAL	1.000	SM2320B	METHOD
Alkalinity, Total as CaCO3	160	H	5.0	mg/L	TOTAL	1.000	SM2320B	METHOD
Specific Conductance	720		1.0	umhos/cm	TOTAL	1.000	SM2510B	METHOD
pH	8.8	H	1.0	SU	TOTAL	1.000	EPA 9040C	METHOD
Total Dissolved Solids	480		10	mg/L	TOTAL	1.000	SM2540C	METHOD

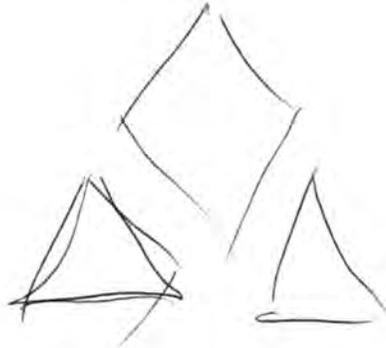
H: Holding time was exceeded



311574

### Irrigation Suitability Panel

pH, alkalinity, bicarbonate, carbonate, conductivity, total dissolved solids, calcium, magnesium, sodium, potassium, boron, chloride, sulfate, nitrate, ~~Sodium Absorption Ratio (SAR) and adjusted SAR.~~



**SAMPLE RECEIPT CHECKLIST**



Section 1: Login # 311574  
Date Received: 7/18/19

Client: Balance Hydrologics  
Project: \_\_\_\_\_

Section 2: Samples received in a cooler?  Yes, how many? 1  No (skip Section 3 below)

If no cooler Sample Temp (°C): \_\_\_\_\_ using IR Gun #  A, or  B

Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 7/18/19 By (print) R (sign) R

Shipping info (if applicable) \_\_\_\_\_

Are custody seals present?  No, or  Yes. If yes, where?  on cooler,  on samples,  on package

Date: \_\_\_\_\_ How many \_\_\_\_\_  Signature,  Initials,  None

Were custody seals intact upon arrival?  Yes  No  N/A

Section 3: **Important : Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) \_\_\_\_\_

Bubble Wrap,  Foam blocks,  Bags,  None,  Cloth material,  Cardboard,  Styrofoam,  Paper towels

Samples received on ice directly from the field. Cooling process had begun

Type of ice used :  Wet,  Blue/Gel,  None Temperature blank(s) included?  Yes,  No

Temperature measured using  Thermometer ID: \_\_\_\_\_, or IR Gun #  A  B

Cooler Temp (°C): #1: 0.7, #2: \_\_\_\_\_, #3: \_\_\_\_\_, #4: \_\_\_\_\_, #5: \_\_\_\_\_, #6: \_\_\_\_\_, #7: \_\_\_\_\_

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	<input checked="" type="checkbox"/>		
Were Method 5035 sampling containers present?		<input checked="" type="checkbox"/>	
If YES, what time were they transferred to freezer? _____			
Did all bottles arrive unbroken/unopened?	<input checked="" type="checkbox"/>		
Are there any missing / extra samples?		<input checked="" type="checkbox"/>	
Are samples in the appropriate containers for indicated tests?	<input checked="" type="checkbox"/>		
Are sample labels present, in good condition and complete?	<input checked="" type="checkbox"/>		
Does the container count match the COC?	<input checked="" type="checkbox"/>		
Do the sample labels agree with custody papers?	<input checked="" type="checkbox"/>		
Was sufficient amount of sample sent for tests requested?	<input checked="" type="checkbox"/>		
Did you change the hold time in LIMS for unpreserved VOAs?			<input checked="" type="checkbox"/>
Did you change the hold time in LIMS for preserved terracores?			<input checked="" type="checkbox"/>
Are bubbles > 6mm absent in VOA samples?			<input checked="" type="checkbox"/>
Was the client contacted concerning this sample delivery?		<input checked="" type="checkbox"/>	
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			<input checked="" type="checkbox"/>
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			
pH strip lot# _____, pH strip lot# _____, pH strip lot# _____			
Preservative added:			
<input type="checkbox"/> H2SO4 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HCL lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HNO3 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> NaOH lot# _____ added to samples _____ on/at _____			

Section 6:  
Explanations/Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date Logged in 7/18/19 By (print) R (sign) R  
Date Labeled 7/18/19 By (print) R (sign) R

## Metals Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Field ID:** OASIS WELL 4

**Batch#:** 272067

**Prep:** EPA 3010A

**Type:** SAMPLE

**Sampled:** 07/06/19

**Analysis:** EPA 6010B

**Lab ID:** 311574-001

**Received:** 07/08/19

**Matrix:** Water

**Prepared:** 07/10/19

Analyte	Result	RL	Units	Diln Fac	Analyzed
Boron	3,200	100	ug/L	1.000	07/11/19
Calcium	5,400	500	ug/L	1.000	07/11/19
Magnesium	1,300	500	ug/L	1.000	07/11/19
Potassium	2,500	500	ug/L	1.000	07/11/19
Sodium	150,000	50,000	ug/L	100.0	07/12/19

**Type:** BLANK

**Diln Fac:** 1.000

**Analyzed:** 07/11/19

**Lab ID:** QC982235

**Batch#:** 272067

**Prep:** EPA 3010A

**Matrix:** Water

**Prepared:** 07/10/19

**Analysis:** EPA 6010B

Analyte	Result	RL	Units
Boron	ND	100	ug/L
Calcium	ND	500	ug/L
Magnesium	ND	500	ug/L
Potassium	ND	500	ug/L
Sodium	ND	500	ug/L

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Type:** BS

**Diln Fac:** 1.000

**Analyzed:** 07/11/19

**Lab ID:** QC982236

**Batch#:** 272067

**Prep:** EPA 3010A

**Matrix:** Water

**Prepared:** 07/10/19

**Analysis:** EPA 6010B

Analyte	Spiked	Result	%REC	Limits	Units
Boron	1,000	1,089	109	80-120	ug/L
Calcium	10,000	11,200 b	112	80-120	ug/L
Magnesium	10,000	11,030	110	80-120	ug/L
Potassium	10,000	10,730	107	80-120	ug/L
Sodium	10,000	10,970	110	80-120	ug/L

**Type:** BSD

**Diln Fac:** 1.000

**Analyzed:** 07/11/19

**Lab ID:** QC982237

**Batch#:** 272067

**Prep:** EPA 3010A

**Matrix:** Water

**Prepared:** 07/10/19

**Analysis:** EPA 6010B

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Boron	1,000	1,072	107	80-120	ug/L	2	20
Calcium	10,000	11,310 b	113	80-120	ug/L	1	20
Magnesium	10,000	10,940	109	80-120	ug/L	1	20
Potassium	10,000	10,660	107	80-120	ug/L	1	20
Sodium	10,000	10,950	110	80-120	ug/L	0	20

Legend

**RPD:** Relative Percent Difference

**b:** See narrative

## Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Field ID:** OASIS WELL 4

**Matrix:** Water

**Prepared:** 07/10/19

**Type:** MS

**Batch#:** 272067

**Prep:** EPA 3010A

**MSS Lab ID:** 311574-001

**Sampled:** 07/06/19

**Analysis:** EPA 6010B

**Lab ID:** QC982238

**Received:** 07/08/19

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units	Diln Fac	Analyzed
Boron	3,215	1,000	4,357	114	80-123	ug/L	1.000	07/11/19
Calcium	5,425	10,000	17,020	116	75-125	ug/L	1.000	07/11/19
Magnesium	1,329	10,000	12,950	116	80-125	ug/L	1.000	07/11/19
Potassium	2,496	10,000	13,620	111	80-120	ug/L	1.000	07/11/19
Sodium	151,900	10,000	170,400	NM	79-121	ug/L	100.0	07/12/19

**Field ID:** OASIS WELL 4

**Matrix:** Water

**Prepared:** 07/10/19

**Type:** MSD

**Batch#:** 272067

**Prep:** EPA 3010A

**MSS Lab ID:** 311574-001

**Sampled:** 07/06/19

**Analysis:** EPA 6010B

**Lab ID:** QC982239

**Received:** 07/08/19

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim	Diln Fac	Analyzed
Boron	1,000	4,278	106	80-123	ug/L	2	20	1.000	07/11/19
Calcium	10,000	16,320	109	75-125	ug/L	4	20	1.000	07/11/19
Magnesium	10,000	12,440	111	80-125	ug/L	4	20	1.000	07/11/19
Potassium	10,000	13,180	107	80-120	ug/L	3	20	1.000	07/11/19
Sodium	10,000	166,900	NM	79-121	ug/L	2	20	100.0	07/12/19

Legend

**NM:** Not Meaningful: Sample concentration > 4X spike concentration

**RPD:** Relative Percent Difference

## Enthalpy Analytical - Berkeley Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Field ID:** OASIS WELL 4

**Lab ID:** 311574-001

**Sampled:** 07/06/19 15:00

**Prep:** METHOD

**Type:** SAMPLE

**Matrix:** Water

**Received:** 07/08/19

**Analysis:** EPA 300.0

Analyte	Result	RL	Units	Diln Fac	Batch#	Analyzed
<b>Chloride</b>	<b>97</b>	4.0	mg/L	20.00	272155	07/13/19 12:16
Nitrogen, Nitrate	ND	0.05	mg/L	1.000	272047	07/08/19 12:20
<b>Sulfate</b>	<b>55</b>	2.5	mg/L	5.000	272047	07/08/19 12:38

**Type:** BLANK

**Matrix:** Water

**Batch#:** 272047

**Prep:** METHOD

**Lab ID:** QC982167

**Diln Fac:** 1.000

**Analyzed:** 07/08/19 11:46

**Analysis:** EPA 300.0

Analyte	Result	RL	Units
Nitrogen, Nitrate	ND	0.05	mg/L
Sulfate	ND	0.50	mg/L

**Type:** BLANK

**Matrix:** Water

**Batch#:** 272155

**Prep:** METHOD

**Lab ID:** QC982587

**Diln Fac:** 1.000

**Analyzed:** 07/13/19 11:14

**Analysis:** EPA 300.0

Analyte	Result	RL	Units
Chloride	ND	0.20	mg/L

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Type:** LCS

**Matrix:** Water

**Batch#:** 272047

**Prep:** METHOD

**Lab ID:** QC982168

**Diln Fac:** 1.000

**Analyzed:** 07/08/19 12:03

**Analysis:** EPA 300.0

Analyte	Spiked	Result	%REC	Limits	Units
Nitrogen, Nitrate	0.5000	0.4901	98	90-110	mg/L
Sulfate	5.000	4.850	97	90-110	mg/L

## Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Field ID:** ZZZZZZZZZZ

**Matrix:** Water

**Received:** 07/08/19

**Type:** MS

**DiIn Fac:** 1.010

**Analyzed:** 07/08/19 18:15

**MSS Lab ID:** 311559-001

**Batch#:** 272047

**Prep:** METHOD

**Lab ID:** QC982169

**Sampled:** 07/08/19 08:30

**Analysis:** EPA 300.0

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
Nitrogen, Nitrate	0.06048	0.2525	0.3079	98	80-120	mg/L
Sulfate	8.936	2.525	11.32	94	80-120	mg/L

**Field ID:** ZZZZZZZZZZ

**Matrix:** Water

**Received:** 07/08/19

**Type:** MSD

**DiIn Fac:** 1.010

**Analyzed:** 07/08/19 18:32

**MSS Lab ID:** 311559-001

**Batch#:** 272047

**Prep:** METHOD

**Lab ID:** QC982170

**Sampled:** 07/08/19 08:30

**Analysis:** EPA 300.0

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Nitrogen, Nitrate	0.2525	0.3052	97	80-120	mg/L	1	20
Sulfate	2.525	11.34	95	80-120	mg/L	0	20

Legend

**RPD:** Relative Percent Difference

## Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Type:** LCS

**Matrix:** Water

**Batch#:** 272155

**Prep:** METHOD

**Lab ID:** QC982588

**Diln Fac:** 1.000

**Analyzed:** 07/13/19 11:31

**Analysis:** EPA 300.0

Analyte	Spiked	Result	%REC	Limits	Units
Chloride	2.000	1.899	95	90-110	mg/L

## Analytical Report

**Lab #:** 311574

**Client:** Balance Hydrologics

**Project#:** 218172

**Location:** Oasis

**Field ID:** OASIS WELL 4

**Type:** MS

**MSS Lab ID:** 311574-001

**Lab ID:** QC982589

**Matrix:** Water

**Diln Fac:** 20.00

**Batch#:** 272155

**Sampled:** 07/06/19 15:00

**Received:** 07/08/19

**Analyzed:** 07/13/19 18:42

**Prep:** METHOD

**Analysis:** EPA 300.0

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
Chloride	97.15	20.00	113.2	80 NM	78-120	mg/L

**Field ID:** OASIS WELL 4

**Type:** MSD

**MSS Lab ID:** 311574-001

**Lab ID:** QC982590

**Matrix:** Water

**Diln Fac:** 20.00

**Batch#:** 272155

**Sampled:** 07/06/19 15:00

**Received:** 07/08/19

**Analyzed:** 07/13/19 19:34

**Prep:** METHOD

**Analysis:** EPA 300.0

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Chloride	20.00	113.9	84 NM	78-120	mg/L	1	20

Legend

**NM:** Not Meaningful: Sample concentration > 4X spike concentration

**RPD:** Relative Percent Difference

## Analytical Report

**Lab #:** 311574

**Client:** Balance Hydrologics

**Project#:** 218172

**Location:** Oasis

**Field ID:** ZZZZZZZZZZ

**Type:** SSPIKE

**MSS Lab ID:** 311612-003

**Lab ID:** QC982591

**Matrix:** Water

**Diln Fac:** 1.010

**Batch#:** 272155

**Sampled:** 07/08/19 10:50

**Received:** 07/09/19

**Analyzed:** 07/13/19 19:51

**Prep:** METHOD

**Analysis:** EPA 300.0

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
Chloride	21.51 >LR	1.010	22.46 >LR	95 NM	78-120	mg/L

Legend

>LR: Response exceeds instrument's linear range

NM: Not Meaningful: Sample concentration > 4X spike concentration

## Alkalinity

**Lab #:** 311574

**Client:** Balance Hydrologics

**Project#:** 218172

**Location:** Oasis

**Field ID:** OASIS WELL 4

**Type:** SAMPLE

**Lab ID:** 311574-001

**Matrix:** Water

**Diln Fac:** 1.000

**Batch#:** 272468

**Sampled:** 07/06/19

**Received:** 07/08/19

**Analyzed:** 07/24/19

**Prep:** METHOD

**Analysis:** SM2320B

Analyte	Result	RL	Units
Alkalinity, Bicarbonate	120 H	5.0	mg/L
Alkalinity, Carbonate	46 H	5.0	mg/L
Alkalinity, Hydroxide	ND H	5.0	mg/L
Alkalinity, Total as CaCO3	160 H	5.0	mg/L

**Type:** BLANK

**Lab ID:** QC983931

**Matrix:** Water

**Diln Fac:** 1.000

**Batch#:** 272468

**Analyzed:** 07/24/19

**Prep:** METHOD

**Analysis:** SM2320B

Analyte	Result	RL	Units
Alkalinity, Bicarbonate	ND	1.0	mg/L
Alkalinity, Carbonate	ND	1.0	mg/L
Alkalinity, Hydroxide	ND	1.0	mg/L
Alkalinity, Total as CaCO3	ND	1.0	mg/L

Legend

**H:** Holding time was exceeded

**ND:** Not Detected

**RL:** Reporting Limit

## Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Type:** LCS

**Matrix:** Water

**Batch#:** 272217

**Prep:** METHOD

**Lab ID:** QC982870

**Diln Fac:** 1.000

**Analyzed:** 07/16/19

**Analysis:** SM2320B

Analyte	Spiked	Result	%REC	Limits	Units
Alkalinity, Total as CaCO <sub>3</sub>	200.0	201.6	101	90-110	mg/L

## Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Field ID:** OASIS WELL 4

**Matrix:** Water

**Received:** 07/08/19

**Type:** MS

**Diln Fac:** 1.000

**Analyzed:** 07/16/19

**MSS Lab ID:** 311574-001

**Batch#:** 272217

**Prep:** METHOD

**Lab ID:** QC982871

**Sampled:** 07/06/19

**Analysis:** SM2320B

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
Alkalinity, Total as CaCO3	159.5	250.0	410.0	100	80-120	mg/L

**Field ID:** OASIS WELL 4

**Matrix:** Water

**Received:** 07/08/19

**Type:** MSD

**Diln Fac:** 1.000

**Analyzed:** 07/16/19

**MSS Lab ID:** 311574-001

**Batch#:** 272217

**Prep:** METHOD

**Lab ID:** QC982872

**Sampled:** 07/06/19

**Analysis:** SM2320B

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Alkalinity, Total as CaCO3	250.0	408.5	100	80-120	mg/L	0	25

Legend

**RPD:** Relative Percent Difference

## Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Type:** LCS

**Matrix:** Water

**Batch#:** 272468

**Prep:** METHOD

**Lab ID:** QC983932

**Diln Fac:** 1.000

**Analyzed:** 07/24/19

**Analysis:** SM2320B

Analyte	Spiked	Result	%REC	Limits	Units
Alkalinity, Total as CaCO <sub>3</sub>	1,000	1,008	101	90-110	mg/L

## Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Field ID:** ZZZZZZZZZZ

**Matrix:** Water

**Received:** 07/11/19

**Type:** MS

**DiIn Fac:** 1.000

**Analyzed:** 07/24/19

**MSS Lab ID:** 311719-003

**Batch#:** 272468

**Prep:** METHOD

**Lab ID:** QC983933

**Sampled:** 07/11/19

**Analysis:** SM2320B

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
Alkalinity, Total as CaCO3	476.0	1,000	1,518	104	80-120	mg/L

**Field ID:** ZZZZZZZZZZ

**Matrix:** Water

**Received:** 07/11/19

**Type:** MSD

**DiIn Fac:** 1.000

**Analyzed:** 07/24/19

**MSS Lab ID:** 311719-003

**Batch#:** 272468

**Prep:** METHOD

**Lab ID:** QC983934

**Sampled:** 07/11/19

**Analysis:** SM2320B

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Alkalinity, Total as CaCO3	1,000	1,508	103	80-120	mg/L	1	25

Legend

**RPD:** Relative Percent Difference

## Conductivity

**Lab #:** 311574

**Client:** Balance Hydrologics

**Project#:** 218172

**Location:** Oasis

**Field ID:** OASIS WELL 4

**DiIn Fac:** 1.000

**Analyzed:** 07/15/19 15:05

**Type:** SAMPLE

**Batch#:** 272185

**Prep:** METHOD

**Lab ID:** 311574-001

**Sampled:** 07/06/19 15:00

**Analysis:** SM2510B

**Matrix:** Water

**Received:** 07/08/19

Analyte	Result	RL	Units
Specific Conductance	720	1.0	umhos/cm

**Type:** BLANK

**Matrix:** Water

**Batch#:** 272185

**Prep:** METHOD

**Lab ID:** QC982734

**DiIn Fac:** 1.000

**Analyzed:** 07/15/19 15:05

**Analysis:** SM2510B

Analyte	Result	RL	Units
Specific Conductance	ND	1.0	umhos/cm

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Type:** LCS

**Matrix:** Water

**Batch#:** 272185

**Prep:** METHOD

**Lab ID:** QC982735

**Diln Fac:** 1.000

**Analyzed:** 07/15/19 15:05

**Analysis:** SM2510B

Analyte	Spiked	Result	%REC	Limits	Units
Specific Conductance	1,000	997.0	100	90-110	umhos/cm

**Field ID:** OASIS WELL 4

**Matrix:** Water

**Received:** 07/08/19

**Type:** SDUP

**Diln Fac:** 1.000

**Analyzed:** 07/15/19 15:05

**MSS Lab ID:** 311574-001

**Batch#:** 272185

**Prep:** METHOD

**Lab ID:** QC982736

**Sampled:** 07/06/19 15:00

**Analysis:** SM2510B

Analyte	MSS Result	Result	RL	Units	RPD	Lim
Specific Conductance	721.0	722.0	1.000	umhos/cm	0	20

Legend

RL: Reporting Limit

RPD: Relative Percent Difference

## pH

**Lab #:** 311574

**Client:** Balance Hydrologics

**Project#:** 218172

**Location:** Oasis

**Field ID:** OASIS WELL 4

**Batch#:** 271985

**Prep:** METHOD

**Lab ID:** 311574-001

**Sampled:** 07/06/19 15:00

**Analysis:** EPA 9040C

**Matrix:** Water

**Received:** 07/08/19

**Diln Fac:** 1.000

**Analyzed:** 07/08/19 17:40

Analyte	Result	RL	Units
pH	8.8 H	1.0	SU

## Legend

**H:** Holding time was exceeded

**RL:** Reporting Limit

## Analytical Report

**Lab #:** 311574

**Client:** Balance Hydrologics

**Project#:** 218172

**Location:** Oasis

**Field ID:** ZZZZZZZZZZ

**Type:** SDUP

**MSS Lab ID:** 311559-001

**Lab ID:** QC981899

**Matrix:** Water

**Diln Fac:** 1.000

**Batch#:** 271985

**Sampled:** 07/08/19 08:30

**Received:** 07/08/19

**Analyzed:** 07/08/19 10:12

**Prep:** METHOD

**Analysis:** EPA 9040C

Analyte	MSS Result	Result	RL	Units	RPD	Lim
pH	8.340	8.410	1.000	SU	1	20

Legend

**RL:** Reporting Limit

**RPD:** Relative Percent Difference

### Total Dissolved Solids (TDS)

<b>Lab #:</b> 311574		<b>Project#:</b> 218172
<b>Client:</b> Balance Hydrologics		<b>Location:</b> Oasis
<b>Field ID:</b> OASIS WELL 4	<b>Diln Fac:</b> 1.000	<b>Prepared:</b> 07/08/19
<b>Type:</b> SAMPLE	<b>Batch#:</b> 271984	<b>Analyzed:</b> 07/09/19
<b>Lab ID:</b> 311574-001	<b>Sampled:</b> 07/06/19	<b>Prep:</b> METHOD
<b>Matrix:</b> Water	<b>Received:</b> 07/08/19	<b>Analysis:</b> SM2540C

Analyte	Result	RL	Units
Total Dissolved Solids	480	10	mg/L

<b>Type:</b> BLANK	<b>Diln Fac:</b> 1.000	<b>Analyzed:</b> 07/09/19
<b>Lab ID:</b> QC981895	<b>Batch#:</b> 271984	<b>Prep:</b> METHOD
<b>Matrix:</b> Water	<b>Prepared:</b> 07/08/19	<b>Analysis:</b> SM2540C

Analyte	Result	RL	Units
Total Dissolved Solids	ND	10	mg/L

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Analytical Report

**Lab #:** 311574

**Project#:** 218172

**Client:** Balance Hydrologics

**Location:** Oasis

**Type:** BS

**Diln Fac:** 1.000

**Analyzed:** 07/09/19

**Lab ID:** QC981896

**Batch#:** 271984

**Prep:** METHOD

**Matrix:** Water

**Prepared:** 07/08/19

**Analysis:** SM2540C

Analyte	Spiked	Result	%REC	Limits	Units
Total Dissolved Solids	100.0	92.00	92	80-121	mg/L

**Type:** BSD

**Diln Fac:** 1.000

**Analyzed:** 07/09/19

**Lab ID:** QC981897

**Batch#:** 271984

**Prep:** METHOD

**Matrix:** Water

**Prepared:** 07/08/19

**Analysis:** SM2540C

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Total Dissolved Solids	100.0	90.00	90	80-121	mg/L	2	5

**Field ID:** ZZZZZZZZZZ

**Diln Fac:** 50.00

**Analyzed:** 07/09/19

**Type:** SDUP

**Batch#:** 271984

**Prep:** METHOD

**MSS Lab ID:** 311526-001

**Sampled:** 07/03/19

**Analysis:** SM2540C

**Lab ID:** QC981898

**Received:** 07/03/19

**Matrix:** Water

**Prepared:** 07/08/19

Analyte	MSS Result	Result	RL	Units	RPD	Lim
<b>Total Dissolved Solids</b>	410,000	<b>393,100</b>	500.0	mg/L	4	5

Legend

**RL:** Reporting Limit

**RPD:** Relative Percent Difference

This Report is Amended  
 The Bicarbonate value was corrected



**Balance Hydrologics, Inc.**  
 Mark Woysner  
 800 Bancroft Way, Suite 101  
 Berkeley, CA 94710

4 Justin Court Suite D, Monterey, CA 93940  
 831.375.MBAS (6227)  
 www.MBASinc.com

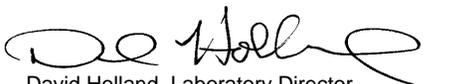
ELAP Certification Number: 2385

Friday, July 19, 2019

**Lab Number: 190511\_02-01 Sample Description: Cayetano Creek**

Collection Date/Time: 5/10/2019 13:00 Sample Collector: Porras G Client Sample #: 218172  
 Submittal Date/Time: 5/11/2019 19:04 System ID:

Analyte	Method	Unit	Result	Dil.	Qual	PQL	MCL	Analysis Date / Time	Analyst
Anion-Cation Balance	Calculation	%	-4	1					
QC Anion Sum x 100	Calculation	%	115	1					
QC Cation Sum x 100	Calculation	%	106	1					
QC Ratio TDS/SEC	Calculation	NA	0.65	1					
Boron	EPA200.7	mg/L	1.12	1		0.05		5/15/2019 10:45	MW
Calcium	EPA200.7	mg/L	66	1		1		5/15/2019 10:45	MW
Magnesium	EPA200.7	mg/L	33	1		0.5		5/15/2019 10:45	MW
Potassium	EPA200.7	mg/L	2.5	1		0.5		5/15/2019 10:45	MW
Sodium	EPA200.7	mg/L	137	1		1		5/14/2019 17:22	MW
Chloride	EPA300.0	mg/L	85	1		1	250	5/13/2019 14:34	BS
Nitrate as N	EPA300.0	mg/L	0.1	1	H	0.1	10	5/13/2019 14:34	BS
<i>H: Analyzed outside of holding time.</i>									
Sulfate	EPA300.0	mg/L	108	1		1	250	5/13/2019 14:34	BS
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	420	1		10		5/16/2019 16:46	LM
Bicarbonate (as HCO3-)	SM2320B	mg/L	449	1		10			
Carbonate as CaCO3	SM2320B	mg/L	52	1		10		5/16/2019 16:46	LM
Hardness (as CaCO3)	SM2340B/Calc	mg/L	300	1		10			
Specific Conductance (EC)	SM2510B	µmhos/cm	1134	1		1	900	5/16/2019 16:46	LM
Total Dissolved Solids	SM2540C	mg/L	736	1		10	500	5/14/2019 15:13	LM
pH (Laboratory)	SM4500-H+B	pH (H)	8.7	1		0.1	8.5	5/13/2019 16:18	LM
SAR (Sodium Adsorption Ratio)	Suarez, 1981	NA	3.6	1					
SAR, Adjusted	Suarez, 1981	NA	4.4	1					

Report Approved by:   
 David Holland, Laboratory Director

mg/L : Milligrams per liter (=ppm)      µg/L : Micrograms per liter (=ppb)      PQL : Practical Quantitation Limit      MCL : Maximum Contamination Level  
 H = Analyzed outside of hold time      E = Analysis performed by External Laboratory; See Report attachments      T = Temperature Exceedance  
 MDL = Method Detection Limit      J = Result is less than PQL      ND = Non Detect

**Balance Hydrologics, Inc.**  
 Mark Woyshner  
 800 Bancroft Way, Suite 101  
 Berkeley, CA 94710

Friday, July 19, 2019

### QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
QC19051707	190513_28-05: Duplicate 1	Alkalinity, Total (as CaCO <sub>3</sub> )	243.0	mg/L		0.8	0 - 10
	CCVB 1	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1	
	LCS 1	Alkalinity, Total (as CaCO <sub>3</sub> )	40.0	mg/L	100		95 - 105
	LCSD 1	Alkalinity, Total (as CaCO <sub>3</sub> )	40.0	mg/L	100	< 0.1	0 - 10
	LCSL 1	Alkalinity, Total (as CaCO <sub>3</sub> )	10.0	mg/L	100		80 - 120
	Method Blank 1	Alkalinity, Total (as CaCO <sub>3</sub> )	ND	mg/L		< 0.1	
QC19051521	190513_28-02: MS 1	Boron	0.89	mg/L	84		70 - 130
	190513_28-02: MSD 1	Boron	0.9	mg/L	86	1.2	0 - 20
	CCVB 1	Boron	ND	mg/L		< 0.1	
	LCB 1	Boron	ND	mg/L		< 0.1	
	LCS 1	Boron	0.97	mg/L	97		95 - 105
	LCSD 1	Boron	0.91	mg/L	91	6.2	0 - 10
	LFB 1	Boron	1.03	mg/L	103		85 - 115
	LFBD 1	Boron	1.02	mg/L	102	1.1	0 - 20
	Method Blank 1	Boron	ND	mg/L		< 0.1	
	QCS 1	Boron	0.98	mg/L	98		95 - 105
	190513_28-02: MS 1	Calcium	75.82	mg/L	87		70 - 130
	190513_28-02: MSD 1	Calcium	77.35	mg/L	90	3.5	0 - 20
	CCVB 1	Calcium	ND	mg/L		< 0.1	
	LCB 1	Calcium	ND	mg/L		< 0.1	
	LCS 1	Calcium	49.11	mg/L	98		95 - 105
	LCSD 1	Calcium	45.01	mg/L	90	8.7	0 - 10
	LFB 1	Calcium	51.57	mg/L	103		85 - 115
	LFBD 1	Calcium	51.14	mg/L	102	0.8	0 - 20
	Method Blank 1	Calcium	ND	mg/L		< 0.1	
	QCS 1	Calcium	49.51	mg/L	99		95 - 105
QC19051503	190511_03-01: MS 1	Chloride	58.68	mg/L	96		80 - 120
	190511_03-01: MSD 1	Chloride	57.99	mg/L	93	3.7	0 - 10
	CCVB 1	Chloride	ND	mg/L		< 0.1	
	LCS 1	Chloride	20.93	mg/L	105		90 - 110
	LCSD 1	Chloride	20.45	mg/L	102	2.3	0 - 10
	LCSL 1	Chloride	1.93	mg/L	96		50 - 150
	Method Blank 1	Chloride	ND	mg/L		< 0.1	
QC19051521	190513_28-02: MS 1	Magnesium	54.83	mg/L	94		70 - 130
	190513_28-02: MSD 1	Magnesium	55.31	mg/L	95	1.0	0 - 20

**Balance Hydrologics, Inc.**  
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 831.375.MBAS (6227)  
 www.MBASinc.com

ELAP Certification Number: 2385

Friday, July 19, 2019

## QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
	CCVB 1	Magnesium	ND	mg/L		< 0.1	
	LCB 1	Magnesium	ND	mg/L		< 0.1	
	LCS 1	Magnesium	48.6	mg/L	97		95 - 105
	LCSD 1	Magnesium	45.41	mg/L	91	6.8	0 - 10
	LFB 1	Magnesium	53.29	mg/L	107		85 - 115
	LFBD 1	Magnesium	52.19	mg/L	104	2.1	0 - 20
	Method Blank 1	Magnesium	ND	mg/L		< 0.1	
	QCS 1	Magnesium	50.38	mg/L	101		95 - 105
QC19051503	190511_03-01: MS 1	Nitrate as N	2.28	mg/L	94		80 - 120
	190511_03-01: MSD 1	Nitrate as N	2.28	mg/L	94	0.2	0 - 10
	CCVB 1	Nitrate as N	ND	mg/L		< 0.1	
	LCS 1	Nitrate as N	2.04	mg/L	102		90 - 110
	LCSD 1	Nitrate as N	1.99	mg/L	100	2.6	0 - 10
	LCSL 1	Nitrate as N	0.17	mg/L	85		50 - 150
	Method Blank 1	Nitrate as N	ND	mg/L		< 0.1	
QC19051324	190513_28-06: Duplicate 1	pH (Laboratory)	7.2	pH (H)		< 0.1	0 - 10
	LCS 1	pH (Laboratory)	6.89	pH (H)	100		95 - 105
	LCSD 1	pH (Laboratory)	6.89	pH (H)	100	< 0.1	0 - 10
QC19051521	190513_28-02: MS 1	Potassium	13.27	mg/L	90		70 - 130
	190513_28-02: MSD 1	Potassium	13.85	mg/L	96	6.2	0 - 20
	CCVB 1	Potassium	ND	mg/L		< 0.1	
	LCB 1	Potassium	ND	mg/L		< 0.1	
	LCS 1	Potassium	10.07	mg/L	101		95 - 105
	LCSD 1	Potassium	9.53	mg/L	95	5.6	0 - 10
	LFB 1	Potassium	10.31	mg/L	103		85 - 115
	LFBD 1	Potassium	10.3	mg/L	103	< 0.1	0 - 20
	Method Blank 1	Potassium	ND	mg/L		< 0.1	
	QCS 1	Potassium	9.78	mg/L	98		95 - 105
	190513_28-02: MS 1	Sodium	89.51	mg/L	89		70 - 130
	190513_28-02: MSD 1	Sodium	91.87	mg/L	94	5.2	0 - 20
	CCVB 1	Sodium	ND	mg/L		< 0.1	
	LCB 1	Sodium	ND	mg/L		< 0.1	
	LCS 1	Sodium	51.36	mg/L	103		95 - 105
	LCSD 1	Sodium	49.08	mg/L	98	4.5	0 - 10
	LFB 1	Sodium	53.31	mg/L	107		85 - 115



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Friday, July 19, 2019

### QC Results

QC Batch ID	QC ID	Parameter	Results	Units	% Rec	% RPD	Control Limit
	LFBD 1	Sodium	52.93	mg/L	106	0.7	0 - 20
	Method Blank 1	Sodium	ND	mg/L		< 0.1	
	QCS 1	Sodium	49.86	mg/L	100		95 - 105
QC19051706	190513_28-05: Duplicate 1	Specific Conductance (EC)	940.0	µmhos/cm		< 0.1	0 - 10
	190515_24-01: Duplicate 2	Specific Conductance (EC)	718.0	µmhos/cm		0.6	0 - 10
	LCS 1	Specific Conductance (EC)	1419.0	µmhos/cm	100		90 - 110
	LCSH 1	Specific Conductance (EC)	24800.0	µmhos/cm	100		90 - 110
	LCSL 1	Specific Conductance (EC)	147.0	µmhos/cm	100		90 - 110
QC19051503	190511_03-01: MS 1	Sulfate	60.95	mg/L	94		80 - 120
	190511_03-01: MSD 1	Sulfate	60.16	mg/L	90	4.3	0 - 10
	CCVB 1	Sulfate	ND	mg/L		< 0.1	
	LCS 1	Sulfate	20.9	mg/L	105		90 - 110
	LCSD 1	Sulfate	20.47	mg/L	102	2.1	0 - 10
	LCSL 1	Sulfate	1.86	mg/L	93		50 - 150
	Method Blank 1	Sulfate	ND	mg/L		< 0.1	
QC19051606	190513_28-01: Duplicate 1	Total Dissolved Solids	256.0	mg/L		1.6	0 - 10
	LCS 1	Total Dissolved Solids	504.0	mg/L	101		90 - 110
	LCSD 1	Total Dissolved Solids	498.0	mg/L	100	1.2	0 - 10
	LCSL 1	Total Dissolved Solids	52.0	mg/L	104		50 - 150
	Method Blank 1	Total Dissolved Solids	ND	mg/L		< 0.1	



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ELAP Certification Number: 2385

Friday, July 19, 2019

### **Sample Condition Upon Receipt**

**Order ID: 190511\_02**

Is there evidence of chilling? N/A

\*NOTE: Systems are encouraged but not required to hold samples  
<10°C (Microbiology) or <6°C (Chemistry) during transit.

---

Did bottle arrive intact? Yes

---

Did bottle labels agree with COC? Yes

---

Adequate sample volume? Yes

---

190511-07

# Monterey Bay Analytical Services Chain Of Custody / Analysis Request

4 Justin Ct. Suite D • Monterey, Ca 93940 • (831) 375-MBAS (6227) • (831) 641-0734 (Fax)



Client/Company Name: <b>Balance Hydrologics, Inc.</b>	Attention: Mark Woysner
--	----------------------------

Billing Address: 800 Bancroft Way, Suite 101
---

E-Mail Address(es): mwoyshner@balancehydro.com	Contract/P.O. #: 218172
---	----------------------------

Turn Around Time: STD (7-14 Days) <input checked="" type="checkbox"/> 48-Hour <input type="checkbox"/> 5-Day <input type="checkbox"/> 24-Hour <input type="checkbox"/>	Phone # (510) 704-1000 ext. 209 Fax # (510) 704-1001
--	---

Drinking water  Wastewater  Monitoring Well  Soil  Sludge  Other

Project/System Information:  
Cayetano Creek sample

For Regulatory Compliance? YES  NO   
For State or Local Health Department reporting:  
Electronic Data Transfer (EDT)? YES  NO   
System ID Number: \_\_\_\_\_

MBAS Lab #	Project ID or Source Code #	Sample Site / Description (Well Name, APN#, Address, Stormdrain #)	Sampling		Receiving Temp.	CL2 Residual	Coliform Analysis					# Cont.	Container		Irrigation Suitability Panel	Analysis Requested							
			Date	Time			Routine	Other	Repeat	Special	Type		Size										
61	218172	Cayetano Creek	5/10/2019	1300								1	P	1L	✓								
	"	"	"	"								1	P	250 ml	✓								

	Printed Name	Signature	Date	Time	Comments or Special Instructions:
Sampled by:	Gustavo Porras				
Relinquished by:	Gustavo Porras		5/10/2019	1537	
Received by:					
Relinquished by:					
Received by:	MBAS - Ben FANCER		5/11/19	1904	

<input type="checkbox"/> Payment received	Check #	Amount:	Receipt #	Date:
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## **APPENDIX E**

### **Alameda County Drinking Water Well Testing Standards**



### Drinking Water Well Testing

Before a Building Permit can be issued for a building not served by public water, the quality & quantity of well water must be approved by this Department. Send a copy of the chemical, bacterial & flow test report to this Department (to the inspector handling the case).

- **Chemical & Bacterial Testing**

- samples must be drawn at well, before any treatment or filtration
- samples can be taken by lab personnel or others if using bottles from the lab & the lab procedures
- testing must be done by a California State Approved Lab; a list of local labs is on back of this sheet.
- write the address or APN of where sample was taken, on the lab slip.

<u>Chemical</u>	<u>Maximum</u>
• Chloride	500 mg/l
• Color	15 Units
• Copper	1,000 µg/l (micrograms per liter)
• Iron	300 µg/l
• Manganese	50 µg/l
• Nitrate (as NO <sub>3</sub> )	45.0 mg/l
• Odor - Threshold	3 Units
• Sulfate	500 mg/l
• Total Dissolved Solids	1,000 mg/l
• Turbidity	5 Units
• Zinc	5,000 µg/l
• Bacteria	Must be absent of Coliform

- **Flow Test**

- must be done by a Licensed Water Well Driller. A list of local drillers is on the back of this sheet.
- well flow must be  $\geq 5$  gpm for 4 hours per house.  $\geq 3$  gpm well flow may be acceptable with  $\geq 1200$  gallon potable water storage per house
- The Department fees for evaluating the lab reports & the flow test is \$578.

This Department does not issue Permits for drilling or abandoning drinking water wells. Contact:

- Dublin, Livermore, Pleasanton, Sunol area: Zone 7 Water Agency (925)454-5000
- Alameda, Albany, Berkeley, Castro Valley, Emeryville, Hayward, Oakland, San Leandro, San Lorenzo area: Alameda County Public Works (510)670-6633
- Fremont, Newark, Union City area: Alameda County Water District (510)659-1970

## California State Approved Water Testing Laboratories

For chemical & bacterial testing of water, look in Yellow Pages 'Laboratories - Analytical'. Here are some local labs. No endorsement implied.

- Alpha Analytical  
Dublin (925)828-6226
- Cerco Analytical  
Concord (925)462-2771
- Sequoia Analytical  
Concord (925)356-3150
- Soil Control Lab  
Watsonville (831)724-5422

## Licensed Water Well Drillers

To find a water well driller for drilling, flow testing, repair, etc. look in Yellow Pages 'Water Well Drilling & Pump Contractors'. Following is a list of some local licensed water well drillers. No endorsement implied.

- Aqua Systems Engineering  
(925)838-5512 Lic # 629340
- Clearwater Supply  
(800)820-0533 Lic # 647572
- Dan's Water Well & Pump  
(888)326-9355 Lic # 892546
- Dejesus Pump & Well Services  
(925)634-3392 Lic # 542644
- Freitas Water Well Drilling & Pump  
(209)835-2814 Lic # 967863
- Maggiora Brothers  
(800)728-1480 Lic # 249957
- Martell Water Systems  
(800)498-4282 Lic # 510952
- Pacific Coast Well & Pump  
(925)798-8875 Lic # 810579

5/6/13 - RH

**APPENDIX F**

**Alameda County Cannabis Cultivation Operators Permit**



ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY

PLANNING DEPARTMENT

June 20, 2018

Chris Bazar  
Agency Director

Albert Lopez  
Planning Director

224  
West Winton Ave  
Room 111

Hayward  
California  
94544

phone  
510.670.5400  
fax  
510.785.8793

[www.acgov.org/cda](http://www.acgov.org/cda)

Charles F. Campos, Jr.  
Oasis Venture, LLC  
7033 Morgan Territory Road  
Livermore, CA 94551  
[chuk@oasislivermore.com](mailto:chuk@oasislivermore.com)

**NOTICE OF PERMIT APPROVAL**

- **PLN2017-00215:** To allow a Cannabis Cultivation Operator
- **APPLICANT:** Oasis Venture, LLC
- **APPLICATION TYPE:** Cannabis Cultivation Operator Permit ("Permit")
- **PROJECT ADDRESS:** 7033 Morgan Territory Road, North Livermore area of unincorporated Alameda County
- **ASSESSOR'S PARCEL NUMBER(S):** 903 -0007-001-01

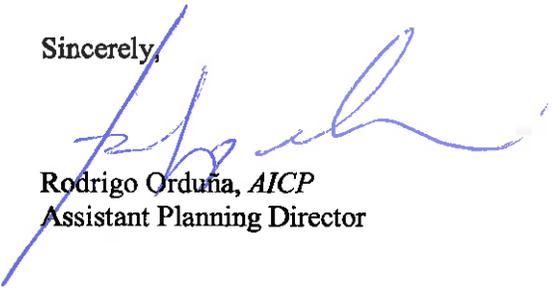
Dear Mr. Campos:

We are pleased to inform you that your application for a Cannabis Cultivation Operator Permit has been approved subject to the conditions of the permit **attached** to this letter.

We confirm that you need to obtain a Conditional Use Permit and all relevant State permissions prior to commencing operation.

Please contact me via email at [rodrigo.orduna@acgov.org](mailto:rodrigo.orduna@acgov.org) or via telephone at (510) 670-6503 if you wish to discuss the above.

Sincerely,

  
Rodrigo Orduna, AICP  
Assistant Planning Director

enc: Cannabis Cultivation Operator Permit, PLN2017-00215  
Cannabis Cultivation Operator Performance Standards and Standard Conditions

cc: File

*County of Alameda  
State of California*

**CANNABIS CULTIVATION OPERATOR  
PERMIT**

**Permit No.: PLN2017-00215**

**Expires: June 21, 2020**

**PERMITEE:** Oasis Venture, LLC;

**NOTE:** Not Transferrable

**PERMIT TYPE:** Cannabis Cultivation Operator Permit

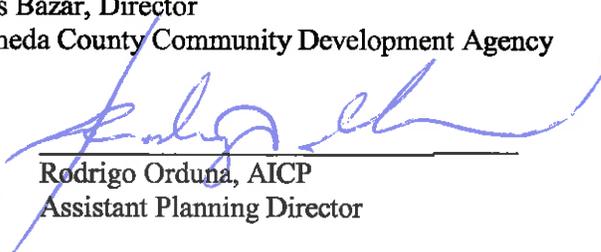
**PERMIT ADDRESS:** 7033 Morgan Territory Road, North Livermore area of unincorporated Alameda County

**PERMIT ASSESSOR'S PARCEL NUMBER(S):** 903 -0007-001-01

Subject to Revocation as per Chapter 6.106 of Title 6 of the Alameda County Ordinance Code.

Chris Bazar, Director  
Alameda County Community Development Agency

BY:

  
Rodrigo Orduna, AICP  
Assistant Planning Director

June 20, 2018  
DATE ISSUED:

This permit is subject to the attached operating conditions in addition to Standard Conditions of Operation. The Permittee / Business further understands that the issuance of this permit does not protect them from prosecution under Federal Law of the United States of America.

**POST IN A CONSPICUOUS PLACE**

**CANNABIS CULTIVATION OPERATOR PERMIT, NUMBER PLN2017-00215  
& CONDITIONS OF PERMIT**

**CONDITIONS OF PERMIT, PLN2017-00215**

**PERFORMANCE STANDARDS AND STANDARD CONDITIONS ADOPTED BY THE  
PLANNING DIRECTOR**

1. Comply with the Most Current Version of the Cannabis Cultivation Operator Performance Standards and Standard Conditions as Adopted by the Planning Director. These Cannabis Cultivation Operator Performance Standards and Standard Conditions will be updated from time to time by the Planning Director. It is the responsibility of the Permittee to comply with the most current version of these Cannabis Cultivation Operator Performance Standards and Standard Conditions as they are updated. The most current version of the Cannabis Cultivation Operator Performance Standards and Standard Conditions is attached.

**OPERATING CONDITIONS**

1. The permittee must obtain and comply with any required state permits or licenses for the operation of a cultivation operation.
2. Prior to the commencement of construction or operations, the permittee must obtain and comply with any and all land use entitlements required to operate a cultivation operation, including but not limited to a Conditional Use Permit.

**PERFORMANCE STANDARDS AND STANDARD CONDITIONS  
for Cannabis Cultivation Sites**

A person holding an effective Cannabis Cultivation Operator Permit (“CCOP”) pursuant to Chapter 6.106 of the Alameda County Ordinance Code shall comply with the following performance standards and standard conditions:

1. Limited Authorization. Permittee may conduct activities involving the planting, growing, harvesting, drying, curing, grading, or trimming and associated storage of cannabis, including but not limited to nursery operations, only at a site approved for cannabis cultivation pursuant to a conditional use permit.
2. Indoor or Mixed-Light Cultivation Only. All planting, growing, harvesting, drying, curing, grading, or trimming and associated storage of cannabis must occur within the interior of an enclosed, secured structure, such as a greenhouse or hoop house. Cannabis must not be visible from the exterior of the premises.
3. Maximum Cultivation Area. The maximum area permitted for growing cannabis plants, including both mature and immature plants, is limited to 22,000 square feet, inclusive, of total canopy size. The canopy includes all areas occupied by any portion of a cannabis plant, inclusive of all vertical planes, whether contiguous or noncontiguous. Aisles and walkways shall not be included in the total canopy size, provided no portion of a cannabis plant extends into the aisle or walkway.
4. Operations Plan Required. In addition to other submittal requirements, all applicants shall, at the time of the application for a Conditional Use Permit, include an Operations Plan with their application materials that addresses the following elements in sufficient detail for the County to evaluate the proposed cultivation operation against the requirements included herein:
  - a. Site Plan
  - b. Site Security Plan
  - c. Track and Trace Plan
  - d. Cultivation Operations Plan
  - e. Worker Safety Plan

06/18/18



- f. Cannabis Processing Plan
  - g. Waste Disposal Plan
  - h. Biological Assessment Report
5. No Dispensing. Permittee shall not dispense cannabis at the site, unless and until a dispensary permit pursuant to Chapter 6.108 of the Alameda County Ordinance Code is issued by the County permitting a dispensary to operate at the site.
  6. Track and Trace. Permittee shall institute a track and trace program to be approved by the Planning Director to ensure that cannabis cultivated at the site is dispensed only at a California dispensary. Unique identifiers shall be attached at the base of each plant and shall be traceable through the supply chain back to the cultivation site. Each permittee shall maintain records of each plant cultivated at the site and its ultimate destination.
  7. No Manufacturing. Permittee shall not manufacture cannabis products at the cultivation site.
  8. Testing. A cultivation site shall submit its cannabis products for analytical testing at an accredited testing laboratory, as defined in Business and Professions Code section 26001(at).
  9. Lighting. Permittees using artificial lighting shall shield structures, including greenhouses, so that light shall not escape at a level that is visible from neighboring properties between sunset and sunrise. Lighting that is visible from the exterior of the cultivation area is prohibited, except such lighting as is reasonably utilized for the security of the premises.
  10. Minimum Age. No person who is less than eighteen (18) years of age may be employed or otherwise engaged in the cultivation operation. No person under the age of eighteen (18) shall be allowed on the premises. The entrance to the building area of the cultivation site shall be posted with a notice that states the restrictions on the presence of persons under the age of eighteen (18).
  11. No Ingesting Permitted. No cannabis shall be smoked, ingested or otherwise consumed on the cultivation site.
  12. Display Cultivation Permit. Each cultivation site shall conspicuously display the cultivation permit (MCCOP).
  13. Registry of Employees. Each permittee shall maintain a current registry of persons, including, but not limited to, employees, contractors and volunteers, who are regularly engaged in the operation of the cultivation site. The registry shall be provided to the Planning Director and the sheriff at any time upon request. The registry shall include the name, current residential address, telephone number, date of birth and the height, weight and color of eyes and hair of each such person.

14. Criminal Background Checks. No person who has been convicted of a felony within the past three years may be actively engaged in the operation of any cultivation site. A conviction within the meaning of this section means a plea or verdict of guilty or a conviction following a plea of nolo contendere.
15. Safety and Security. Permittees shall provide adequate security on the premises, including lighting and alarms, to ensure the safety of persons and to protect the premises from theft. All safety and security measures shall be detailed in a Site Security Plan, which must be approved by the Sheriff's Office.
16. Compliance with State Law. Permittees must comply with all state statutes, regulations and requirements. Permittees must obtain and maintain any permit, license, certification or registration required by the state. Permittees must pay all required state taxes and fees. Compliance with all applicable requirements established by the following agencies is specifically required:
  - a. California Department of Food and Agriculture
  - b. California Department of Fish & Wildlife
  - c. California Water Quality Control Board
  - d. Bay Area Air Quality Management District
  - e. CALFIRE
  - f. California Department of Pesticide Regulation
  - g. California Environmental Protection Agency
  - h. California Franchise Tax Board
17. Compliance with Local Law. Permittees must comply with all local ordinances, regulations, guidelines, standards and requirements of all local agencies and departments. Permittees must obtain and maintain any permit, license, certification or registration required by a local agency or department. Permittees must pay all local taxes and fees. Compliance with all applicable requirements established by the following agencies and departments is specifically required:
  - a. Alameda County Public Works Agency
  - b. Alameda County Planning Department
  - c. Alameda County Treasurer-Tax Collector
  - d. Alameda County Fire Department

- e. Alameda County Agricultural Commissioner
  - f. Alameda County Environmental Health Department
  - g. Alameda County Sheriff's Office
  - h. Zone 7 Water Agency or other agency having jurisdiction over water supply and/or flood control
18. Inspections. Permittees must consent to periodic on-site compliance unannounced inspections to be conducted by appropriate officials. Inspections will initially occur four times per year, but the frequency and number of inspections may change at the discretion of the Planning Director.
  19. Fees. Permittees must timely remit payment for all application, program, and inspection fees.
  20. Conditions. Permittees must comply with any special conditions or conditions of approval applicable to the permit, parcel, or project.
  21. Fuels and Agricultural Additives. Storage, use and handling of any fuels, fertilizer, pesticide, fungicide, rodenticide, or herbicide shall be in compliance with applicable state and local laws and regulations, and in such a way that prevents spillage.
  22. Noise. Permittees must comply with the County Noise Ordinance.
  23. Water. Water is to be sourced locally (on-site) and trucked water shall not be allowed for general cultivation purposes, but may be used for emergencies (e.g., fire).
  24. Employer Certification. Pursuant to the Medicinal and Adult-Use Cannabis Regulation and Safety Act, Business and Professions Code section 26051.5, an applicant seeking a cultivation license shall "provide a statement declaring the applicant is an 'agricultural employer,' as defined in the Alatorre-Zenovich-Dunlap-Berman Agricultural Labor Relations Act of 1975 (Part 3.5 commencing with Section 1140) of Division 2 of the Labor Code), to the extent not prohibited by law."
  25. Labor Conditions. Permittees shall comply with all applicable federal, state, and local laws and regulations governing California agricultural employers, which may include: federal and state wage and hour laws, CAL/OSHA, OSHA, California Agricultural Labor Relations Act, and the County Ordinance Code. The Permittee shall provide a copy of its labor peace agreement when the dispensary is required by California Business & Professions Code section 26051.5 to enter into and abide by a labor peace agreement. A cultivation site must have restroom facilities that will accommodate both male and female staff.

26. Cultivation Liaison. The Permittee shall provide the Planning Director with the name, telephone number and facsimile number of a community relations contact to whom one can provide notice of problems associated with the cultivation site. The permittee shall make a good faith effort to resolve problems without the need for intervention by the County.

27. Processing Safety.

- a. Processing operations must be maintained in a clean and sanitary condition including all work surfaces and equipment.
- b. Processing operations must implement protocols which prevent processing contamination and mold and mildew growth on cannabis.
- c. Employees handling cannabis in processing operations must have access to facemasks and gloves in good operable condition as applicable to their job function.
- d. Employees must wash hands sufficiently when handling cannabis or use gloves.

28. Employee Safety Practices.

- a. Cultivation operations and processing operations must implement safety protocols and provide all employees with adequate safety training relevant to their specific job functions, which may include:
  - 1) Emergency action response planning as necessary;
  - 2) Employee accident reporting and investigation policies;
  - 3) Fire prevention;
  - 4) Hazard communication policies, including maintenance of material safety data sheets (MSDS);
  - 5) Materials handling policies;
  - 6) Job hazard analyses; and
  - 7) Personal protective equipment policies, including respiratory protection.
- b. Cultivation operations and processing operations must visibly post and maintain an emergency contact list which includes at a minimum:
  - 1) Operation manager contacts;
  - 2) Emergency responder contacts; and

- 3) Poison control contacts.
- c. At all times, employees shall have access to safe drinking water and toilets and handwashing facilities that comply with applicable federal, state, and local laws and regulations. Plumbing facilities and water source must be capable of handling increased usage without adverse consequences to neighboring properties or the environment.
  - d. On site-housing provided to employees shall comply with all applicable federal, state, and local laws and regulations.
  - e. All Permittees shall, at the time of the application for a conditional use permit, include a Cannabis Processing Plan with all of the following:
    - 1) Summary of processing practices.
    - 2) Description of location where processing will occur.
    - 3) Estimated number of employees, if any.
    - 4) Summary of Employee Safety Practices.
    - 5) Description of toilet and handwashing facilities.
    - 6) Description of plumbing and/or septic system and whether or not the system is capable of handling increased usage.
    - 7) Description of source of drinking water for employees.
    - 8) Description of increased road use resulting from processing and a plan to minimize that impact.
    - 9) Description of on-site housing, if any.

29. Waste.

- a. Solid and liquid wastes generated during cannabis production and processing must be stored, managed, and disposed of in accordance with applicable state and local laws and regulations.
- b. Wastewater generated during cannabis production and processing must be disposed of in compliance with applicable state and local laws and regulations.
- c. Wastes from the production and processing of cannabis plants must be evaluated against the state's hazardous waste regulations to determine if those wastes are classified as hazardous waste. It is the responsibility of each Permittee to properly evaluate their waste to determine

if it is designated as a hazardous waste. If a Permittee's waste does qualify as a hazardous waste, then that waste is subject to the applicable management and disposal standards. A cannabis plant, usable cannabis, trim and other plant material in itself is not considered hazardous waste unless it has been treated or contaminated with a solvent.

- d. Cannabis byproducts or wastes that do not qualify as hazardous including but not limited to trim, roots, stalks, leaves, and stems, must either be rendered unusable prior to leaving the cultivation site or be fully accounted for in the Permittee's track and trace system.

## **APPENDIX E**

### **TRAFFIC IMPACT ANALYSIS**



## Technical Memorandum

*Date:* December 14, 2018

*To:* Rod Stinson  
Division Manager/Air Quality Specialist  
1501 Sports Drive, Suite A  
Sacramento, CA 95834

*Jurisdiction:* Alameda County

*From:* Chris Kinzel, PE, TE  
Vice-President, TJKM

*Subject:* **Traffic Impact Analysis for the Proposed Cannabis Cultivation Facility at 7033 Morgan Territory Road, Alameda County**

This technical memorandum presents the results of the traffic impact analysis for the proposed Cannabis Cultivation facility located at 7033 Morgan Territory Road in Alameda County. The proposed 92.53 acre property is located within the Agricultural Zoning District, and the Resource Management land use designation of the East County Area Plan. The project includes the development of one cannabis grow house consisting of a 32,000 square feet greenhouse building, including a 22,000 square feet of canopy and one processing building. Local access to the project site is currently provided via Morgan Territory Road.

TJKM evaluated traffic conditions at two study intersections during the a.m. and p.m. peak hours for a typical weekday. The peak periods observed were between 7-9 a.m. and 4-6 p.m. The study intersections and associated traffic controls are as follows:

1. Morgan Territory Road/Manning Road (Two-Way Stop)
2. Proposed Project Driveway/Morgan Territory Road (One-Way Stop)

**Figure 1** illustrates the study intersections and the vicinity map of the proposed project. **Figure 2** shows the proposed project site plan.

This study addresses the following traffic scenarios:

- *Existing Conditions* – This scenario evaluates the study intersections based on existing traffic volumes, lane geometry, and traffic controls.
- *Existing plus Project Conditions* – This scenario is identical to Existing Conditions, but with the addition of traffic from the proposed project.

- *Cumulative (2040) Conditions* – This scenario is similar to Existing Conditions but with the projected growth rate of 2 percent per year for 22 years, which is applied to Existing Conditions traffic volumes to project traffic demands for the horizon year 2040.
- *Cumulative plus Project Conditions* - This scenario is identical to Cumulative Conditions, but with the addition of traffic from the proposed project.

### EXISTING CONDITIONS

Important roadways adjacent to the project site are discussed below:

*N. Livermore Avenue* is a two lane, north-south roadway, which extends from Manning Road to the City of Livermore. The posted speed limit is 50 mph within the project vicinity. N. Livermore Avenue is accessible to the project via Morgan Territory Road.

*Manning Road* is a two-lane, east-west roadway, extending from Carneal Road and terminating at N. Livermore Avenue. The posted speed limit is 50 mph within the project vicinity.

*Morgan Territory Road* is a two-lane, north-south roadway, extending from Manning Road and terminating at Marsh Creek Road. The posted speed limit is 50 mph within the project vicinity. Access to the project will be provided via Morgan Territory Road.

### LEVEL OF SERVICE ANALYSIS METHODOLOGY

Level of Service (LOS) is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. The LOS generally describes these conditions in terms of such factors as speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience and safety. The operational LOS are given letter designations from A to F, with A representing the best operating conditions (free-flow) and F the worst (severely congested flow with high delays). Intersections generally are the capacity-controlling locations with respect to traffic operations on arterial and collector streets.

#### Unsignalized Intersections

The study intersections under stop control (unsignalized) were analyzed using the 2000 HCM Operations Methodology for unsignalized intersections described in Chapter 17 (HCM 2000). LOS ratings for stop-sign controlled intersections are based on the average control delay expressed in seconds per vehicle. At the side street, controlled intersections or two-way stop sign intersections, the control delay is calculated for each movement, not for the intersection as a whole. For approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. **Table 1** summarizes the relationship between delay and LOS for unsignalized intersections.

Each of the study intersections was analyzed using Synchro Version 9 software and HCM 2000 methodology. The LOS methodology is described for unsignalized intersections in detail in **Appendix A**.

**Table 1: Level of Service for Unsignalized Intersections**

Level of Service	Description
A	Very low control delay less than 10 seconds per vehicle for each movement subject to delay.
B	Low control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay.
C	Acceptable control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay.
D	Tolerable control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay.
E	Limit of tolerable control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay.
F	Unacceptable control delay in excess of 50 seconds per vehicle for each movement subject to delay.

Source: Highway Capacity Manual 2000

**SIGNIFICANT IMPACT CRITERIA/LEVEL OF SERVICE STANDARDS**

According to the 2012 Alameda Countywide Transportation Plan published by the Alameda County Transportation Commission (ACTC), the LOS standard for highway systems is LOS D. For this study, LOS D is considered to be the acceptable threshold for intersections.

**EXISTING PEAK HOUR VOLUMES AND AVERAGE DAILY TRAFFIC**

The existing operations of the study intersections were evaluated for the highest one-hour volumes during weekday morning and evening peak periods. Turning movement counts for vehicles, bicycles, and pedestrians were conducted during typical weekday day a.m. and p.m. peak periods (7:00-9:00 a.m. and 4:00-6:00 p.m., respectively) at the study intersections on September 20, 2018. In addition, seven day average daily traffic (ADT) counts at the following locations were conducted in September, 2018.

1. Morgan Territory Road north of Manning Road
2. Manning Road west of North Livermore Avenue

**Appendix B** includes all the data sheets for the collected ADT, vehicle, bicycle, and pedestrian counts. **Figure 3** illustrates the existing lane geometry, traffic controls, ADT and peak hour traffic volumes at the study intersections.

**INTERSECTION LEVEL OF SERVICE ANALYSIS – EXISTING CONDITIONS**

The peak hour factor based on the counts, was used at both of the study intersections for the existing analysis. The results of the LOS analysis using the Synchro 9 software program for Existing Conditions are summarized in **Table 2**. Under this scenario, the study intersections operate within the Alameda County standards (LOS D or better) for both a.m. and p.m. peak hours.

**Table 2: Intersection Level of Service Analysis – Existing Conditions**

#	Intersection	Control	Peak Hour	Existing Conditions	
				Average Delay <sup>1</sup>	LOS <sup>2</sup>
1	Morgan Territory Road/Manning Road	Two-Way Stop	AM	10.5	B
			PM	11.7	B
2	Morgan Territory Road/Project Driveway	One-Way Stop	AM	9.0	A
			PM	9.0	A

Notes: AM – morning peak hour (between 7 and 9 a.m.), PM – evening peak hour (between 4 and 6 p.m.)

<sup>1</sup> Total control delay for the worst movement is presented for side-street stop controlled intersections.

<sup>2</sup>LOS = Level of Service calculations conducted using the Synchro 9.0 level of service analysis software package by applying HCM 2000 Methodology.

The average daily traffic on Morgan Territory Road north of Manning Road is 576 vehicles per day, and on Manning Road west of North Livermore Avenue is 2,229 vehicles per day.

**PROJECT TRIP GENERATION AND TRIP DISTRIBUTION**

Based on the information, the proposed project will operate on a continuous spanning of three shifts, seven days per week. There will be five to six cars per shift including employee’s i.e two security guards, master grower, and two trimmers. **Table 3** shows the expected trip generation for the proposed project. The project is expected to generate approximately a maximum of 11 weekday a.m. peak hour trips (11 inbound, 0 outbound) and 11 weekday p.m. peak hour trips (0 inbound, 11 outbound) based on the information provided by the project applicant.

**Table 3: Proposed Project Trip Generation**

#	Land Use Type	Size	A.M. Peak			P.M. Peak		
			In	Out	Total	In	Out	Total
1	Cannabis Cultivation Center	92.53 Acre	11	0	11	0	11	11
		<b>Total Trips</b>	<b>11</b>		<b>11</b>		<b>11</b>	<b>11</b>

Notes: Based on the information provided by developer

Trip distribution assumptions for the proposed project were developed based on the existing travel patterns and TJKM’s knowledge of the study area.

The distribution assumptions for the proposed development are as follows:

- 70 percent to/from Livermore Avenue
- 30 percent to/from Manning Avenue

**Figure 4** illustrates the trip distribution percentages and trip assignment project volumes developed for the proposed project. The assigned project trips were then added to traffic volumes under Existing Conditions to generate Existing plus Project Conditions traffic volumes.

**INTERSECTION LEVEL OF SERVICE ANALYSIS – EXISTING PLUS PROJECT CONDITIONS**

The intersection LOS analysis results for Existing plus Project Conditions are summarized in **Table 4**. Under this scenario, the study intersections operate within the Alameda County standards for both a.m. and p.m. peak hours. Based on the Alameda County levels of service impact criteria, the project is expected to have a *less-than-significant* impact at the study intersections under Existing plus Project Conditions. **Figure 5** shows projected turning movement volumes at the study intersections for Existing plus Project Conditions.

**Table 4: Intersection Level of Service Analysis – Existing plus Project Conditions**

#	Intersection	Control	Peak Hour	Existing plus Project Conditions	
				Average Delay <sup>1</sup>	LOS <sup>2</sup>
1	Morgan Territory Road/Manning Road	Two-Way Stop	AM	10.6	B
			PM	11.8	B
2	Morgan Territory Road/Project Driveway	One-Way Stop	AM	9.0	A
			PM	9.2	A

Notes: AM – morning peak hour (between 7 and 9 a.m.), PM – evening peak hour (between 4 and 6 p.m.)

<sup>1</sup> Total control delay for the worst movement is presented for side-street stop controlled intersections.

<sup>2</sup>LOS = Level of Service calculations conducted using the Synchro 9.0 level of service analysis software package by applying HCM 2000 Methodology.

The expected average daily traffic with the addition of the proposed project traffic is 686 vehicles per day on Morgan Territory Road north of Manning Road and 2,339 vehicles per day on Manning Road west of North Livermore Avenue.

### INTERSECTION LEVEL OF SERVICE ANALYSIS – CUMULATIVE (2040) CONDITIONS

This section details expected traffic conditions at the study intersections under Cumulative (No Project) Conditions. This analysis scenario is defined as baseline conditions without the proposed project in year 2040. This scenario is similar to the Existing Conditions, but with a projected growth rate of two percent per year applied over 22 years to project traffic demands for the year 2040. A peak hour factor of 0.92 was used for study intersections for Cumulative Conditions analysis. The intersection LOS analysis results for Cumulative Conditions are summarized in **Table 5**. Under this scenario, the study intersections operate within the Alameda County standards for both a.m. and p.m. peak hours. **Figure 6** shows projected turning movement volumes at the study intersections for Cumulative Conditions.

**Table 5: Intersection Level of Service Analysis – Cumulative (2040) Conditions**

#	Intersection	Control	Peak Hour	Cumulative Conditions	
				Average Delay <sup>1</sup>	LOS <sup>2</sup>
1	Morgan Territory Road/Manning Road	Two-Way Stop	AM	11.6	B
			PM	13.7	B
2	Morgan Territory Road/Project Driveway	One-Way Stop	AM	9.0	A
			PM	9.1	A

Notes: AM – morning peak hour (between 7 and 9 a.m.), PM – evening peak hour (between 4 and 6 p.m.)

<sup>1</sup> Total control delay for the worst movement is presented for side-street stop controlled intersections.

<sup>2</sup>LOS = Level of Service calculations conducted using the Synchro 9.0 level of service analysis software package by applying HCM 2000 Methodology.

Under Cumulative Conditions the expected average daily traffic is 890 vehicles per day on Morgan Territory Road north of Manning Road and 3,446 vehicles per day on Manning Road west of North Livermore Avenue.

**INTERSECTION LEVEL OF SERVICE ANALYSIS – CUMULATIVE PLUS PROJECT CONDITIONS**

The intersection LOS analysis results for Cumulative plus Project Conditions are summarized in **Table 6**. Under this scenario, the study intersections operate within the Alameda County standards for both a.m. and p.m. peak hours. Based on the Alameda County levels of service impact criteria, the project is expected to have a *less-than-significant* impact at the study intersections under Cumulative plus Project Conditions. **Figure 7** shows projected turning movement volumes at the study intersections for Cumulative plus Project Conditions.

**Table 6: Intersection Level of Service Analysis – Cumulative plus Project Conditions**

#	Intersection	Control	Peak Hour	Cumulative plus Project Conditions	
				Average Delay <sup>1</sup>	LOS <sup>2</sup>
1	Morgan Territory Road/Manning Road	Two-Way Stop	AM	11.7	B
			PM	13.7	B
2	Morgan Territory Road/Project Driveway	One-Way Stop	AM	9.0	A
			PM	9.1	A

Notes: AM – morning peak hour (between 7 and 9 a.m.), PM – evening peak hour (between 4 and 6 p.m.)

<sup>1</sup> Total control delay for the worst movement is presented for side-street stop controlled intersections.

<sup>2</sup>LOS = Level of Service calculations conducted using the Synchro 9.0 level of service analysis software package by applying HCM 2000 Methodology.

The expected average daily traffic with the addition of the proposed project traffic is 1000 vehicles per day on Morgan Territory Road north of Manning Road and 3,556 vehicles per day on Manning Road west of North Livermore Avenue.

Level of service worksheets for all the scenarios are attached in the **Appendix C**.

### SITE ACCESS AND ON-SITE CIRCULATION

This section analyzes site access and internal circulation for passenger vehicles, trucks, pedestrians, and bicycles based on the site plan. The proposed project's access will be via one full access driveway on Morgan Territory Road as shown in the project site plan. The internal circulation for the proposed project was reviewed for issues related to safety and parking. The internal loop roadway is 22 feet wide and accommodates two-way travel. Based on the evaluation, the access roadway is expected to be adequate for passenger vehicles accessing the project site. Emergency vehicles can access the project via Morgan Territory Road. Overall, the proposed on-site vehicle circulation is adequate and should not result in any traffic operations issues on-site that would provide significant impacts on County streets.

The proposed project is not expected to generate pedestrian and bicycle trips. Based on the pedestrian and bicycle counts conducted there is no pedestrian and bicycle activity along Morgan Territory Road.

### SIGHT DISTANCE ANALYSIS

Sight distance is evaluated to determine if a driver will have adequate visibility to enter a roadway safely without resulting in a conflict with traffic already on the roadway. The project access points should be free and clear of any obstructions that would materially and adversely affect sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on adjacent roadways. The line of sight between vehicles exiting the driveway and vehicles travelling northbound is clear and visible. The line of sight of vehicles exiting the driveway and vehicles travelling southbound is affected by existing vegetation and the existing horizontal curve, just north of the driveway. In order to improve the sight distance for southbound traffic on Morgan Territory Road the existing trees should be kept trimmed to a minimum of eight feet from the ground. Ground cover and other landscaping should be kept trimmed to a maximum height of three feet. By clearing the vegetation, sight distance of approximately 300 feet (required for the design speed of 40 mph as per the Highway Design Manual (HDM)) is gained for southbound vehicles. TJKM recommends installation of a stop sign and appropriate pavement markings at the project driveway and also install W1-10C blind driveway signs for southbound travelling vehicles.



## PARKING

As per the Alameda County Municipal Code, cannabis grow house building requires four spaces per 1000 square feet. The project proposes 26 standard parking spaces of which one space is accessible parking space. Based on the parking criteria, the proposed number of off-street parking spaces should satisfy the parking needs for the project.

## CONCLUSIONS

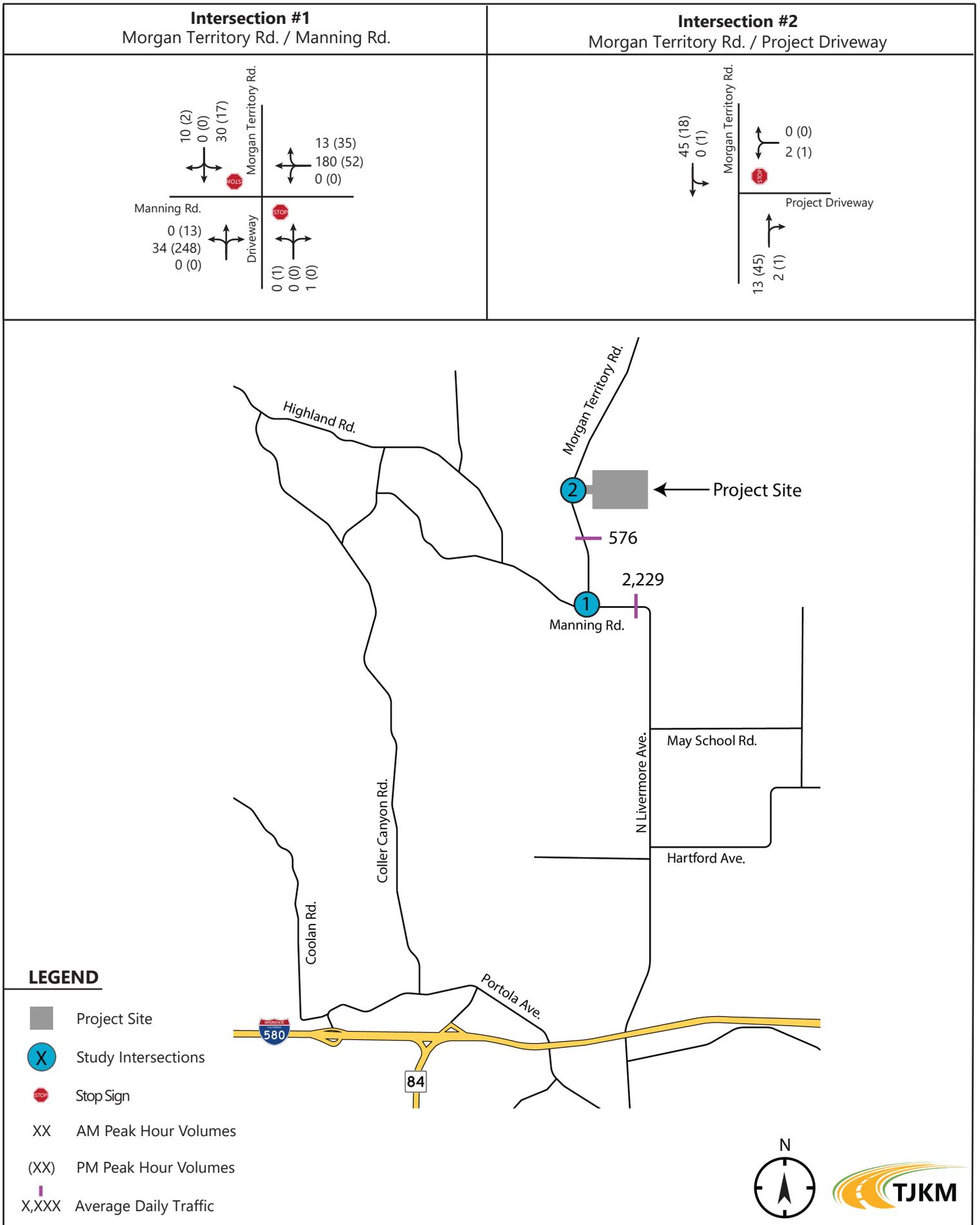
- The proposed project is expected to generate approximately 11 weekday a.m. peak hour trips and 11 weekday p.m. peak hour trips.
- Based on the Alameda County levels of service impact criteria, the project is expected to have a *less-than-significant* impact at the study intersections under Existing, and Cumulative plus Project Conditions.
- Based on the evaluation, the proposed on-site vehicle circulation is adequate and should not result in significant impacts on County streets.
- The proposed number of off-street parking spaces will satisfy the parking needs for the project
- The line of sight between vehicles exiting the driveway and vehicles travelling northbound is clear and visible. The line of sight of vehicles exiting the driveway and vehicles travelling southbound is affected by existing vegetation and the existing horizontal curve, just north of the driveway. In order to improve the sight distance for southbound traffic on Morgan Territory Road the existing trees should be kept trimmed to a minimum of eight feet from the ground. Ground cover and other landscaping should be kept trimmed to a maximum height of three feet. By clearing the vegetation, sight distance of approximately 300 feet (required for the design speed of 40 mph as per the Highway Design Manual (HDM)) is gained for southbound vehicles. TJKM recommends installation of a stop sign and appropriate pavement markings at the project driveway and also install W1-10C blind driveway signs for southbound travelling vehicles.

# Vicinity Map



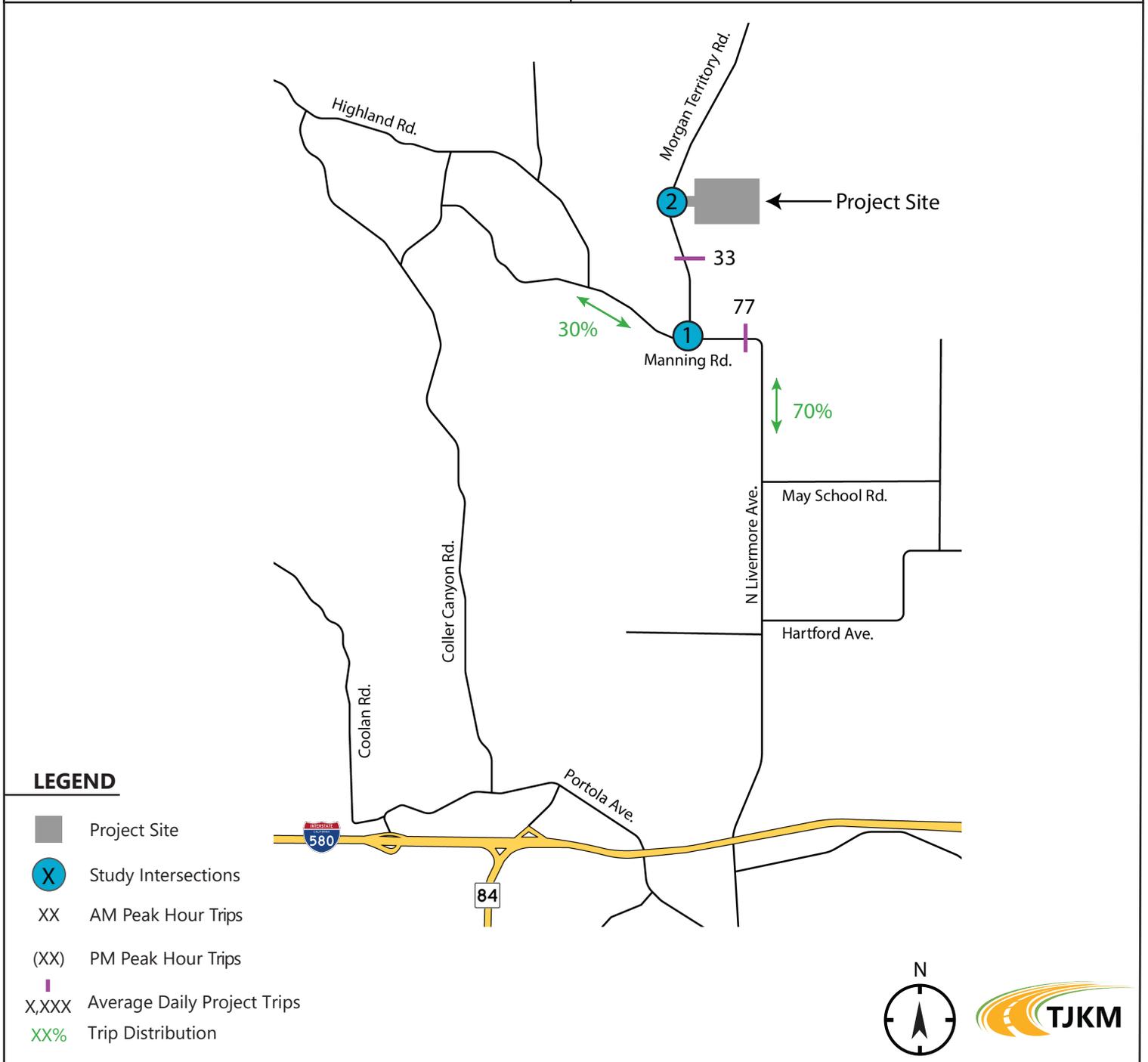


# Existing Lane Geometry, Traffic Controls and Peak Hour Traffic Volumes

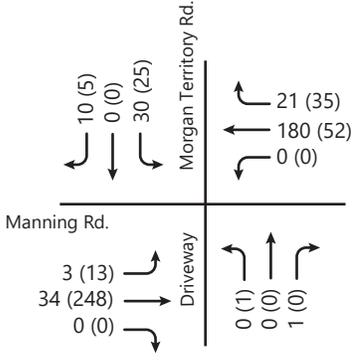
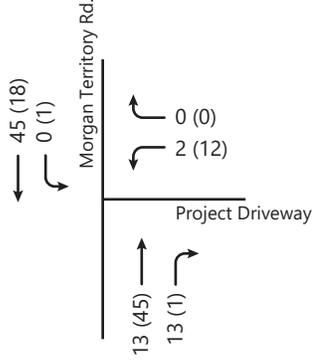


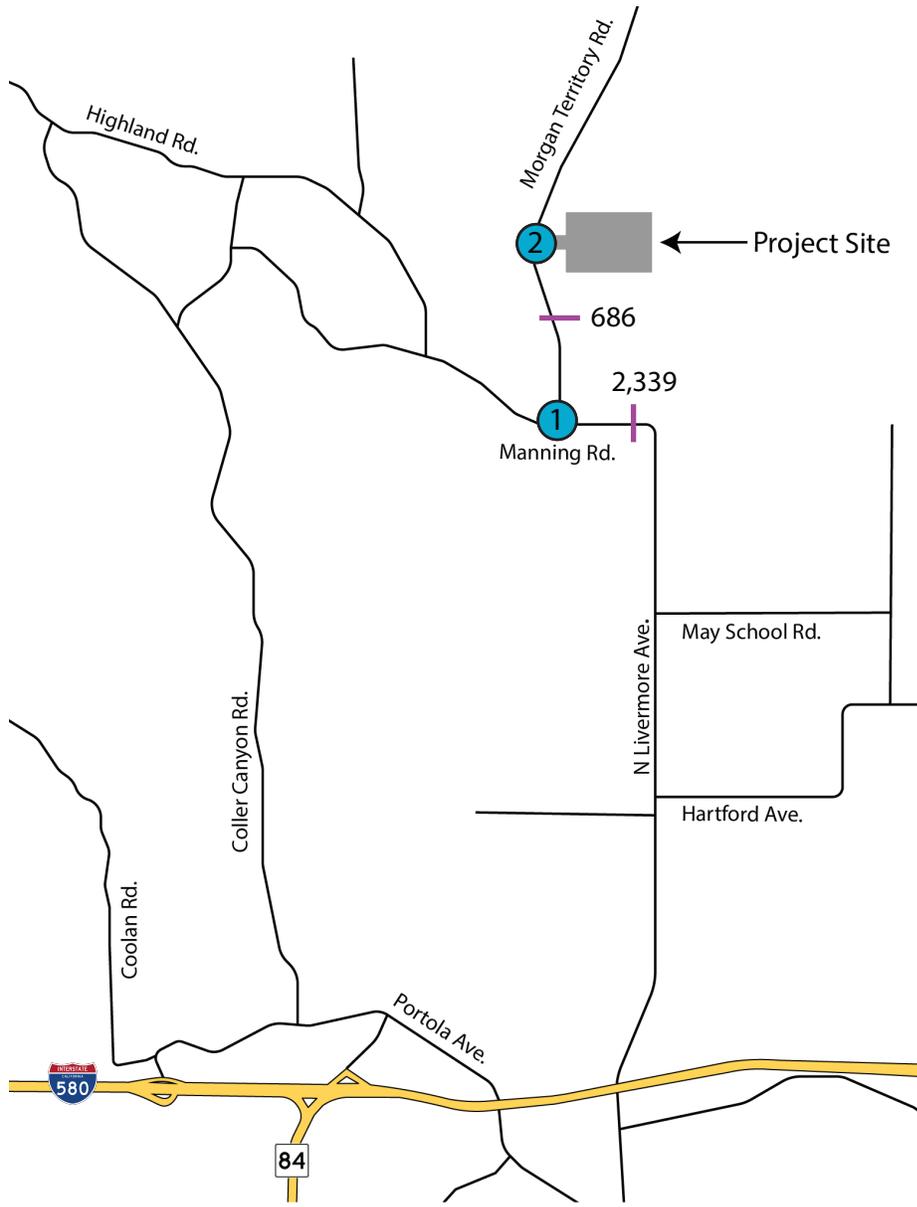
# Trip Distribution and Assignment

<b>Intersection #1</b> Morgan Territory Rd. / Manning Rd.	<b>Intersection #2</b> Morgan Territory Rd. / Project Driveway
<p>Diagram of Intersection #1 (Morgan Territory Rd. / Manning Rd.):</p> <ul style="list-style-type: none"> <li>Northbound Morgan Territory Rd. (left turn): 0 (3)</li> <li>Northbound Morgan Territory Rd. (through/right): 0 (8)</li> <li>Southbound Morgan Territory Rd. (left turn): 8 (0)</li> <li>Southbound Manning Rd. (right turn): 3 (0)</li> </ul>	<p>Diagram of Intersection #2 (Morgan Territory Rd. / Project Driveway):</p> <ul style="list-style-type: none"> <li>Northbound Morgan Territory Rd. (left turn): 0 (11)</li> <li>Southbound Morgan Territory Rd. (right turn): 11 (0)</li> </ul>



# Existing Plus Project Peak Hour Traffic Volumes

<b>Intersection #1</b> Morgan Territory Rd. / Manning Rd.	<b>Intersection #2</b> Morgan Territory Rd. / Project Driveway
	



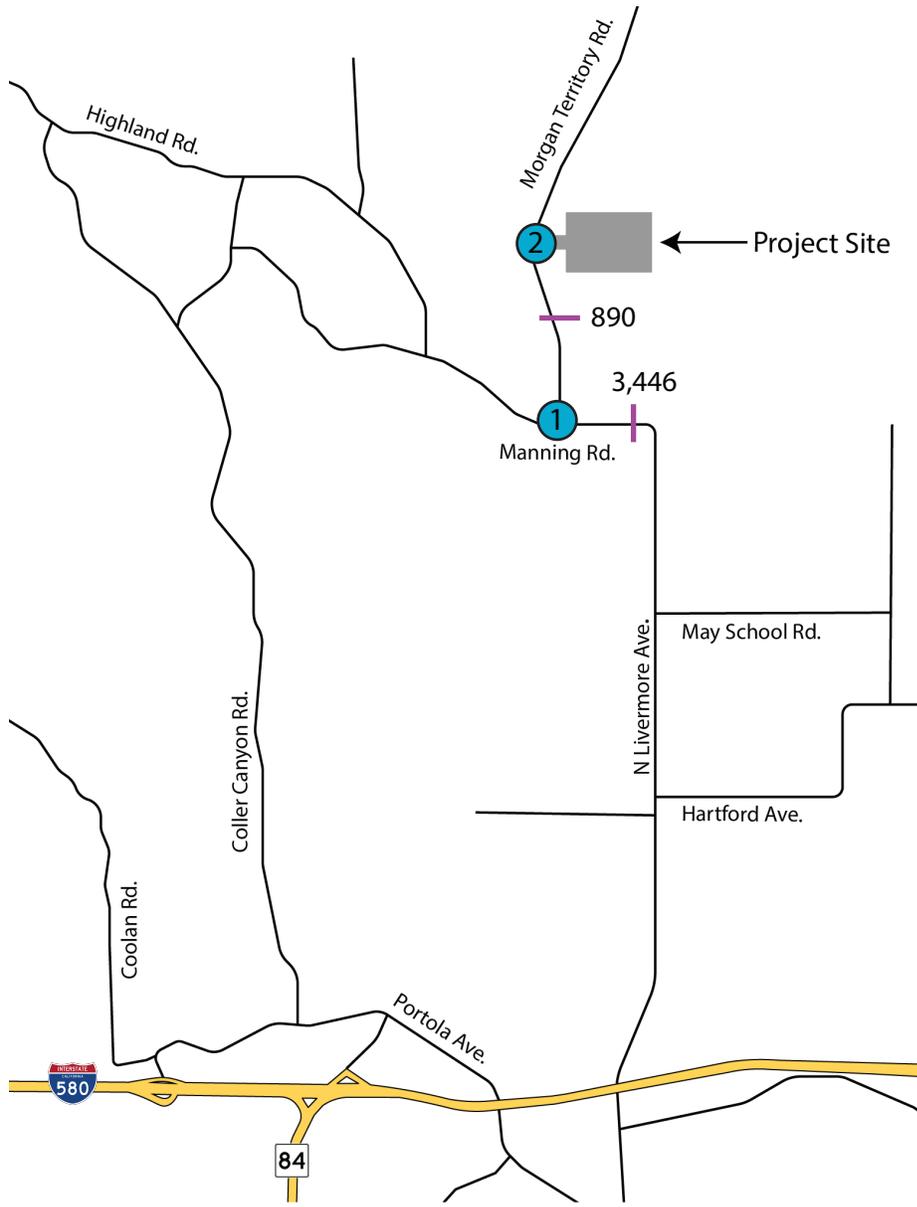
## LEGEND

-  Project Site
-  Study Intersections
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes
-  X,XXX Average Daily Traffic



# Cumulative Peak Hour Traffic Volumes

<b>Intersection #1</b> Morgan Territory Rd. / Manning Rd.	<b>Intersection #2</b> Morgan Territory Rd. / Project Driveway
<p>                         Morgan Territory Rd. / Manning Rd. / Driveway                          AM Peak Hour Volumes: 15 (3), 0 (0), 46 (26)                          PM Peak Hour Volumes: 20 (54), 278 (80), 0 (0)                          Average Daily Traffic: 0 (20), 53 (383), 0 (0)                          Driveway: 0 (2), 0 (0), 2 (0)                     </p>	<p>                         Morgan Territory Rd. / Project Driveway                          AM Peak Hour Volumes: 70 (28), 0 (0)                          PM Peak Hour Volumes: 0 (0), 3 (2)                          Average Daily Traffic: 20 (70), 3 (2)                     </p>



## LEGEND

-  Project Site
-  Study Intersections
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes
- X,XXX Average Daily Traffic



# Cumulative Plus Project Peak Hour Traffic Volumes

<b>Intersection #1</b> Morgan Territory Rd. / Manning Rd.	<b>Intersection #2</b> Morgan Territory Rd. / Project Driveway
<p><b>Approach 1 (Northbound on Morgan Territory Rd.):</b>                      Left: 15 (6)                      Through: 0 (0)                      Right: 46 (34)</p> <p><b>Approach 2 (Southbound on Morgan Territory Rd.):</b>                      Left: 28 (54)                      Through: 278 (80)                      Right: 0 (0)</p> <p><b>Approach 3 (Westbound on Manning Rd.):</b>                      Left: 3 (20)                      Through: 53 (383)                      Right: 0 (0)</p> <p><b>Approach 4 (Eastbound on Manning Rd.):</b>                      Left: 0 (2)                      Through: 0 (0)                      Right: 2 (0)</p>	<p><b>Approach 1 (Northbound on Morgan Territory Rd.):</b>                      Left: 70 (28)                      Through: 0 (2)</p> <p><b>Approach 2 (Southbound on Morgan Territory Rd.):</b>                      Left: 0 (0)                      Through: 3 (13)</p> <p><b>Approach 3 (Westbound on Project Driveway):</b>                      Left: 20 (70)                      Right: 14 (2)</p>



## LEGEND

- Project Site
- Study Intersections
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes
- X,XXX Average Daily Traffic





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## **APPENDIX A – LEVEL OF SERVICE METHODOLOGY**

# LEVEL OF SERVICE METHODOLOGY

## LEVEL OF SERVICE

The description and procedures for calculating capacity and level of service are found in Transportation Research Board, *Highway Capacity Manual 2000*. *Highway Capacity Manual 2000* represents the latest research on capacity and quality of service for transportation facilities.

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of service is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Six levels of service are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with level-of-service A representing the best operating conditions and level-of-service F the worst. Each level of service represents a range of operating conditions and the driver's perception of these conditions. Safety is not included in the measures that establish service levels.

A general description of service levels for various types of facilities is shown in Table A-I.

**Table A-I**

**Level of Service Description**

Facility Type	Uninterrupted Flow	Interrupted Flow
		Freeways Multi-lane Highways Two-lane Highways Urban Streets
LOS		
A	Free-flow	Very low delay.
B	Stable flow. Presence of other users noticeable.	Low delay.
C	Stable flow. Comfort and convenience starts to decline.	Acceptable delay.
D	High density stable flow.	Tolerable delay.
E	Unstable flow.	Limit of acceptable delay.
F	Forced or breakdown flow.	Unacceptable delay

Source: *Highway Capacity Manual 2000*

## Urban Streets

The term “urban streets” refers to urban arterials and collectors, including those in downtown areas.

Arterial streets are roads that primarily serve longer through trips. However, providing access to abutting commercial and residential land uses is also an important function of arterials.

Collector streets provide both land access and traffic circulation within residential, commercial and industrial areas. Their access function is more important than that of arterials, and unlike arterials their operation is not always dominated by traffic signals.

Downtown streets are signalized facilities that often resemble arterials. They not only move through traffic but also provide access to local businesses for passenger cars, transit buses, and trucks. Pedestrian conflicts and lane obstructions created by stopping or standing buses, trucks and parking vehicles that cause turbulence in the traffic flow are typical of downtown streets.

The speed of vehicles on urban streets is influenced by three main factors, street environment, interaction among vehicles and traffic control. As a result, these factors also affect quality of service.

The street environment includes the geometric characteristics of the facility, the character of roadside activity and adjacent land uses. Thus, the environment reflects the number and width of lanes, type of median, driveway density, spacing between signalized intersections, existence of parking, level of pedestrian activity and speed limit.

The interaction among vehicles is determined by traffic density, the proportion of trucks and buses, and turning movements. This interaction affects the operation of vehicles at intersections and, to a lesser extent, between signals.

Traffic control (including signals and signs) forces a portion of all vehicles to slow or stop. The delays and speed changes caused by traffic control devices reduce vehicle speeds, however, such controls are needed to establish right-of-way.

The average travel speed for through vehicles along an urban street is the determinant of the operating level of service. The travel speed along a segment, section or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections.

Level-of-service A describes primarily free-flow operations. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.

Level-of-service B describes reasonably unimpeded operations. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant.

Level-of-service C describes stable operations, however, ability to maneuver and change lanes in midblock location may be more restricted than at level-of-service B. Longer queues, adverse signal coordination, or both may contribute to lower travel speeds.

Level-of-service D borders on a range in which in which small increases in flow may cause substantial increases in delay and decreases in travel speed. Level-of-service D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors.

Level-of-service E is characterized by significant delays and lower travel speeds. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.

Level-of-service F is characterized by urban street flow at extremely low speeds. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.

The methodology to determine level of service stratifies urban streets into four classifications. The classifications are complex, and are related to functional and design categories. Table A-II describes the functional and design categories, while Table A-III relates these to the urban street classification.

Once classified, the urban street is divided into segments for analysis. An urban street segment is a one-way section of street encompassing a series of blocks or links terminating at a signalized intersection. Adjacent segments of urban streets may be combined to form larger street sections, provided that the segments have similar demand flows and characteristics.

Levels of service are related to the average travel speed of vehicles along the urban street segment or section.

Travel times for existing conditions are obtained by field measurements. The maximum-car technique is used. The vehicle is driven at the posted speed limit unless impeded by actual traffic conditions. In the maximum-car technique, a safe level of vehicular operation is maintained by observing proper following distances and by changing speeds at reasonable rates of acceleration and deceleration. The maximum-car technique provides the best base for measuring traffic performance.

An observer records the travel time and locations and duration of delay. The beginning and ending points are the centers of intersections. Delays include times waiting in queues at signalized intersections. The travel speed is determined by dividing the length of the segment by the travel time. Once the travel speed on the arterial is determined, the level of service is found by comparing the speed to the criteria in Table A-IV. Level-of-service criteria vary for the different classifications of urban street, reflecting differences in driver expectations.

**Table A-II**

**Functional and Design Categories for Urban Streets**

Criterion	Functional Category			
	Principal Arterial		Minor Arterial	
Mobility function	Very important		Important	
Access function	Very minor		Substantial	
Points connected	Freeways, important activity centers, major traffic generators		Principal arterials	
Predominant trips served	Relatively long trips between major points and through trips entering, leaving, and passing through city		Trips of moderate length within relatively small geographical areas	
Criterion	Design Category			
	High-Speed	Suburban	Intermediate	Urban
Driveway access density	Very low density	Low density	Moderate density	High density
Arterial type	Multilane divided; undivided or two-lane with shoulders	Multilane divided: undivided or two-lane with shoulders	Multilane divided or undivided; one way, two lane	Undivided one way; two way, two or more lanes
Parking	No	No	Some	Usually
Separate left-turn lanes	Yes	Yes	Usually	Some
Signals per mile	0.5 to 2	1 to 5	4 to 10	6 to 12
Speed limits	45 to 55 mph	40 to 45 mph	30 to 40 mph	25 to 35 mph
Pedestrian activity	Very little	Little	Some	Usually
Roadside development	Low density	Low to medium density	Medium to moderate density	High density

Source: *Highway Capacity Manual 2000*

**Table A-III**

**Urban Street Class based on Function and Design Categories**

Design Category	Functional Category	
	Principal Arterial	Minor Arterial
High-Speed	I	Not applicable
Suburban	II	II
Intermediate	II	III or IV
Urban	III or IV	IV

Source: *Highway Capacity Manual 2000*

**Table A-IV**

**Urban Street Levels of Service by Class**

<b>Urban Street Class</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
Range of Free Flow Speeds (mph)	45 to 55	35 to 45	30 to 35	25 to 35
Typical Free Flow Speed (mph)	50	40	33	30
<b>Level of Service</b>	<b>Average Travel Speed (mph)</b>			
A	>42	>35	>30	>25
B	>34	>28	>24	>19
C	>27	>22	>18	>13
D	>21	>17	>14	>9
E	>16	>13	>10	>7
F	≤16	≤13	≤10	≤7

Source: *Highway Capacity Manual 2000*

### **Interrupted Flow**

One of the more important elements limiting, and often interrupting the flow of traffic on a highway is the intersection. Flow on an interrupted facility is usually dominated by points of fixed operation such as traffic signals, stop and yield signs. These all operate quite differently and have differing impacts on overall flow.

### **Signalized Intersections**

The capacity of a highway is related primarily to the geometric characteristics of the facility, as well as to the composition of the traffic stream on the facility. Geometrics are a fixed, or non-varying, characteristic of a facility.

At the signalized intersection, an additional element is introduced into the concept of capacity: time allocation. A traffic signal essentially allocates time among conflicting traffic movements seeking use of the same physical space. The way in which time is allocated has a significant impact on the operation of the intersection and on the capacity of the intersection and its approaches.

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, *i. e.*, in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, level of service criteria for traffic signals are stated in terms of average control delay per vehicle, typically for a 15-minute analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the ratio of green time to cycle length and the volume to capacity ratio for the lane group.

For each intersection analyzed the average control delay per vehicle per approach is determined for the peak hour. A weighted average of control delay per vehicle is then determined for the intersection. A level of service designation is given to the control delay to better describe the level of operation. A

description of levels of service for signalized intersections can be found in Table A-V.

**Table A-V**

**Description of Level of Service for Signalized Intersections**

<b>Level of Service</b>	<b>Description</b>
A	Very low control delay, up to 10 seconds per vehicle. Progression is extremely favorable, and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	Control delay greater than 10 and up to 20 seconds per vehicle. There is good progression or short cycle lengths or both. More vehicles stop causing higher levels of delay.
C	Control delay greater than 20 and up to 35 seconds per vehicle. Higher delays are caused by fair progression or longer cycle lengths or both. Individual cycle failures may begin to appear. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflow occurs. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	Control delay greater than 35 and up to 55 seconds per vehicle. The influence of congestions becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Control delay greater than 55 and up to 80 seconds per vehicle. The limit of acceptable delay. High delays usually indicate poor progression, long cycle lengths, and high volumes. Individual cycle failures are frequent.
F	Control delay in excess of 80 seconds per vehicle. Unacceptable to most drivers. Oversaturation, arrival flow rates exceed the capacity of the intersection. Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay.

Source: *Highway Capacity Manual 2000*

The use of control delay, which may also be referred to as signal delay, was introduced in the 1997 update to the *Highway Capacity Manual*, and represents a departure from previous updates. In the third edition, published in 1985 and the 1994 update to the third edition, delay only included stopped delay. Thus, the level of service criteria listed in Table A-V differs from earlier criteria.

**Unsignalized Intersections**

The current procedures on unsignalized intersections were first introduced in the 1997 update to the *Highway Capacity Manual* and represent a revision of the methodology published in the 1994 update to the 1985 *Highway Capacity Manual*. The revised procedures use control delay as a measure of effectiveness to determine level of service. Delay is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, *i. e.*, in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Control delay is the increased time of travel for a vehicle approaching and passing through an unsignalized intersection, compared with a free-flow vehicle if it were not required to slow or stop at the intersection.

## Two-Way Stop Controlled Intersections

Two-way stop controlled intersections in which stop signs are used to assign the right-of-way, are the most prevalent type of intersection in the United States. At two-way stop-controlled intersections the stop-controlled approaches are referred as the minor street approaches and can be either public streets or private driveways. The approaches that are not controlled by stop signs are referred to as the major street approaches.

The capacity of movements subject to delay are determined using the "critical gap" method of capacity analysis. Expected average control delay based on movement volume and movement capacity is calculated. A level of service designation is given to the expected control delay for each minor movement. Level of service is not defined for the intersection as a whole. Control delay is the increased time of travel for a vehicle approaching and passing through a stop-controlled intersection, compared with a free-flow vehicle if it were not required to slow or stop at the intersection. A description of levels of service for two-way stop-controlled intersections is found in Table A-VI.

**Table A-VI**

**Description of Level of Service for Two-Way Stop Controlled Intersections**

<b>Level of Service</b>	<b>Description</b>
A	Very low control delay less than 10 seconds per vehicle for each movement subject to delay.
B	Low control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay.
C	Acceptable control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay.
D	Tolerable control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay.
E	Limit of tolerable control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay.
F	Unacceptable control delay in excess of 50 seconds per vehicle for each movement subject to delay.

Source: *Highway Capacity Manual 2000*



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## **APPENDIX B – TRAFFIC COUNTS WORKSHEETS**

# VOLUME

## Morgan Territory Rd N/O Manning Rd

Day: Tuesday  
Date: 9/18/2018

City: Livermore  
Project #: CA18\_8461\_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					338	308	0	0	646		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	5	7			12
00:15	0	0			0	12:15	4	9			13
00:30	0	0			0	12:30	6	6			12
00:45	0	1	1		1 1	12:45	3	18	3	25	6 43
01:00	0	0			0	13:00	5	4			9
01:15	0	0			0	13:15	4	2			6
01:30	0	0			0	13:30	6	3			9
01:45	0	0			0	13:45	3	18	2	11	5 29
02:00	0	0			0	14:00	4	5			9
02:15	0	0			0	14:15	6	5			11
02:30	1	0			1	14:30	8	5			13
02:45	0	1	1	1	1 2	14:45	7	25	5	20	12 45
03:00	1	0			1	15:00	2	1			3
03:15	0	0			0	15:15	6	4			10
03:30	0	0			0	15:30	4	0			4
03:45	0	1	1	1	1 2	15:45	12	24	5	10	17 34
04:00	1	0			1	16:00	4	6			10
04:15	0	2			2	16:15	9	3			12
04:30	0	0			0	16:30	16	8			24
04:45	0	1	1	3	1 4	16:45	14	43	1	18	15 61
05:00	1	2			3	17:00	16	2			18
05:15	1	2			3	17:15	13	6			19
05:30	3	2			5	17:30	14	5			19
05:45	3	8	2	8	5 16	17:45	13	56	3	16	16 72
06:00	1	9			10	18:00	9	5			14
06:15	0	4			4	18:15	5	4			9
06:30	1	5			6	18:30	7	2			9
06:45	1	3	7	25	8 28	18:45	8	29	1	12	9 41
07:00	0	7			7	19:00	5	1			6
07:15	3	10			13	19:15	6	4			10
07:30	2	17			19	19:30	4	1			5
07:45	4	9	6	40	10 49	19:45	4	19	0	6	4 25
08:00	4	9			13	20:00	2	1			3
08:15	2	8			10	20:15	4	2			6
08:30	4	10			14	20:30	4	3			7
08:45	10	20	7	34	17 54	20:45	3	13	0	6	3 19
09:00	3	10			13	21:00	2	0			2
09:15	4	3			7	21:15	0	1			1
09:30	2	8			10	21:30	3	0			3
09:45	5	14	2	23	7 37	21:45	2	7	6	7	8 14
10:00	2	6			8	22:00	1	1			2
10:15	1	2			3	22:15	1	0			1
10:30	3	1			4	22:30	1	0			1
10:45	7	13	5	14	12 27	22:45	0	3	0	1	0 4
11:00	1	7			8	23:00	1	0			1
11:15	4	7			11	23:15	0	0			0
11:30	4	5			9	23:30	0	0			0
11:45	3	12	7	26	10 38	23:45	0	1	0		0 1
<b>TOTALS</b>	<b>82</b>	<b>176</b>			<b>258</b>	<b>TOTALS</b>	<b>256</b>	<b>132</b>			<b>388</b>
<b>SPLIT %</b>	<b>31.8%</b>	<b>68.2%</b>			<b>39.9%</b>	<b>SPLIT %</b>	<b>66.0%</b>	<b>34.0%</b>			<b>60.1%</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					338	308	0	0	646
AM Peak Hour	08:30	07:15			07:15	PM Peak Hour	16:30	12:00	16:30
AM Pk Volume	21	42			55	PM Pk Volume	59	25	76
Pk Hr Factor	0.525	0.618			0.724	Pk Hr Factor	0.922	0.694	0.792
7 - 9 Volume	29	74	0	0	103	4 - 6 Volume	99	34	0 0 133
7 - 9 Peak Hour	08:00	07:15			07:15	4 - 6 Peak Hour	16:30	16:00	16:30
7 - 9 Pk Volume	20	42	0	0	55	4 - 6 Pk Volume	59	18	0 0 76
Pk Hr Factor	0.500	0.618	0.000	0.000	0.724	Pk Hr Factor	0.922	0.563	0.000 0.000 0.792

# VOLUME

## Morgan Territory Rd N/O Manning Rd

Day: Wednesday  
Date: 9/19/2018

City: Livermore  
Project #: CA18\_8461\_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					342	289	0	0	631		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	2	3			5
00:15	0	0			0	12:15	2	4			6
00:30	0	0			0	12:30	8	5			13
00:45	0	0			0	12:45	4	16	6	18	34
01:00	0	0			0	13:00	5	0			5
01:15	0	0			0	13:15	5	3			8
01:30	0	0			0	13:30	4	5			9
01:45	0	0			0	13:45	3	17	4	12	29
02:00	0	0			0	14:00	4	3			7
02:15	0	0			0	14:15	10	6			16
02:30	0	0			0	14:30	4	4			8
02:45	0	0			0	14:45	6	24	6	19	43
03:00	1	0			1	15:00	4	3			7
03:15	1	0			1	15:15	6	1			7
03:30	0	0			0	15:30	8	4			12
03:45	0	2	0		2	15:45	15	33	8	16	49
04:00	0	1			1	16:00	14	6			20
04:15	0	0			0	16:15	14	5			19
04:30	0	1			1	16:30	10	3			13
04:45	0	1	3		4	16:45	13	51	0	14	65
05:00	0	0			0	17:00	16	3			19
05:15	2	3			5	17:15	14	6			20
05:30	1	2			3	17:30	10	2			12
05:45	4	7	4	9	16	17:45	11	51	5	16	67
06:00	2	12			14	18:00	6	5			11
06:15	3	5			8	18:15	4	7			11
06:30	1	7			8	18:30	8	2			10
06:45	2	8	0	24	32	18:45	4	22	2	16	38
07:00	0	4			4	19:00	9	3			12
07:15	0	11			11	19:15	5	1			6
07:30	1	8			9	19:30	6	0			6
07:45	1	2	7	30	32	19:45	2	22	1	5	27
08:00	8	13			21	20:00	5	2			7
08:15	1	11			12	20:15	5	0			5
08:30	3	10			13	20:30	2	0			2
08:45	6	18	3	37	55	20:45	4	16	1	3	19
09:00	1	5			6	21:00	0	2			2
09:15	3	5			8	21:15	8	1			9
09:30	0	6			6	21:30	2	1			3
09:45	2	6	3	19	25	21:45	1	11	0	4	15
10:00	3	8			11	22:00	1	1			2
10:15	3	5			8	22:15	0	1			1
10:30	4	3			7	22:30	0	0			0
10:45	6	16	4	20	36	22:45	0	1	0	2	3
11:00	6	6			12	23:00	3	0			3
11:15	3	3			6	23:15	0	0			0
11:30	3	6			9	23:30	1	0			1
11:45	2	14	6	21	35	23:45	1	5	1	1	6
<b>TOTALS</b>	<b>73</b>	<b>163</b>			<b>236</b>	<b>TOTALS</b>	<b>269</b>	<b>126</b>			<b>395</b>
<b>SPLIT %</b>	<b>30.9%</b>	<b>69.1%</b>			<b>37.4%</b>	<b>SPLIT %</b>	<b>68.1%</b>	<b>31.9%</b>			<b>62.6%</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					342	289	0	0	631
AM Peak Hour	10:15	07:45			08:00	PM Peak Hour	15:45	15:30	15:45
AM Pk Volume	19	41			55	PM Pk Volume	53	23	75
Pk Hr Factor	0.792	0.788			0.655	Pk Hr Factor	0.883	0.719	0.815
7 - 9 Volume	20	67	0	0	87	4 - 6 Volume	102	30	132
7 - 9 Peak Hour	08:00	07:45			08:00	4 - 6 Peak Hour	16:15	17:00	17:00
7 - 9 Pk Volume	18	41	0	0	55	4 - 6 Pk Volume	53	16	67
Pk Hr Factor	0.563	0.788	0.000	0.000	0.655	Pk Hr Factor	0.828	0.667	0.838

# VOLUME

## Morgan Territory Rd N/O Manning Rd

Day: Thursday  
Date: 9/20/2018

City: Livermore  
Project #: CA18\_8461\_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					329	311	0	0	640		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	6	5			11
00:15	0	0			0	12:15	5	1			6
00:30	0	0			0	12:30	3	2			5
00:45	0	0			0	12:45	4	18	7	15	34
01:00	0	0			0	13:00	4	5			9
01:15	0	0			0	13:15	2	2			4
01:30	0	0			0	13:30	5	7			12
01:45	0	0			0	13:45	4	15	3	17	32
02:00	0	0			0	14:00	6	3			9
02:15	0	0			0	14:15	5	7			12
02:30	0	0			0	14:30	6	3			9
02:45	1	1	0		2	14:45	6	23	3	16	39
03:00	0	0			0	15:00	8	3			11
03:15	0	0			0	15:15	8	7			15
03:30	0	0			0	15:30	6	8			14
03:45	0	0			0	15:45	16	38	3	21	59
04:00	0	0			0	16:00	7	8			15
04:15	0	1			1	16:15	12	3			15
04:30	0	1			1	16:30	6	4			10
04:45	0	0	2		2	16:45	13	38	4	19	57
05:00	2	1			3	17:00	11	8			19
05:15	1	5			6	17:15	13	0			13
05:30	4	2			6	17:30	9	6			15
05:45	2	9	4	12	21	17:45	7	40	1	15	55
06:00	2	6			8	18:00	9	3			12
06:15	1	7			8	18:15	5	2			7
06:30	1	10			11	18:30	6	5			11
06:45	3	7	3	26	33	18:45	8	28	4	14	42
07:00	1	8			9	19:00	6	4			10
07:15	3	14			17	19:15	5	2			7
07:30	0	9			9	19:30	0	2			2
07:45	2	6	6	37	43	19:45	4	15	1	9	24
08:00	3	10			13	20:00	3	1			4
08:15	8	15			23	20:15	1	1			2
08:30	2	15			17	20:30	4	1			5
08:45	4	17	8	48	65	20:45	6	14	0	3	17
09:00	4	5			9	21:00	6	1			7
09:15	2	9			11	21:15	2	0			2
09:30	4	5			9	21:30	2	0			2
09:45	1	11	3	22	33	21:45	0	10	0	1	11
10:00	2	5			7	22:00	2	0			2
10:15	4	1			5	22:15	1	0			1
10:30	5	2			7	22:30	1	0			1
10:45	8	19	5	13	32	22:45	0	4	0		4
11:00	5	3			8	23:00	0	0			0
11:15	2	7			9	23:15	1	0			1
11:30	3	2			5	23:30	0	1			1
11:45	4	14	8	20	34	23:45	1	2	0	1	3
<b>TOTALS</b>	<b>84</b>	<b>180</b>			<b>264</b>	<b>TOTALS</b>	<b>245</b>	<b>131</b>			<b>376</b>
<b>SPLIT %</b>	<b>31.8%</b>	<b>68.2%</b>			<b>41.3%</b>	<b>SPLIT %</b>	<b>65.2%</b>	<b>34.8%</b>			<b>58.8%</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					329	311	0	0	640

AM Peak Hour	10:15	08:00			08:00	PM Peak Hour	16:45	15:15			16:45
AM Pk Volume	22	48			65	PM Pk Volume	46	26			64
Pk Hr Factor	0.688	0.800			0.707	Pk Hr Factor	0.885	0.813			0.842
7 - 9 Volume	23	85	0	0	108	4 - 6 Volume	78	34	0	0	112
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:45	16:00			16:45
7 - 9 Pk Volume	17	48	0	0	65	4 - 6 Pk Volume	46	19	0	0	64
Pk Hr Factor	0.531	0.800	0.000	0.000	0.707	Pk Hr Factor	0.885	0.594	0.000	0.000	0.842

# VOLUME

## Morgan Territory Rd N/O Manning Rd

Day: Friday  
Date: 9/21/2018

City: Livermore  
Project #: CA18\_8461\_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					314	278	0	0	592		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	7	3			10
00:15	0	0			0	12:15	6	4			10
00:30	0	0			0	12:30	4	4			8
00:45	0	0			0	12:45	2	19	3	14	38
01:00	0	1			1	13:00	4	4			8
01:15	0	0			0	13:15	4	3			7
01:30	0	0			0	13:30	4	3			7
01:45	0	1	2		3	13:45	5	17	4	14	36
02:00	0	0			0	14:00	5	5			10
02:15	0	0			0	14:15	4	1			5
02:30	0	0			0	14:30	7	5			12
02:45	0	0			0	14:45	4	20	9	20	53
03:00	1	0			1	15:00	7	5			12
03:15	1	0			1	15:15	8	5			13
03:30	0	0			0	15:30	14	3			17
03:45	0	2	0		2	15:45	11	40	6	19	76
04:00	0	0			0	16:00	9	8			17
04:15	0	0			0	16:15	7	6			13
04:30	0	2			2	16:30	9	4			13
04:45	0	0	2		2	16:45	14	39	3	21	77
05:00	1	3			4	17:00	11	4			15
05:15	1	0			1	17:15	9	4			13
05:30	3	1			4	17:30	9	4			13
05:45	3	8	2	6	19	17:45	8	37	1	13	59
06:00	2	6			8	18:00	9	4			13
06:15	1	12			13	18:15	6	2			8
06:30	2	7			9	18:30	4	5			9
06:45	3	8	4	29	44	18:45	2	21	0	11	34
07:00	1	3			4	19:00	4	0			4
07:15	2	7			9	19:15	6	0			6
07:30	2	13			15	19:30	3	1			4
07:45	2	7	6	29	44	19:45	1	14	1	2	18
08:00	3	11			14	20:00	4	1			5
08:15	6	7			13	20:15	4	2			6
08:30	5	8			13	20:30	2	0			2
08:45	0	14	9	35	56	20:45	4	14	0	3	21
09:00	3	1			4	21:00	5	1			6
09:15	3	7			10	21:15	2	1			3
09:30	2	7			9	21:30	0	0			0
09:45	3	11	4	19	37	21:45	1	8	0	2	11
10:00	1	3			4	22:00	0	0			0
10:15	0	4			4	22:15	2	0			2
10:30	2	4			6	22:30	0	1			1
10:45	4	7	5	16	26	22:45	3	5	0	1	9
11:00	7	2			9	23:00	2	0			2
11:15	3	5			8	23:15	2	1			3
11:30	4	8			12	23:30	1	0			1
11:45	1	15	4	19	39	23:45	3	8	0	1	12
<b>TOTALS</b>	<b>72</b>	<b>157</b>			<b>229</b>	<b>TOTALS</b>	<b>242</b>	<b>121</b>			<b>363</b>
<b>SPLIT %</b>	<b>31.4%</b>	<b>68.6%</b>			<b>38.7%</b>	<b>SPLIT %</b>	<b>66.7%</b>	<b>33.3%</b>			<b>61.3%</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					314	278	0	0	592

AM Peak Hour	10:45	07:15			07:30	PM Peak Hour	16:30	14:30			15:15
AM Pk Volume	18	37			50	PM Pk Volume	43	24			64
Pk Hr Factor	0.643	0.712			0.833	Pk Hr Factor	0.768	0.667			0.941
7 - 9 Volume	21	64	0	0	85	4 - 6 Volume	76	34	0	0	110
7 - 9 Peak Hour	07:45	07:15			07:30	4 - 6 Peak Hour	16:30	16:00			16:00
7 - 9 Pk Volume	16	37	0	0	50	4 - 6 Pk Volume	43	21	0	0	60
Pk Hr Factor	0.667	0.712	0.000	0.000	0.833	Pk Hr Factor	0.768	0.656	0.000	0.000	0.882

# VOLUME

## Morgan Territory Rd N/O Manning Rd

Day: Saturday  
Date: 9/22/2018

City: Livermore  
Project #: CA18\_8461\_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					249	266	0	0	515		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	2	1			3
00:15	3	0			3	12:15	1	9			10
00:30	0	2			2	12:30	3	10			13
00:45	0	3	0	2	0	12:45	3	9	7	27	10
01:00	1	0			1	13:00	5	2			7
01:15	1	0			1	13:15	3	4			7
01:30	0	0			0	13:30	6	4			10
01:45	0	2	0		0	13:45	3	17	1	11	4
02:00	0	0			0	14:00	4	1			5
02:15	0	0			0	14:15	3	5			8
02:30	0	0			0	14:30	8	3			11
02:45	0	0			0	14:45	9	24	3	12	12
03:00	1	0			1	15:00	3	6			9
03:15	0	0			0	15:15	6	15			21
03:30	0	0			0	15:30	4	2			6
03:45	0	1	0		0	15:45	6	19	11	34	17
04:00	0	0			0	16:00	5	4			9
04:15	0	0			0	16:15	3	4			7
04:30	0	2			2	16:30	3	3			6
04:45	0	1	3		1	16:45	3	14	1	12	4
05:00	0	1			1	17:00	5	6			11
05:15	0	0			0	17:15	8	2			10
05:30	1	1			2	17:30	2	3			5
05:45	0	1	1	3	1	17:45	3	18	4	15	7
06:00	0	3			3	18:00	3	3			6
06:15	1	0			1	18:15	5	5			10
06:30	1	2			3	18:30	4	4			8
06:45	4	6	1	6	5	18:45	1	13	1	13	2
07:00	4	2			6	19:00	3	4			7
07:15	2	1			3	19:15	7	3			10
07:30	2	6			8	19:30	1	3			4
07:45	6	14	3	12	9	19:45	2	13	0	10	2
08:00	4	8			12	20:00	0	0			0
08:15	6	4			10	20:15	0	4			4
08:30	7	5			12	20:30	1	2			3
08:45	8	25	8	25	16	20:45	3	4	0	6	3
09:00	3	5			8	21:00	4	0			4
09:15	4	13			17	21:15	1	0			1
09:30	5	5			10	21:30	3	0			3
09:45	6	18	2	25	8	21:45	2	10	0		2
10:00	6	2			8	22:00	1	0			1
10:15	3	9			12	22:15	1	1			2
10:30	4	7			11	22:30	1	1			2
10:45	5	18	9	27	14	22:45	0	3	1	3	1
11:00	5	4			9	23:00	1	0			1
11:15	1	3			4	23:15	2	0			2
11:30	5	11			16	23:30	0	0			0
11:45	2	13	2	20	4	23:45	1	4	0		1
<b>TOTALS</b>	101	123			224	<b>TOTALS</b>	148	143			291
<b>SPLIT %</b>	45.1%	54.9%			43.5%	<b>SPLIT %</b>	50.9%	49.1%			56.5%

DAILY TOTALS					NB	SB	EB	WB	Total
					249	266	0	0	515

AM Peak Hour	08:00	08:30		08:30	PM Peak Hour	14:30	15:00		14:30		
AM Pk Volume	25	31		53	PM Pk Volume	26	34		53		
Pk Hr Factor	0.781	0.596		0.779	Pk Hr Factor	0.722	0.567		0.631		
7 - 9 Volume	39	37	0	0	76	4 - 6 Volume	32	27	0	0	59
7 - 9 Peak Hour	08:00	08:00		08:00	4 - 6 Peak Hour	16:30	17:00				17:00
7 - 9 Pk Volume	25	25	0	0	50	4 - 6 Pk Volume	19	15	0	0	33
Pk Hr Factor	0.781	0.781	0.000	0.000	0.781	Pk Hr Factor	0.594	0.625	0.000	0.000	0.750

# VOLUME

## Morgan Territory Rd N/O Manning Rd

Day: Sunday  
Date: 9/23/2018

City: Livermore  
Project #: CA18\_8461\_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					189	213	0	0	402		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	1			1	12:00	5	6			11
00:15	0	0			0	12:15	4	7			11
00:30	1	0			1	12:30	4	5			9
00:45	1	2	0	1	1 3	12:45	5	18	9	27	14 45
01:00	0	1			1	13:00	4	3			7
01:15	0	1			1	13:15	6	4			10
01:30	0	0			0	13:30	1	1			2
01:45	0	1	3		1 3	13:45	6	17	5	13	11 30
02:00	0	0			0	14:00	4	3			7
02:15	0	0			0	14:15	6	8			14
02:30	0	0			0	14:30	1	2			3
02:45	0	0			0	14:45	5	16	2	15	7 31
03:00	0	0			0	15:00	4	5			9
03:15	0	0			0	15:15	4	6			10
03:30	0	0			0	15:30	2	5			7
03:45	1	1	0		1 1	15:45	5	15	2	18	7 33
04:00	0	0			0	16:00	7	6			13
04:15	0	0			0	16:15	3	3			6
04:30	0	0			0	16:30	2	0			2
04:45	0	0			0	16:45	5	17	4	13	9 30
05:00	0	0			0	17:00	4	2			6
05:15	0	0			0	17:15	4	4			8
05:30	0	1			1	17:30	2	1			3
05:45	0	1	2		1 2	17:45	0	10	2	9	2 19
06:00	0	1			1	18:00	6	2			8
06:15	0	2			2	18:15	4	2			6
06:30	1	2			3	18:30	0	3			3
06:45	0	1	0	5	0 6	18:45	3	13	2	9	5 22
07:00	1	1			2	19:00	4	1			5
07:15	1	2			3	19:15	0	2			2
07:30	2	2			4	19:30	0	1			1
07:45	5	9	1	6	6 15	19:45	3	7	0	4	3 11
08:00	1	1			2	20:00	3	2			5
08:15	2	5			7	20:15	3	0			3
08:30	2	5			7	20:30	2	2			4
08:45	2	7	5	16	7 23	20:45	2	10	3	7	5 17
09:00	1	1			2	21:00	1	0			1
09:15	4	7			11	21:15	3	0			3
09:30	4	6			10	21:30	1	0			1
09:45	2	11	6	20	8 31	21:45	1	6	0		1 6
10:00	2	4			6	22:00	0	1			1
10:15	2	4			6	22:15	0	1			1
10:30	1	8			9	22:30	0	0			0
10:45	7	12	5	21	12 33	22:45	1	1	0	2	1 3
11:00	4	7			11	23:00	0	1			1
11:15	4	7			11	23:15	1	0			1
11:30	7	5			12	23:30	0	0			0
11:45	0	15	2	21	2 36	23:45	0	1	0	1	0 2
<b>TOTALS</b>	58	95			153	<b>TOTALS</b>	131	118			249
<b>SPLIT %</b>	37.9%	62.1%			38.1%	<b>SPLIT %</b>	52.6%	47.4%			61.9%

DAILY TOTALS					NB	SB	EB	WB	Total
					189	213	0	0	402
AM Peak Hour	10:45	10:30			10:45	PM Peak Hour	12:30	12:00	12:00
AM Pk Volume	22	27			46	PM Pk Volume	19	27	45
Pk Hr Factor	0.786	0.844			0.958	Pk Hr Factor	0.792	0.750	0.804
7 - 9 Volume	16	22	0	0	38	4 - 6 Volume	27	22	0 0 49
7 - 9 Peak Hour	07:30	08:00			08:00	4 - 6 Peak Hour	16:00	16:00	16:00
7 - 9 Pk Volume	10	16	0	0	23	4 - 6 Pk Volume	17	13	0 0 30
Pk Hr Factor	0.500	0.800	0.000	0.000	0.821	Pk Hr Factor	0.607	0.542	0.000 0.000 0.577

# VOLUME

## Morgan Territory Rd N/O Manning Rd

Day: Monday  
Date: 9/24/2018

City: Livermore  
Project #: CA18\_8461\_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					303	306	0	0	609		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	6	6			12
00:15	0	0			0	12:15	2	4			6
00:30	0	0			0	12:30	10	7			17
00:45	0	0			0	12:45	3	21	3	20	6 41
01:00	0	0			0	13:00	4	7			11
01:15	0	0			0	13:15	1	3			4
01:30	0	0			0	13:30	5	6			11
01:45	0	0			0	13:45	1	11	2	18	3 29
02:00	0	1			1	14:00	4	2			6
02:15	1	0			1	14:15	11	8			19
02:30	0	0			0	14:30	5	7			12
02:45	0	1	0	1	0 2	14:45	6	26	8	25	14 51
03:00	0	0			0	15:00	6	5			11
03:15	0	0			0	15:15	7	4			11
03:30	1	0			1	15:30	10	3			13
03:45	0	1	0		0 1	15:45	9	32	7	19	16 51
04:00	0	0			0	16:00	6	9			15
04:15	0	0			0	16:15	10	6			16
04:30	0	1			1	16:30	7	1			8
04:45	1	1	2	3	3 4	16:45	9	32	6	22	15 54
05:00	0	2			2	17:00	7	4			11
05:15	3	0			3	17:15	9	2			11
05:30	1	2			3	17:30	7	1			8
05:45	5	9	2	6	7 15	17:45	6	29	6	13	12 42
06:00	3	14			17	18:00	10	4			14
06:15	0	1			1	18:15	3	2			5
06:30	1	9			10	18:30	5	0			5
06:45	0	4	3	27	3 31	18:45	8	26	2	8	10 34
07:00	0	6			6	19:00	3	2			5
07:15	1	8			9	19:15	6	4			10
07:30	1	10			11	19:30	3	3			6
07:45	5	7	10	34	15 41	19:45	7	19	1	10	8 29
08:00	5	9			14	20:00	1	2			3
08:15	5	15			20	20:15	3	1			4
08:30	3	10			13	20:30	2	1			3
08:45	2	15	6	40	8 55	20:45	3	9	1	5	4 14
09:00	4	6			10	21:00	0	0			0
09:15	2	9			11	21:15	2	0			2
09:30	5	5			10	21:30	1	0			1
09:45	6	17	3	23	9 40	21:45	1	4	0		1 4
10:00	5	4			9	22:00	1	0			1
10:15	4	3			7	22:15	0	0			0
10:30	3	3			6	22:30	1	0			1
10:45	8	20	6	16	14 36	22:45	0	2	0		0 2
11:00	0	2			2	23:00	0	0			0
11:15	7	6			13	23:15	1	0			1
11:30	3	4			7	23:30	0	1			1
11:45	6	16	3	15	9 31	23:45	0	1	0	1	0 2
<b>TOTALS</b>	91	165			256	<b>TOTALS</b>	212	141			353
<b>SPLIT %</b>	35.5%	64.5%			42.0%	<b>SPLIT %</b>	60.1%	39.9%			58.0%

DAILY TOTALS					NB	SB	EB	WB	Total
					303	306	0	0	609
AM Peak Hour	11:45	07:30			07:45	PM Peak Hour	15:30	14:15	15:30
AM Pk Volume	24	44			62	PM Pk Volume	35	28	60
Pk Hr Factor	0.600	0.733			0.775	Pk Hr Factor	0.875	0.875	0.938
7 - 9 Volume	22	74	0	0	96	4 - 6 Volume	61	35	0 0 96
7 - 9 Peak Hour	07:45	07:30			07:45	4 - 6 Peak Hour	16:15	16:00	16:00
7 - 9 Pk Volume	18	44	0	0	62	4 - 6 Pk Volume	33	22	0 0 54
Pk Hr Factor	0.900	0.733	0.000	0.000	0.775	Pk Hr Factor	0.825	0.611	0.000 0.000 0.844

# VOLUME

## Manning Rd W/O Livermore Ave

Day: Tuesday  
Date: 9/18/2018

City: Livermore  
Project #: CA18\_8461\_002

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	1,405	1,104	2,509					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			0	0	0	12:00			12	11	23			
00:15			0	0	0	12:15			15	9	24			
00:30			0	0	0	12:30			14	10	24			
00:45			0	0	0	12:45			14	55	10	40	24	95
01:00			0	0	0	13:00			14	9	23			
01:15			0	0	0	13:15			10	9	19			
01:30			0	0	0	13:30			10	12	22			
01:45			0	1	1	13:45			10	44	13	43	23	87
02:00			0	0	0	14:00			18	11	29			
02:15			0	0	0	14:15			21	8	29			
02:30			0	1	1	14:30			24	19	43			
02:45			1	1	0	14:45			44	107	16	54	60	161
03:00			0	1	1	15:00			33	8	41			
03:15			0	0	0	15:15			54	11	65			
03:30			0	1	1	15:30			38	20	58			
03:45			2	2	0	15:45			60	185	15	54	75	239
04:00			0	1	1	16:00			79	12	91			
04:15			3	0	3	16:15			69	13	82			
04:30			0	2	2	16:30			67	16	83			
04:45			3	6	3	16:45			58	273	20	61	78	334
05:00			2	5	7	17:00			60	16	76			
05:15			4	9	13	17:15			57	23	80			
05:30			3	11	14	17:30			72	17	89			
05:45			2	11	16	17:45			58	247	18	74	76	321
06:00			12	11	23	18:00			44	14	58			
06:15			5	17	22	18:15			49	10	59			
06:30			7	23	30	18:30			20	12	32			
06:45			8	32	23	18:45			27	140	13	49	40	189
07:00			11	38	49	19:00			12	15	27			
07:15			19	48	67	19:15			17	8	25			
07:30			18	51	69	19:30			6	7	13			
07:45			12	60	56	19:45			3	38	7	37	10	75
08:00			11	45	56	20:00			4	10	14			
08:15			18	42	60	20:15			5	6	11			
08:30			15	38	53	20:30			9	7	16			
08:45			8	52	39	20:45			0	18	2	25	2	43
09:00			13	22	35	21:00			2	3	5			
09:15			12	24	36	21:15			4	0	4			
09:30			11	19	30	21:30			2	8	10			
09:45			11	47	18	21:45			7	15	2	13	9	28
10:00			4	9	13	22:00			2	4	6			
10:15			7	13	20	22:15			1	2	3			
10:30			2	8	10	22:30			2	1	3			
10:45			9	22	13	22:45			0	5	0	7	0	12
11:00			14	11	25	23:00			4	1	5			
11:15			9	11	20	23:15			0	0	0			
11:30			5	6	11	23:30			0	0	0			
11:45			12	40	8	23:45			1	5	2	3	3	8
<b>TOTALS</b>			273	644	917	<b>TOTALS</b>			1132	460	1592			
<b>SPLIT %</b>			29.8%	70.2%	36.5%	<b>SPLIT %</b>			71.1%	28.9%	63.5%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	1,405	1,104	2,509

AM Peak Hour	07:00	07:15	07:15	PM Peak Hour	15:45	16:45	16:00				
AM Pk Volume	60	200	260	PM Pk Volume	275	76	334				
Pk Hr Factor	0.789	0.893	0.942	Pk Hr Factor	0.870	0.826	0.918				
7 - 9 Volume	0	0	112	357	469	4 - 6 Volume	0	0	520	135	655
7 - 9 Peak Hour	07:00	07:15	07:15	4 - 6 Peak Hour	16:00	16:45	16:00				
7 - 9 Pk Volume	0	0	60	200	260	4 - 6 Pk Volume	0	0	273	76	334
Pk Hr Factor	0.000	0.000	0.789	0.893	0.942	Pk Hr Factor	0.000	0.000	0.864	0.826	0.918

# VOLUME

## Manning Rd W/O Livermore Ave

Day: Wednesday  
Date: 9/19/2018

City: Livermore  
Project #: CA18\_8461\_002

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	1,451	1,133	2,584					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			0	0	0	12:00			11	13	24			
00:15			0	0	0	12:15			15	14	29			
00:30			0	2	2	12:30			12	15	27			
00:45			1	1	0	2	12:45		14	52	10	52	24	104
01:00			1	0	1	13:00			10	9	19			
01:15			1	0	1	13:15			12	6	18			
01:30			0	0	0	13:30			17	13	30			
01:45			0	2	0	2	13:45		12	51	8	36	20	87
02:00			0	1	1	14:00			18	11	29			
02:15			0	1	1	14:15			23	14	37			
02:30			0	0	0	14:30			32	17	49			
02:45			0	0	2	0	2	14:45	38	111	15	57	53	168
03:00			0	1	1	15:00			44	10	54			
03:15			0	1	1	15:15			42	11	53			
03:30			0	0	0	15:30			59	21	80			
03:45			0	0	2	0	2	15:45	58	203	20	62	78	265
04:00			1	0	1	16:00			53	20	73			
04:15			1	0	1	16:15			66	32	98			
04:30			1	0	1	16:30			71	17	88			
04:45			2	5	5	5	7	16:45	63	253	17	86	80	339
05:00			0	4	4	17:00			57	20	77			
05:15			5	10	15	17:15			80	16	96			
05:30			2	8	10	17:30			55	18	73			
05:45			6	13	16	38	22	51	51	243	13	67	64	310
06:00			10	13	23	18:00			51	11	62			
06:15			7	14	21	18:15			45	10	55			
06:30			11	26	37	18:30			45	12	57			
06:45			1	29	22	75	23	104	25	166	9	42	34	208
07:00			10	41	51	19:00			13	12	25			
07:15			13	48	61	19:15			15	5	20			
07:30			22	45	67	19:30			6	9	15			
07:45			16	61	41	175	57	236	6	40	7	33	13	73
08:00			20	46	66	20:00			5	8	13			
08:15			22	30	52	20:15			1	7	8			
08:30			15	42	57	20:30			7	2	9			
08:45			7	64	44	162	51	226	3	16	7	24	10	40
09:00			6	25	31	21:00			4	2	6			
09:15			7	35	42	21:15			5	4	9			
09:30			11	22	33	21:30			2	7	9			
09:45			7	31	22	104	29	135	1	12	2	15	3	27
10:00			10	14	24	22:00			1	3	4			
10:15			11	13	24	22:15			4	0	4			
10:30			9	12	21	22:30			2	0	2			
10:45			15	45	11	50	26	95	2	9	1	4	3	13
11:00			11	13	24	23:00			1	1	2			
11:15			4	6	10	23:15			0	0	0			
11:30			15	10	25	23:30			1	2	3			
11:45			10	40	7	36	17	76	2	4	1	4	3	8
<b>TOTALS</b>			291	651	942	<b>TOTALS</b>			1160	482	1642			
<b>SPLIT %</b>			30.9%	69.1%	36.5%	<b>SPLIT %</b>			70.6%	29.4%	63.5%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	1,451	1,133	2,584

AM Peak Hour	07:30	07:15	07:15	PM Peak Hour	16:30	15:30	16:15				
AM Pk Volume	80	180	251	PM Pk Volume	271	93	343				
Pk Hr Factor	0.909	0.938	0.937	Pk Hr Factor	0.847	0.727	0.875				
7 - 9 Volume	0	0	125	337	462	4 - 6 Volume	0	0	496	153	649
7 - 9 Peak Hour	07:30	07:15	07:15	4 - 6 Peak Hour	16:30	16:00	16:15				
7 - 9 Pk Volume	0	0	80	180	251	4 - 6 Pk Volume	0	0	271	86	343
Pk Hr Factor	0.000	0.000	0.909	0.938	0.937	Pk Hr Factor	0.000	0.000	0.847	0.672	0.875

# VOLUME

## Manning Rd W/O Livermore Ave

Day: Thursday  
Date: 9/20/2018

City: Livermore  
Project #: CA18\_8461\_002

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	1,493	1,225	2,718					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			0	0	0	12:00			10	17	27			
00:15			1	0	1	12:15			10	10	20			
00:30			0	1	1	12:30			13	13	26			
00:45			0	1	0	12:45			18	51	11	51	29	102
01:00			1	0	1	13:00			9	8	17			
01:15			0	0	0	13:15			14	13	27			
01:30			0	0	0	13:30			15	19	34			
01:45			0	1	1	13:45			12	50	12	52	24	102
02:00			0	1	1	14:00			21	15	36			
02:15			1	0	1	14:15			30	8	38			
02:30			0	0	0	14:30			20	8	28			
02:45			0	1	1	14:45			48	119	16	47	64	166
03:00			0	1	1	15:00			36	14	50			
03:15			0	0	0	15:15			60	15	75			
03:30			0	0	0	15:30			56	18	74			
03:45			0	0	0	15:45			58	210	17	64	75	274
04:00			0	1	1	16:00			49	12	61			
04:15			2	0	2	16:15			74	15	89			
04:30			1	2	3	16:30			66	17	83			
04:45			0	3	3	16:45			52	241	28	72	80	313
05:00			2	6	8	17:00			67	23	90			
05:15			4	6	10	17:15			63	26	89			
05:30			5	15	20	17:30			83	10	93			
05:45			3	14	16	17:45			54	267	10	69	64	336
06:00			9	10	19	18:00			45	8	53			
06:15			11	13	24	18:15			28	10	38			
06:30			7	23	30	18:30			34	13	47			
06:45			7	34	24	18:45			23	130	17	48	40	178
07:00			11	28	39	19:00			16	14	30			
07:15			11	43	54	19:15			26	6	32			
07:30			19	50	69	19:30			8	4	12			
07:45			12	53	51	19:45			9	59	9	33	18	92
08:00			21	35	56	20:00			7	5	12			
08:15			15	56	71	20:15			7	1	8			
08:30			22	38	60	20:30			7	9	16			
08:45			14	72	48	20:45			4	25	8	23	12	48
09:00			11	52	63	21:00			5	6	11			
09:15			19	45	64	21:15			2	6	8			
09:30			10	36	46	21:30			3	3	6			
09:45			12	52	19	21:45			4	14	1	16	5	30
10:00			12	13	25	22:00			2	2	4			
10:15			2	20	22	22:15			3	2	5			
10:30			8	9	17	22:30			3	1	4			
10:45			3	25	28	22:45			3	11	2	7	5	18
11:00			13	12	25	23:00			2	2	4			
11:15			15	11	26	23:15			0	0	0			
11:30			16	8	24	23:30			2	1	3			
11:45			12	56	11	23:45			0	4	3	6	3	10
<b>TOTALS</b>			312	737	1049	<b>TOTALS</b>			1181	488	1669			
<b>SPLIT %</b>			29.7%	70.3%	38.6%	<b>SPLIT %</b>			70.8%	29.2%	61.4%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	1,493	1,225	2,718

AM Peak Hour	08:00	08:15	07:30	PM Peak Hour	17:00	16:30	16:45				
AM Pk Volume	72	194	259	PM Pk Volume	267	94	352				
Pk Hr Factor	0.818	0.866	0.912	Pk Hr Factor	0.804	0.839	0.946				
7 - 9 Volume	0	0	125	349	474	4 - 6 Volume	0	0	508	141	649
7 - 9 Peak Hour	08:00	07:30	07:30	4 - 6 Peak Hour	17:00	16:30	16:45				
7 - 9 Pk Volume	0	0	72	192	259	4 - 6 Pk Volume	0	0	267	94	352
Pk Hr Factor	0.000	0.000	0.818	0.857	0.912	Pk Hr Factor	0.000	0.000	0.804	0.839	0.946

# VOLUME

## Manning Rd W/O Livermore Ave

Day: Friday  
Date: 9/21/2018

City: Livermore  
Project #: CA18\_8461\_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	1,534	1,196	2,730		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			0	0	0	12:00			9	9	18
00:15			0	0	0	12:15			18	16	34
00:30			1	2	3	12:30			19	7	26
00:45			0	1	0	12:45			8	54	13
01:00			1	0	1	13:00			23	12	35
01:15			0	0	0	13:15			24	13	37
01:30			0	0	0	13:30			14	14	28
01:45			1	2	1	13:45			19	80	26
02:00			0	0	0	14:00			23	10	33
02:15			0	0	0	14:15			34	8	42
02:30			0	0	0	14:30			43	8	51
02:45			0	1	1	14:45			36	136	43
03:00			1	1	2	15:00			69	15	84
03:15			0	1	1	15:15			66	9	75
03:30			0	0	0	15:30			59	25	84
03:45			0	1	1	15:45			79	273	93
04:00			0	0	0	16:00			68	19	87
04:15			1	0	1	16:15			65	12	77
04:30			1	0	1	16:30			48	25	73
04:45			1	3	4	16:45			71	252	97
05:00			4	8	12	17:00			56	10	66
05:15			1	5	6	17:15			58	14	72
05:30			2	15	17	17:30			64	17	81
05:45			2	9	17	17:45			56	234	81
06:00			4	14	18	18:00			48	19	67
06:15			16	22	38	18:15			39	11	50
06:30			5	16	21	18:30			30	10	40
06:45			3	28	32	18:45			18	135	24
07:00			7	29	36	19:00			16	12	28
07:15			12	25	37	19:15			9	7	16
07:30			18	69	87	19:30			9	2	11
07:45			16	53	75	19:45			3	37	9
08:00			10	54	64	20:00			5	8	13
08:15			15	60	75	20:15			5	6	11
08:30			12	45	57	20:30			1	9	10
08:45			14	51	53	20:45			5	16	10
09:00			9	23	32	21:00			2	10	12
09:15			13	31	44	21:15			2	7	9
09:30			10	15	25	21:30			2	1	3
09:45			7	39	18	21:45			5	11	10
10:00			10	7	17	22:00			3	0	3
10:15			10	12	22	22:15			4	2	6
10:30			11	28	39	22:30			5	3	8
10:45			16	47	38	22:45			3	15	9
11:00			12	20	32	23:00			4	2	6
11:15			12	15	27	23:15			1	3	4
11:30			12	16	28	23:30			4	2	6
11:45			11	47	22	23:45			1	10	4
<b>TOTALS</b>			281	724	1005	<b>TOTALS</b>			1253	472	1725
<b>SPLIT %</b>			28.0%	72.0%	36.8%	<b>SPLIT %</b>			72.6%	27.4%	63.2%

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	1,534	1,196	2,730

AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			15:00	16:00	15:30
AM Pk Volume			59	242	301	PM Pk Volume			273	82	341
Pk Hr Factor			0.819	0.877	0.865	Pk Hr Factor			0.864	0.788	0.917
7 - 9 Volume	0	0	104	380	484	4 - 6 Volume	0	0	486	148	634
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	59	242	301	4 - 6 Pk Volume	0	0	252	82	334
Pk Hr Factor	0.000	0.000	0.819	0.877	0.865	Pk Hr Factor	0.000	0.000	0.887	0.788	0.861

# VOLUME

## Manning Rd W/O Livermore Ave

Day: Saturday  
Date: 9/22/2018

City: Livermore  
Project #: CA18\_8461\_002

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	735	684	1,419					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			0	0	0	12:00			10	9	19			
00:15			0	2	2	12:15			16	14	30			
00:30			2	1	3	12:30			13	13	26			
00:45			1	3	0	12:45			21	60	19	55	40	115
01:00			0	2	2	13:00			20	16	36			
01:15			0	2	2	13:15			9	17	26			
01:30			1	1	2	13:30			13	15	28			
01:45			0	1	0	13:45			10	52	10	58	20	110
02:00			0	0	0	14:00			18	8	26			
02:15			1	0	1	14:15			14	10	24			
02:30			0	1	1	14:30			12	17	29			
02:45			0	1	1	14:45			12	56	12	47	24	103
03:00			0	1	1	15:00			14	21	35			
03:15			0	0	0	15:15			28	13	41			
03:30			0	1	1	15:30			15	10	25			
03:45			0	0	2	15:45			26	83	19	63	45	146
04:00			1	0	1	16:00			17	18	35			
04:15			0	0	0	16:15			12	13	25			
04:30			3	1	4	16:30			15	10	25			
04:45			1	5	1	16:45			10	54	5	46	15	100
05:00			1	0	1	17:00			20	9	29			
05:15			0	1	1	17:15			17	14	31			
05:30			1	3	4	17:30			9	10	19			
05:45			2	4	2	17:45			12	58	5	38	17	96
06:00			2	1	3	18:00			8	9	17			
06:15			0	3	3	18:15			6	7	13			
06:30			2	5	7	18:30			13	8	21			
06:45			2	6	6	18:45			11	38	7	31	18	69
07:00			3	6	9	19:00			8	7	15			
07:15			7	4	11	19:15			12	11	23			
07:30			8	13	21	19:30			10	4	14			
07:45			7	25	14	19:45			2	32	6	28	8	60
08:00			7	11	18	20:00			5	3	8			
08:15			12	11	23	20:15			12	5	17			
08:30			10	13	23	20:30			5	3	8			
08:45			12	41	16	20:45			0	22	5	16	5	38
09:00			12	7	19	21:00			4	7	11			
09:15			22	11	33	21:15			5	5	10			
09:30			16	11	27	21:30			2	4	6			
09:45			8	58	14	21:45			3	14	4	20	7	34
10:00			11	17	28	22:00			2	4	6			
10:15			13	8	21	22:15			5	1	6			
10:30			13	10	23	22:30			5	4	9			
10:45			14	51	15	22:45			5	17	0	9	5	26
11:00			14	15	29	23:00			1	2	3			
11:15			8	11	19	23:15			2	2	4			
11:30			24	13	37	23:30			0	0	0			
11:45			5	51	11	23:45			0	3	3	7	3	10
<b>TOTALS</b>			246	266	512	<b>TOTALS</b>			489	418	907			
<b>SPLIT %</b>			48.0%	52.0%	36.1%	<b>SPLIT %</b>			53.9%	46.1%	63.9%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	735	684	1,419

AM Peak Hour	08:45	10:45	10:45	PM Peak Hour	15:15	12:45	15:00				
AM Pk Volume	62	54	114	PM Pk Volume	86	67	146				
Pk Hr Factor	0.705	0.900	0.770	Pk Hr Factor	0.768	0.882	0.811				
7 - 9 Volume	0	0	66	88	154	4 - 6 Volume	0	0	112	84	196
7 - 9 Peak Hour	08:00	08:00	08:00	4 - 6 Peak Hour	16:30	16:00	16:00				
7 - 9 Pk Volume	0	0	41	51	92	4 - 6 Pk Volume	0	0	62	46	100
Pk Hr Factor	0.000	0.000	0.854	0.797	0.821	Pk Hr Factor	0.000	0.000	0.775	0.639	0.714

# VOLUME

Manning Rd W/O Livermore Ave

Day: Sunday  
Date: 9/23/2018

City: Livermore  
Project #: CA18\_8461\_002

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	539	534	1,073					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			3	0	3	12:00			9	9	18			
00:15			0	0	0	12:15			18	8	26			
00:30			1	3	4	12:30			16	23	39			
00:45			1	5	1	4	12:45		19	62	12	52	31	114
01:00			2	2	4	13:00			13	16	29			
01:15			0	0	0	13:15			12	10	22			
01:30			0	0	0	13:30			11	7	18			
01:45			1	3	1	3	13:45		11	47	10	43	21	90
02:00			0	0	0	14:00			11	11	22			
02:15			0	0	0	14:15			13	10	23			
02:30			0	0	0	14:30			6	7	13			
02:45			0	0	0	14:45			10	40	11	39	21	79
03:00			0	0	0	15:00			8	20	28			
03:15			0	0	0	15:15			13	13	26			
03:30			1	0	1	15:30			13	12	25			
03:45			0	1	1	1	15:45		12	46	16	61	28	107
04:00			0	0	0	16:00			12	8	20			
04:15			0	0	0	16:15			12	9	21			
04:30			0	1	1	16:30			18	12	30			
04:45			0	0	1	0	16:45		6	48	11	40	17	88
05:00			0	0	0	17:00			4	14	18			
05:15			0	0	0	17:15			10	14	24			
05:30			1	1	2	17:30			9	7	16			
05:45			0	1	0	1	17:45		6	29	3	38	9	67
06:00			1	2	3	18:00			7	18	25			
06:15			3	3	6	18:15			8	9	17			
06:30			2	6	8	18:30			6	9	15			
06:45			0	6	2	13	18:45		6	27	8	44	14	71
07:00			2	8	10	19:00			7	7	14			
07:15			2	3	5	19:15			5	5	10			
07:30			3	4	7	19:30			9	2	11			
07:45			2	9	9	24	19:45		12	33	8	22	20	55
08:00			4	5	9	20:00			9	6	15			
08:15			6	5	11	20:15			4	9	13			
08:30			6	3	9	20:30			5	5	10			
08:45			6	22	2	15	20:45		3	21	4	24	7	45
09:00			13	6	19	21:00			1	2	3			
09:15			7	5	12	21:15			3	3	6			
09:30			8	13	21	21:30			4	2	6			
09:45			10	38	3	27	21:45		2	10	1	8	3	18
10:00			11	6	17	22:00			2	1	3			
10:15			14	6	20	22:15			1	1	2			
10:30			13	5	18	22:30			1	0	1			
10:45			10	48	10	27	22:45		0	4	1	3	1	7
11:00			9	10	19	23:00			1	0	1			
11:15			11	12	23	23:15			1	1	2			
11:30			10	13	23	23:30			0	0	0			
11:45			7	37	8	43	23:45		0	2	0	1	0	3
<b>TOTALS</b>			170	159	329	<b>TOTALS</b>			369	375	744			
<b>SPLIT %</b>			51.7%	48.3%	30.7%	<b>SPLIT %</b>			49.6%	50.4%	69.3%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	539	534	1,073

AM Peak Hour	11:45	11:45	11:45	PM Peak Hour	12:15	12:30	12:15				
AM Pk Volume	50	48	98	PM Pk Volume	66	61	125				
Pk Hr Factor	0.694	0.522	0.628	Pk Hr Factor	0.868	0.663	0.801				
7 - 9 Volume	0	0	31	39	70	4 - 6 Volume	0	0	77	78	155
7 - 9 Peak Hour	08:00	07:00	07:45	4 - 6 Peak Hour	16:00	16:30	16:30				
7 - 9 Pk Volume	0	0	22	24	40	4 - 6 Pk Volume	0	0	48	51	89
Pk Hr Factor	0.000	0.000	0.917	0.667	0.909	Pk Hr Factor	0.000	0.000	0.667	0.911	0.742

# VOLUME

## Manning Rd W/O Livermore Ave

Day: Monday  
Date: 9/24/2018

City: Livermore  
Project #: CA18\_8461\_002

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	1,404	1,166	2,570					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			0	0	0	12:00			10	14	24			
00:15			0	0	0	12:15			12	9	21			
00:30			0	0	0	12:30			13	9	22			
00:45			0	0	0	12:45			16	51	18	50	34	101
01:00			0	0	0	13:00			18	5	23			
01:15			0	0	0	13:15			16	7	23			
01:30			0	0	0	13:30			18	12	30			
01:45			0	1	1	13:45			13	65	5	29	18	94
02:00			0	0	0	14:00			18	11	29			
02:15			0	1	1	14:15			27	19	46			
02:30			0	0	0	14:30			35	12	47			
02:45			0	0	1	14:45			39	119	10	52	49	171
03:00			0	0	0	15:00			32	14	46			
03:15			0	1	1	15:15			47	14	61			
03:30			1	2	3	15:30			42	12	54			
03:45			1	2	0	15:45			65	186	15	55	80	241
04:00			1	1	2	16:00			67	11	78			
04:15			1	0	1	16:15			74	17	91			
04:30			1	1	2	16:30			59	15	74			
04:45			4	7	4	16:45			64	264	14	57	78	321
05:00			3	4	7	17:00			50	17	67			
05:15			0	12	12	17:15			54	20	74			
05:30			2	12	14	17:30			69	15	84			
05:45			3	8	17	17:45			47	220	13	65	60	285
06:00			16	18	34	18:00			46	14	60			
06:15			4	21	25	18:15			38	11	49			
06:30			5	19	24	18:30			16	12	28			
06:45			10	35	33	18:45			24	124	16	53	40	177
07:00			9	41	50	19:00			10	4	14			
07:15			10	30	40	19:15			11	10	21			
07:30			17	52	69	19:30			6	4	10			
07:45			14	50	48	19:45			11	38	8	26	19	64
08:00			17	49	66	20:00			4	5	9			
08:15			18	46	64	20:15			9	8	17			
08:30			24	47	71	20:30			6	8	14			
08:45			15	74	45	20:45			3	22	6	27	9	49
09:00			17	42	59	21:00			3	2	5			
09:15			11	30	41	21:15			2	1	3			
09:30			12	27	39	21:30			1	4	5			
09:45			13	53	34	21:45			1	7	1	8	2	15
10:00			6	17	23	22:00			3	1	4			
10:15			9	12	21	22:15			2	0	2			
10:30			3	12	15	22:30			2	2	4			
10:45			11	29	18	22:45			1	8	0	3	1	11
11:00			7	6	13	23:00			1	0	1			
11:15			9	12	21	23:15			1	1	2			
11:30			11	11	22	23:30			3	1	4			
11:45			9	36	13	23:45			1	6	0	2	1	8
<b>TOTALS</b>			294	739	1033	<b>TOTALS</b>			1110	427	1537			
<b>SPLIT %</b>			28.5%	71.5%	40.2%	<b>SPLIT %</b>			72.2%	27.8%	59.8%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	1,404	1,166	2,570

AM Peak Hour	08:00	07:30	07:45	PM Peak Hour	15:45	16:30	15:45				
AM Pk Volume	74	195	263	PM Pk Volume	265	66	323				
Pk Hr Factor	0.771	0.938	0.926	Pk Hr Factor	0.895	0.825	0.887				
7 - 9 Volume	0	0	124	358	482	4 - 6 Volume	0	0	484	122	606
7 - 9 Peak Hour	08:00	07:30	07:45	4 - 6 Peak Hour	16:00	16:30	16:00				
7 - 9 Pk Volume	0	0	74	195	263	4 - 6 Pk Volume	0	0	264	66	321
Pk Hr Factor	0.000	0.000	0.771	0.938	0.926	Pk Hr Factor	0.000	0.000	0.892	0.825	0.882

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 18-08462-001

Date : 09/20/2018

## Unshifted Count = All Vehicles & Uturns

START TIME	Morgan Territory Rd Southbound					Manning Rd Westbound					Morgan Territory Rd Northbound					Manning Rd Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	7	0	1	0	8	0	28	0	0	28	0	0	0	0	0	1	3	0	0	4	40	0
7:15	8	0	6	0	14	0	41	3	0	44	0	0	0	0	0	0	6	0	0	6	64	0
7:30	9	0	0	0	9	0	49	0	0	49	0	0	0	0	0	0	10	0	0	10	68	0
7:45	3	0	3	0	6	0	49	2	0	51	0	0	0	0	0	0	8	0	0	8	65	0
<b>Total</b>	<b>27</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>37</b>	<b>0</b>	<b>167</b>	<b>5</b>	<b>0</b>	<b>172</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>27</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>237</b>	<b>0</b>
8:00	9	0	1	0	10	0	33	3	0	36	0	0	1	0	1	0	9	0	0	9	56	0
8:15	9	0	6	0	15	0	49	8	0	57	0	0	0	0	0	0	7	0	0	7	79	0
8:30	10	0	5	0	15	0	35	2	0	37	0	0	0	0	0	0	8	0	0	8	60	0
8:45	6	0	2	0	8	0	44	4	0	48	0	0	0	0	0	0	8	0	0	8	64	0
<b>Total</b>	<b>34</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>48</b>	<b>0</b>	<b>161</b>	<b>17</b>	<b>0</b>	<b>178</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>259</b>	<b>0</b>
16:00	8	0	0	0	8	0	8	5	0	13	0	0	0	0	0	3	43	0	0	46	67	0
16:15	3	0	0	0	3	0	6	9	0	15	0	0	0	0	0	2	69	0	0	71	89	0
16:30	4	0	0	0	4	0	14	3	0	17	0	0	0	0	0	3	63	0	0	66	87	0
16:45	3	0	1	0	4	0	17	9	0	26	0	0	0	0	0	4	52	0	0	56	86	0
<b>Total</b>	<b>18</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>45</b>	<b>26</b>	<b>0</b>	<b>71</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>227</b>	<b>0</b>	<b>0</b>	<b>239</b>	<b>329</b>	<b>0</b>
17:00	7	0	1	1	9	0	12	10	0	22	0	0	0	0	0	2	58	0	0	60	91	1
17:15	0	0	0	0	0	0	17	11	0	28	0	0	0	1	1	3	64	0	0	67	96	1
17:30	6	0	0	0	6	0	6	5	0	11	0	0	0	0	0	4	74	0	0	78	95	0
17:45	1	0	0	0	1	0	9	3	0	12	0	0	0	0	0	3	54	0	0	57	70	0
<b>Total</b>	<b>14</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>16</b>	<b>0</b>	<b>44</b>	<b>29</b>	<b>0</b>	<b>73</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>12</b>	<b>250</b>	<b>0</b>	<b>0</b>	<b>262</b>	<b>352</b>	<b>2</b>
<b>Grand Total</b>	<b>93</b>	<b>0</b>	<b>26</b>	<b>1</b>	<b>120</b>	<b>0</b>	<b>417</b>	<b>77</b>	<b>0</b>	<b>494</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>25</b>	<b>536</b>	<b>0</b>	<b>0</b>	<b>561</b>	<b>1177</b>	<b>2</b>
Apprch %	77.5%	0.0%	21.7%	0.8%		0.0%	84.4%	15.6%	0.0%		0.0%	0.0%	50.0%	50.0%		4.5%	95.5%	0.0%	0.0%			
Total %	7.9%	0.0%	2.2%	0.1%	10.2%	0.0%	35.4%	6.5%	0.0%	42.0%	0.0%	0.0%	0.1%	0.1%	0.2%	2.1%	45.5%	0.0%	0.0%	47.7%	100.0%	

AM PEAK HOUR	Morgan Territory Rd Southbound					Manning Rd Westbound					Morgan Territory Rd Northbound					Manning Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	9	0	0	0	9	0	49	0	0	49	0	0	0	0	0	0	10	0	0	10	68
7:45	3	0	3	0	6	0	49	2	0	51	0	0	0	0	0	0	8	0	0	8	65
8:00	9	0	1	0	10	0	33	3	0	36	0	0	1	0	1	0	9	0	0	9	56
8:15	9	0	6	0	15	0	49	8	0	57	0	0	0	0	0	0	7	0	0	7	79
Total Volume	30	0	10	0	40	0	180	13	0	193	0	0	1	0	1	0	34	0	0	34	268
% App Total	75.0%	0.0%	25.0%	0.0%		0.0%	93.3%	6.7%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	100.0%	0.0%	0.0%		
PHF	.833	.000	.417	.000	.667	.000	.918	.406	.000	.846	.000	.000	.250	.000	.250	.000	.850	.000	.000	.850	.848

PM PEAK HOUR	Morgan Territory Rd Southbound					Manning Rd Westbound					Morgan Territory Rd Northbound					Manning Rd Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	3	0	1	0	4	0	17	9	0	26	0	0	0	0	0	4	52	0	0	56	86
17:00	7	0	1	1	9	0	12	10	0	22	0	0	0	0	0	2	58	0	0	60	91
17:15	0	0	0	0	0	0	17	11	0	28	0	0	0	1	1	3	64	0	0	67	96
17:30	6	0	0	0	6	0	6	5	0	11	0	0	0	0	0	4	74	0	0	78	95
Total Volume	16	0	2	1	19	0	52	35	0	87	0	0	0	1	1	13	248	0	0	261	368
% App Total	84.2%	0.0%	10.5%	5.3%		0.0%	59.8%	40.2%	0.0%		0.0%	0.0%	0.0%	100.0%		5.0%	95.0%	0.0%	0.0%		
PHF	.571	.000	.500	.250	.528	.000	.765	.795	.000	.777	.000	.000	.000	.250	.250	.813	.838	.000	.000	.837	.958

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 18-08462-001

Date : 09/20/2018

## Bank 1 Count = Bikes & Peds

START TIME	Morgan Territory Rd Southbound					Manning Rd Westbound					Morgan Territory Rd Northbound					Manning Rd Eastbound					Total	Peds Total	
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL			
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%		
Total %	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%		0.0%		0.0%	0.0%

AM PEAK HOUR	Morgan Territory Rd Southbound					Manning Rd Westbound					Morgan Territory Rd Northbound					Manning Rd Eastbound					Total	
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	
Peak Hour Analysis From 07:30 to 08:30																						
Peak Hour For Entire Intersection Begins at 07:30																						
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000		.000	.000	.000	.000		.000		.000	.000

PM PEAK HOUR	Morgan Territory Rd Southbound					Manning Rd Westbound					Morgan Territory Rd Northbound					Manning Rd Eastbound					Total	
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	
Peak Hour Analysis From 16:45 to 17:45																						
Peak Hour For Entire Intersection Begins at 16:45																						
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000		.000	.000	.000	.000		.000		.000	.000

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 18-08462-002

Date : 09/20/2018

## Unshifted Count = All Vehicles & Uturns

START TIME	Morgan Territory Rd Southbound					Project Dwy Westbound					Morgan Territory Rd Northbound					Project Dwy Eastbound					Total	Uturns Total
	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL		
7:00	0	7	0	0	7	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	8	0
7:15	0	13	0	0	13	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	17	0
7:30	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
7:45	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6	0
<b>Total</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>41</b>	<b>0</b>
8:00	0	10	0	0	10	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	14	0
8:15	0	12	0	0	12	1	0	0	0	1	0	5	2	0	7	0	0	0	0	0	20	0
8:30	0	15	0	0	15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	17	0
8:45	0	8	0	0	8	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	11	0
<b>Total</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>0</b>	<b>45</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>13</b>	<b>2</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>62</b>	<b>0</b>
16:00	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	10	0
16:15	0	1	0	0	1	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	13	0
16:30	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	10	0
16:45	0	4	0	0	4	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	16	0
<b>Total</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>0</b>
17:00	1	7	0	0	8	1	0	0	0	1	0	9	1	0	10	0	0	0	0	0	19	0
17:15	0	1	0	0	1	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	17	0
17:30	0	6	0	0	6	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	14	0
17:45	0	1	0	0	1	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	8	0
<b>Total</b>	<b>1</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>40</b>	<b>1</b>	<b>0</b>	<b>41</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>58</b>	<b>0</b>
<b>Grand Total</b>	<b>1</b>	<b>106</b>	<b>0</b>	<b>0</b>	<b>107</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>96</b>	<b>3</b>	<b>0</b>	<b>99</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>210</b>	<b>0</b>
Apprch %	0.9%	99.1%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	97.0%	3.0%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	0.5%	50.5%	0.0%	0.0%	51.0%	1.9%	0.0%	0.0%	0.0%	1.9%	0.0%	45.7%	1.4%	0.0%	47.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

AM PEAK HOUR	Morgan Territory Rd Southbound					Project Dwy Westbound					Morgan Territory Rd Northbound					Project Dwy Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
8:00	0	10	0	0	10	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	14
8:15	0	12	0	0	12	1	0	0	0	1	0	5	2	0	7	0	0	0	0	0	20
8:30	0	15	0	0	15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	17
8:45	0	8	0	0	8	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	11
Total Volume	0	45	0	0	45	2	0	0	0	2	0	13	2	0	15	0	0	0	0	0	62
% App Total	0.0%	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	86.7%	13.3%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.750	.000	.000	.750	.500	.000	.000	.000	.500	.000	.650	.250	.000	.536	.000	.000	.000	.000	.000	.775

PM PEAK HOUR	Morgan Territory Rd Southbound					Project Dwy Westbound					Morgan Territory Rd Northbound					Project Dwy Eastbound					Total
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	4	0	0	4	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	16
17:00	1	7	0	0	8	1	0	0	0	1	0	9	1	0	10	0	0	0	0	0	19
17:15	0	1	0	0	1	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	17
17:30	0	6	0	0	6	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	14
Total Volume	1	18	0	0	19	1	0	0	0	1	0	45	1	0	46	0	0	0	0	0	66
% App Total	5.3%	94.7%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	97.8%	2.2%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.250	.643	.000	.000	.594	.250	.000	.000	.000	.250	.000	.703	.250	.000	.719	.000	.000	.000	.000	.000	.868

# ALL TRAFFIC DATA

(916) 771-8700

[orders@atdtraffic.com](mailto:orders@atdtraffic.com)

File Name : 18-08462-002

Date : 09/20/2018

## Bank 1 Count = Bikes & Peds

START TIME	Morgan Territory Rd Southbound					Project Dwy Westbound					Morgan Territory Rd Northbound					Project Dwy Eastbound					Total	Peds Total	
	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL			
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%
Total %	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%

AM PEAK HOUR	Morgan Territory Rd Southbound					Project Dwy Westbound					Morgan Territory Rd Northbound					Project Dwy Eastbound					Total	
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	
Peak Hour Analysis From 08:00 to 09:00																						
Peak Hour For Entire Intersection Begins at 08:00																						
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000

PM PEAK HOUR	Morgan Territory Rd Southbound					Project Dwy Westbound					Morgan Territory Rd Northbound					Project Dwy Eastbound					Total	
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	
Peak Hour Analysis From 16:45 to 17:45																						
Peak Hour For Entire Intersection Begins at 16:45																						
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000

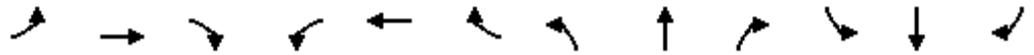


VISION THAT MOVES YOUR COMMUNITY

## **APPENDIX C – LEVEL OF SERVICE WORKSHEETS FOR EXISTING AND CUMULATIVE CONDITIONS**

HCM Unsignalized Intersection Capacity Analysis  
 1: Driveway/Morgan Territory Rd & Manning Rd

Existing Conditions  
 Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	0	34	0	0	180	13	0	0	1	30	0	10
Future Volume (Veh/h)	0	34	0	0	180	13	0	0	1	30	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.25	0.25	0.25	0.67	0.67	0.67
Hourly flow rate (vph)	0	40	0	0	212	15	0	0	4	45	0	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	227			40			274	267	40	264	260	220
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	227			40			274	267	40	264	260	220
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	93	100	98
cM capacity (veh/h)	1341			1570			666	639	1031	687	645	820
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	40	227	4	60								
Volume Left	0	0	0	45								
Volume Right	0	15	4	15								
cSH	1341	1570	1031	716								
Volume to Capacity	0.00	0.00	0.00	0.08								
Queue Length 95th (ft)	0	0	0	7								
Control Delay (s)	0.0	0.0	8.5	10.5								
Lane LOS			A	B								
Approach Delay (s)	0.0	0.0	8.5	10.5								
Approach LOS			A	B								
<b>Intersection Summary</b>												
Average Delay			2.0									
Intersection Capacity Utilization			25.9%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 2: Morgan Territory Rd & Project Driveway

Existing Conditions  
Timing Plan: A.M. Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	0	13	2	0	45
Future Volume (Veh/h)	2	0	13	2	0	45
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.50	0.50	0.54	0.54	0.75	0.75
Hourly flow rate (vph)	4	0	24	4	0	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	86	26			28	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	86	26			28	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	915	1050			1585	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	4	28	60			
Volume Left	4	0	0			
Volume Right	0	4	0			
cSH	915	1700	1585			
Volume to Capacity	0.00	0.02	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.4			
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 1: Driveway/Morgan Territory Rd & Manning Rd

Existing Conditions  
 Timing Plan: P.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	248	0	0	52	35	1	0	0	17	0	2
Future Volume (Veh/h)	13	248	0	0	52	35	1	0	0	17	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.25	0.25	0.25	0.53	0.53	0.53
Hourly flow rate (vph)	15	295	0	0	67	45	4	0	0	32	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	112			295			418	437	295	414	414	90
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	112			295			418	437	295	414	414	90
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	100	100	94	100	100
cM capacity (veh/h)	1478			1266			538	508	744	544	523	968
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	310	112	4	36								
Volume Left	15	0	4	32								
Volume Right	0	45	0	4								
cSH	1478	1266	538	572								
Volume to Capacity	0.01	0.00	0.01	0.06								
Queue Length 95th (ft)	1	0	1	5								
Control Delay (s)	0.4	0.0	11.7	11.7								
Lane LOS	A		B	B								
Approach Delay (s)	0.4	0.0	11.7	11.7								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay			1.3									
Intersection Capacity Utilization			30.4%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 2: Morgan Territory Rd & Project Driveway

Existing Conditions  
 Timing Plan: P.M. Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	0	45	1	1	18
Future Volume (Veh/h)	1	0	45	1	1	18
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.25	0.25	0.72	0.72	0.60	0.60
Hourly flow rate (vph)	4	0	63	1	2	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	98	64			64	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	98	64			64	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	900	1001			1538	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	4	64	32			
Volume Left	4	0	2			
Volume Right	0	1	0			
cSH	900	1700	1538			
Volume to Capacity	0.00	0.04	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.0	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	9.0	0.0	0.5			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.5			
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 1: Driveway/Morgan Territory Rd & Manning Rd

Existing plus Project Conditions  
 Timing Plan: A.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	3	34	0	0	180	21	0	0	1	30	0	10
Future Volume (Veh/h)	3	34	0	0	180	21	0	0	1	30	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.25	0.25	0.25	0.67	0.67	0.67
Hourly flow rate (vph)	4	40	0	0	212	25	0	0	4	45	0	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	237			40			288	285	40	276	272	224
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	237			40			288	285	40	276	272	224
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	93	100	98
cM capacity (veh/h)	1330			1570			651	622	1031	672	632	815
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	44	237	4	60								
Volume Left	4	0	0	45								
Volume Right	0	25	4	15								
cSH	1330	1570	1031	703								
Volume to Capacity	0.00	0.00	0.00	0.09								
Queue Length 95th (ft)	0	0	0	7								
Control Delay (s)	0.7	0.0	8.5	10.6								
Lane LOS	A		A	B								
Approach Delay (s)	0.7	0.0	8.5	10.6								
Approach LOS			A	B								
<b>Intersection Summary</b>												
Average Delay			2.0									
Intersection Capacity Utilization			26.4%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 2: Morgan Territory Rd & Project Driveway

Existing plus Project Conditions

Timing Plan: A.M. Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	0	13	13	0	45
Future Volume (Veh/h)	2	0	13	13	0	45
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.50	0.50	0.54	0.54	0.75	0.75
Hourly flow rate (vph)	4	0	24	24	0	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	96	36			48	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	96	36			48	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	903	1037			1559	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	4	48	60			
Volume Left	4	0	0			
Volume Right	0	24	0			
cSH	903	1700	1559			
Volume to Capacity	0.00	0.03	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 1: Driveway/Morgan Territory Rd & Manning Rd

Existing plus Project Conditions  
 Timing Plan: P.M. Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	13	248	0	0	52	35	1	0	0	25	0	5
Future Volume (Veh/h)	13	248	0	0	52	35	1	0	0	25	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.78	0.78	0.78	0.25	0.25	0.25	0.53	0.53	0.53
Hourly flow rate (vph)	15	295	0	0	67	45	4	0	0	47	0	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	112			295			424	437	295	414	414	90
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	112			295			424	437	295	414	414	90
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	100	100	91	100	99
cM capacity (veh/h)	1478			1266			532	508	744	544	523	968
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	310	112	4	56								
Volume Left	15	0	4	47								
Volume Right	0	45	0	9								
cSH	1478	1266	532	585								
Volume to Capacity	0.01	0.00	0.01	0.10								
Queue Length 95th (ft)	1	0	1	8								
Control Delay (s)	0.4	0.0	11.8	11.8								
Lane LOS	A		B	B								
Approach Delay (s)	0.4	0.0	11.8	11.8								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay			1.8									
Intersection Capacity Utilization			30.4%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 2: Morgan Territory Rd & Project Driveway

Existing plus Project Conditions  
Timing Plan: P.M. Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	0	45	1	1	18
Future Volume (Veh/h)	12	0	45	1	1	18
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.25	0.25	0.72	0.72	0.60	0.60
Hourly flow rate (vph)	48	0	63	1	2	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	98	64			64	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	98	64			64	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	100			100	
cM capacity (veh/h)	900	1001			1538	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	48	64	32			
Volume Left	48	0	2			
Volume Right	0	1	0			
cSH	900	1700	1538			
Volume to Capacity	0.05	0.04	0.00			
Queue Length 95th (ft)	4	0	0			
Control Delay (s)	9.2	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	9.2	0.0	0.5			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			3.2			
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 1: Driveway/Morgan Territory Rd & Manning Rd

Cumulative Conditions  
 Timing Plan: A.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	53	0	0	278	20	0	0	2	46	0	15
Future Volume (Veh/h)	0	53	0	0	278	20	0	0	2	46	0	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	58	0	0	302	22	0	0	2	50	0	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	324			58			387	382	58	373	371	313
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	324			58			387	382	58	373	371	313
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	91	100	98
cM capacity (veh/h)	1236			1546			559	551	1008	583	559	727
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	58	324	2	66								
Volume Left	0	0	0	50								
Volume Right	0	22	2	16								
cSH	1236	1546	1008	612								
Volume to Capacity	0.00	0.00	0.00	0.11								
Queue Length 95th (ft)	0	0	0	9								
Control Delay (s)	0.0	0.0	8.6	11.6								
Lane LOS			A	B								
Approach Delay (s)	0.0	0.0	8.6	11.6								
Approach LOS			A	B								
<b>Intersection Summary</b>												
Average Delay			1.7									
Intersection Capacity Utilization			32.6%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 2: Morgan Territory Rd & Project Driveway

Cumulative Conditions  
Timing Plan: A.M. Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	3	0	20	3	0	70
Future Volume (Veh/h)	3	0	20	3	0	70
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	0	22	3	0	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	100	24			25	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	100	24			25	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	899	1053			1589	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	3	25	76			
Volume Left	3	0	0			
Volume Right	0	3	0			
cSH	899	1700	1589			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization		13.7%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 1: Driveway/Morgan Territory Rd & Manning Rd

Cumulative Conditions  
 Timing Plan: P.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	383	0	0	80	54	2	0	0	26	0	3
Future Volume (Veh/h)	20	383	0	0	80	54	2	0	0	26	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	416	0	0	87	59	2	0	0	28	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	146			416			580	606	416	576	576	116
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	146			416			580	606	416	576	576	116
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	100	100	93	100	100
cM capacity (veh/h)	1436			1143			420	405	637	423	421	936
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	438	146	2	31								
Volume Left	22	0	2	28								
Volume Right	0	59	0	3								
cSH	1436	1143	420	447								
Volume to Capacity	0.02	0.00	0.00	0.07								
Queue Length 95th (ft)	1	0	0	6								
Control Delay (s)	0.5	0.0	13.6	13.7								
Lane LOS	A		B	B								
Approach Delay (s)	0.5	0.0	13.6	13.7								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay			1.1									
Intersection Capacity Utilization			42.1%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 2: Morgan Territory Rd & Project Driveway

Cumulative Conditions  
Timing Plan: P.M. Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	0	70	2	2	28
Future Volume (Veh/h)	2	0	70	2	2	28
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	76	2	2	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	111	77			78	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	111	77			78	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	885	984			1520	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	2	78	32			
Volume Left	2	0	2			
Volume Right	0	2	0			
cSH	885	1700	1520			
Volume to Capacity	0.00	0.05	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.1	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	9.1	0.0	0.5			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.3			
Intersection Capacity Utilization		13.8%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 1: Driveway/Morgan Territory Rd & Manning Rd

Cumulative plus Project Conditions  
 Timing Plan: A.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	53	0	0	278	28	0	0	2	46	0	15
Future Volume (Veh/h)	3	53	0	0	278	28	0	0	2	46	0	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	58	0	0	302	30	0	0	2	50	0	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	332			58			397	396	58	383	381	317
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	332			58			397	396	58	383	381	317
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	91	100	98
cM capacity (veh/h)	1227			1546			550	540	1008	573	550	724
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	61	332	2	66								
Volume Left	3	0	0	50								
Volume Right	0	30	2	16								
cSH	1227	1546	1008	603								
Volume to Capacity	0.00	0.00	0.00	0.11								
Queue Length 95th (ft)	0	0	0	9								
Control Delay (s)	0.4	0.0	8.6	11.7								
Lane LOS	A		A	B								
Approach Delay (s)	0.4	0.0	8.6	11.7								
Approach LOS			A	B								
<b>Intersection Summary</b>												
Average Delay			1.8									
Intersection Capacity Utilization			33.1%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 2: Morgan Territory Rd & Project Driveway

Cumulative plus Project Conditions

Timing Plan: A.M. Peak

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	3	0	20	14	0	70
Future Volume (Veh/h)	3	0	20	14	0	70
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	0	22	15	0	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	106	30			37	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	106	30			37	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	892	1045			1574	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	3	37	76			
Volume Left	3	0	0			
Volume Right	0	15	0			
cSH	892	1700	1574			
Volume to Capacity	0.00	0.02	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			13.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 1: Driveway/Morgan Territory Rd & Manning Rd

Cumulative plus Project Conditions  
 Timing Plan: P.M. Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	383	0	0	80	54	2	0	0	34	0	6
Future Volume (Veh/h)	20	383	0	0	80	54	2	0	0	34	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	416	0	0	87	59	2	0	0	37	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	146			416			584	606	416	576	576	116
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	146			416			584	606	416	576	576	116
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	100	100	91	100	99
cM capacity (veh/h)	1436			1143			415	405	637	423	421	936
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	438	146	2	44								
Volume Left	22	0	2	37								
Volume Right	0	59	0	7								
cSH	1436	1143	415	463								
Volume to Capacity	0.02	0.00	0.00	0.09								
Queue Length 95th (ft)	1	0	0	8								
Control Delay (s)	0.5	0.0	13.7	13.6								
Lane LOS	A		B	B								
Approach Delay (s)	0.5	0.0	13.7	13.6								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay			1.4									
Intersection Capacity Utilization			42.1%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 2: Morgan Territory Rd & Project Driveway

Cumulative plus Project Conditions

Timing Plan: P.M. Peak



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	13	0	70	2	2	28
Future Volume (Veh/h)	13	0	70	2	2	28
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	0	76	2	2	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	111	77			78	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	111	77			78	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	885	984			1520	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	14	78	32			
Volume Left	14	0	2			
Volume Right	0	2	0			
cSH	885	1700	1520			
Volume to Capacity	0.02	0.05	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.1	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	9.1	0.0	0.5			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization		13.8%		ICU Level of Service		A
Analysis Period (min)			15			