COUNTY OF LAKE
COMMUNITY DEVELOPMENT DEPARTMENT
Courthouse - 255 N. Forbes Street
Lakeport, California 95453
Planning Department · Building Department · Code Enforcement
707/263-2221 · FAX 707/263-2225

Mary Darby
Community Development Director

Dated: **March 18, 2022**

CALIFORNIA ENVIRONMENTAL QUALITY ACT ENVIRONMENTAL CHECKLIST FORM REVISED INITIAL STUDY IS 20-111

1. Project Title:	Bar X Ranch
2. Permit Number:	Major Use Permit, UP 20-92 Initial Study, IS 20-111
3. Lead Agency Name and Address:	County of Lake Community Development Department Courthouse – 255 North Forbes Street Lakeport CA 95453
4. Contact Person:	Andrew Amelung, Program Manager (707) 263-2221
5. Project Location(s):	18655, 19395, 20103, and 20333 S Hwy 29 Middletown, California 95461 Cultivation APNs: 014-250-07 and 14 Non-cultivation APNs: 014-250-05 and 10
6. Project Sponsor's Name/Address:	Bar X Farms LLC 20333 S. Highway 29 Middletown, CA 95461
7. General Plan Designation:	Rural Lands (RL)/Resource Conservation (RC)/Agriculture (A)
8. Zoning:	"RL-FF-FW-SC-WW"; Rural Lands-Floodway Fringe-Floodway-Scenic-Waterway Combining Districts
9. Supervisor District:	District One (1)
10. Flood Zone:	Zone A, AE (western portion of APN 14); and Zone D
11. Slope:	Varied; cultivation sites are less than 10%
12. Fire Hazard Severity Zone:	SRA – Moderate and Very High Fire Risk
13. Earthquake Fault Zone:	Not located within an Earthquake Fault Zone
14. Dam Failure Inundation Area:	Not located within Dam Failure Inundation Area

15. Parcel Sizes: APN 014-250-05 (2.8 acres), APN 014-250-10 (511.0 acres), APN 014-250-07 (564.9 acres), APN 014-250-14 (515.9 acres) – Total Acreage is 1,594.6 acres

16. Reasons for Revision and Recirculation

The purpose of this revision are the following:

1) To address comments from the California Department of Transportation (Caltrans) dated July 2, 2021. The comments were made regarding the Mitigated Negative Declaration that was uploaded to the State of California Governor's Office of Planning and Research State Clearinghouse (SCH# 2021060050) on June 2, 2021. The project description has been revised, the analysis has been updated, and mitigation measures have been added.
2) To incorporate the results of the Hydrology Report and Drought Mitigation Plan prepared for the project to comply with the Urgency Ordinance (Ordinance 3106) passed on July 27, 2021 by the Lake County Board of Supervisors. Ordinance 3106 requires all projects that require a CEQA analysis of water use to include the following items:
    a. Hydrology report by a California licensed civil engineer, hydro-geologist, hydrologist, or geologist experienced in water resources
        i. Approximate amount of water available for the project's identified water source
        ii. Approximate recharge rate for the project's identified water source
        iii. Cumulative impact of water use to surrounding areas due to project
    b. Drought Management Plan
        i. Provide a plan depicting how the applicants plan to reduce water use during a declared drought emergency, to ensure both the success and decreased impacts to the surrounding areas

    The project description has been revised, the analysis has been updated, and mitigation measures have been added.
3) To update the proposed project description to incorporate removal of Phase 2 from the project.
4) Pursuant to CEQA Guidelines Section 15073.5(b), recirculation of the Draft IS/MND is required due to substantial revisions made to the original Draft IS/MND.

17. Environmental Setting and Existing Conditions

The Bar X Ranch (Ranch) is located at 18655 and 20333 S State Highway 29 approximately 1.8 miles northeast of Middletown and approximately 2.3 miles southwest of the Hidden Valley Lake community (Township 11N, Range 6W, 7W, Unsectioned Guenoc, in the Middletown 1993 USGS quadrangle). The cumulative parcel acreage of the Bar X Ranch is 1594.6 acres. The proposed project is located in the Middletown Planning Area.

Bar X Ranch is an existing cattle ranch that has been actively farmed for over 100-years for cattle grazing and hay production. The Ranch is bounded by Putah Creek to the west and State Highway 29 to the east. The surrounding land uses are rural land, residential, and agriculture with existing ranches and vineyards to the north and west and an existing heavy industrial area adjacent to the Ranch to the northeast. The topography of the Ranch is rolling and consists of mountain ridges and valleys ranging from 1,000 feet to 1,500 feet above sea level. The Ranch is located within the Upper Putah Creek watershed (HUC-1802016203). Putah Creek, a Class I watercourse, bounds the western edge of the property and flows in the northerly direction and then turns east approximately 1.7 miles north of the Ranch. Crazy Creek, a Class II watercourse that is tributary to Putah Creek, flows east towards its confluence with Putah Creek located approximately 3.5 miles east of Bar X Ranch. Several Class III watercourses are located throughout Bar X Ranch, draining to Putah Creek or Crazy Creek (Figure 1). The climate of the site is characterized by a Mediterranean-type climate, with distinct seasons of hot, dry summers and wet, moderately cold winters. The wet season is typically October through May.

The Ranch's vegetation is comprised of annual grasses and weeds, with scattered oak trees, shrubs, star thistle, and blackberry brambles. Much of the vegetation and trees were burned during the 2015 Valley Fire.

Existing conditions on the Ranch include an existing reservoir ("lake" in Figure 1) for storage of 245 acre-feet from an existing appropriative water right (Division of Water Rights Permit for Diversion and Use of Water #20993), a number of internal compacted dirt and gravel roads, fenced and cross fenced pastures, a trenched irrigation system, an approximately 16,250 sq. ft. (65 ft x 250 ft) pole barn, two groundwater wells (one for domestic, one for irrigation), and a residential area with several houses, barns, garages, shops, storage buildings, and septic systems. The residential area would not be utilized by the proposed project and would remain as is. The Ranch is currently accessed off of State Highway 29 via three (3) existing driveways (north, center, and south [Figure 2]). The center driveway is the main driveway used to access the existing residential area.

The existing appropriative water right allows the Ranch to divert (directly from Putah Creek) and store water up to 245 acre-feet per annum to be collected from December 1 to April 15 of each year at a rate not to exceed 5 cubic feet per second. This water right would continue to be used annually to divert and store water for the purpose of irrigation on the Ranch. The water right's permit requires, for the protection of fish and wildlife, that the permittee bypass a minimum of 100 cfs in Putah Creek. The Ranch is required to maintain records of the amount of water diverted.

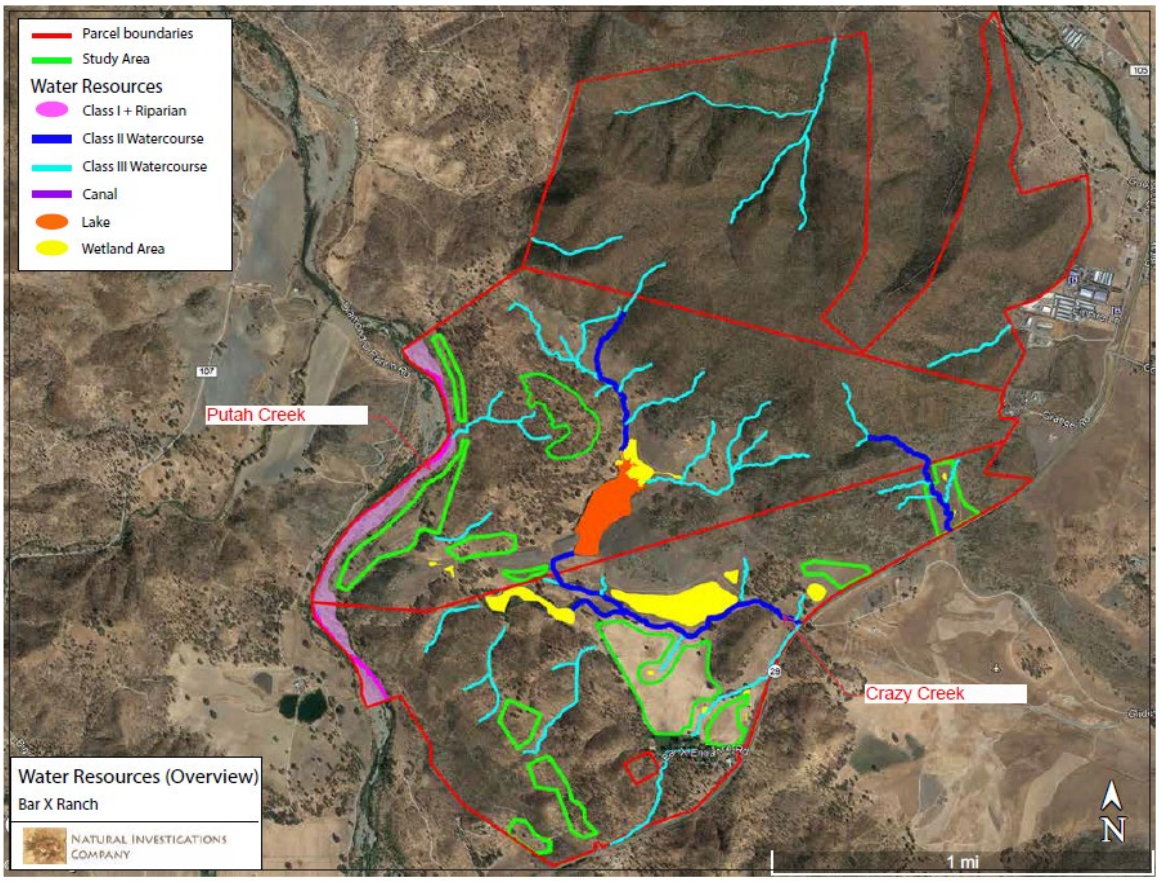


Figure 1. Bar X Ranch Water Resources (Source: Biological Resources Assessment, updated September 30, 2021)

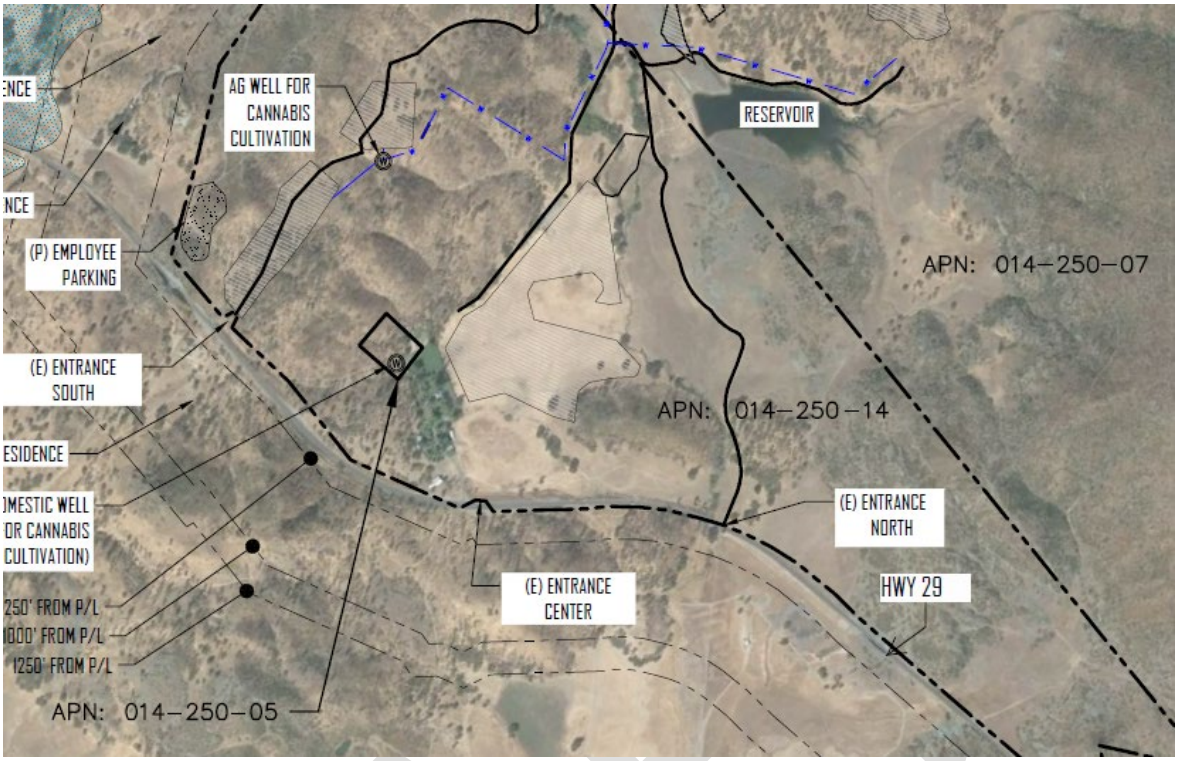


Figure 2. North, Center, and South Entrances off of State Highway 29

18. Description of Project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary).

Description of Project: Bar X Farms LLC, is seeking discretionary approval from Lake County for a Major Use Permit, UP 20-92, for commercial cannabis operations at 18655 and 20333 S State Highway 29, Middletown (APNs 014-250-07 and 14, respectively), as follows:

Sixty-Three (63) A-Type 3: "Outdoor" licenses: Outdoor cultivation for adult-use cannabis without the use of light deprivation and/or artificial lighting in the canopy area at any point in time. The applicant proposes 1,545,000 sq. ft. (35.5 acres) of commercial cannabis canopy area on APN 014-250-07 and 1,160,000 sq. ft. (26.6 acres) of commercial cannabis canopy area on APN 014-250-14, for a total of 62.1 acres of canopy within a cultivation area of approximately 75.6 acres (3,293,136 sq. ft.). The proposed project would include retrofitting an existing 16,250 sq. ft. (65 ft x 250 ft) barn for drying and curing of cannabis grown onsite.

A-Type 13 Self Distribution license

The proposed project would include the retrofitted 16,250 sq. ft. pole barn for drying and curing. Retrofitting of the existing barn would not occur until the appropriate grading and building permits have been obtained from Lake County.

At full buildout, the proposed cannabis operation would utilize approximately 80 acres (5%) of the 1594.6 acre Ranch. The remainder of the Ranch would continue to operate as it has operated in the past, including cattle ranching and hay production.

A Biological Resources Assessment for the Ranch, updated September 30, 2021, and Botanical Survey Report, dated April 16, 2021, were prepared by Natural Investigations Co. (Natural Investigations Co., 2021). Natural Investigations Co. identified 87.6-acres, represented by ten (10) distinct sites that are suited for the proposed project. These sites, referred to as "gardens", were selected to occur within active agricultural areas and to avoid all wetlands and channels, setbacks from watercourses and other natural resources, sensitive terrestrial habitats (serpentine soils, riparian, chaparral habitats), sensitive plant areas, steep slopes, and dense oak stands. The proposed cannabis cultivation would be setback a minimum 150 ft. from Class I watercourses and a minimum of 100 ft. from wetlands and from the top of bank of all Class II, and Class III watercourses. The project would consist of development of outdoor cannabis gardens for cultivation of 62.1 acres of outdoor canopy at eight (8) of the garden areas. The proposed cannabis activities are to be co-located on the subject parcels in compliance with Lake County regulations. Details are summarized in Table 1 and Table 2 and Figure 3.

Table 1. Summary of cannabis cultivation canopy areas for each garden

Site Plan Sheet #	APN	Name	Cultivation Type	Canopy Area (sq. ft.)	Cultivation Area (acres)
7	014-250-07	Center Garden	Outdoor	60,000	1.2
7	014-250-07	West Center Garden	Outdoor	110,000	3.4
8	014-250-07	Riverside Garden	Outdoor	835,000	20.1
9	014-250-07	Northwest Garden	Outdoor	85,000	2.9
11	014-250-07	East Center Garden	Outdoor	455,000	11.4
10	014-250-14	Pasture Garden	Outdoor	845,000	25.8
10	014-250-14	Employee Parking (East Garden)	N/A	N/A	N/A
5	014-250-14	Southwest Garden #1	Outdoor	150,000	5.7
6	014-250-14	Southwest Garden #2	Outdoor	165,000	5.1
			Total	2,705,000	75.6

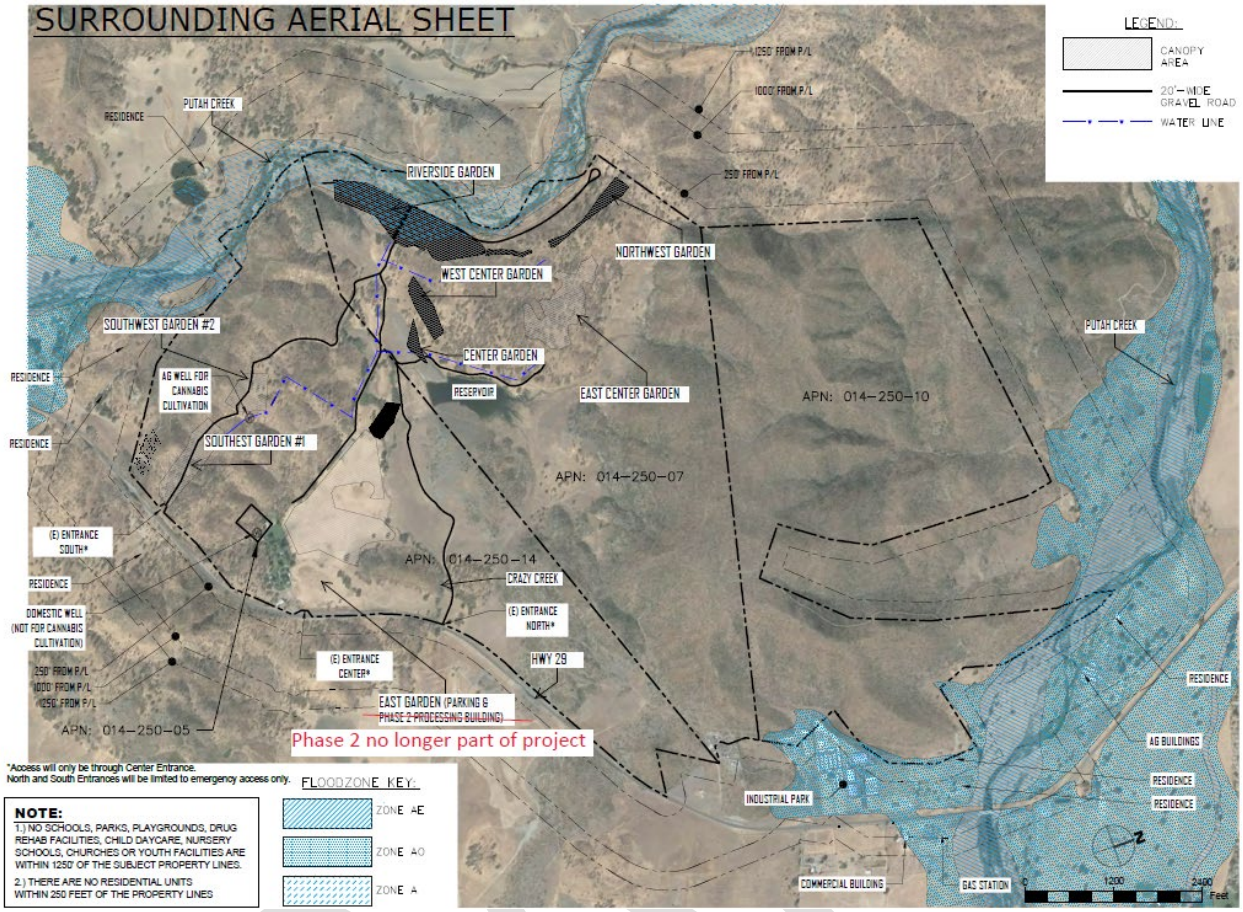


Figure 3. Proposed project garden areas and surrounding area (Site Plan Sheet 2)

Outdoor cultivation would occur in full sun, with imported soil and amendments, in planter boxes or smart pots (grow bags) placed on top of the existing grade utilizing natural contours in open areas. During preparation of the cultivation areas, some vegetation clearing and minor grading (clearing and grubbing) is proposed for the outdoor cultivation activities to create level areas, on contour, for the planter boxes or smart pots, the cultivation employee parking area, and a flat for the water tanks near the Southwest Garden #2. No removal of living trees is proposed. An existing 16,250 sq. ft. barn would be retrofitted and used for storage, drying, and curing of cannabis; no cultivation would occur in this building. Employees would use the parking area located at the East Garden and the existing onsite access roads for parking and staging and accessing cultivation areas. Employees would have access to portable chemical toilets located at the employee parking area and at each of the cultivation areas.

Since grading is proposed to prepare the cultivation areas and parking area, the applicant has submitted, to Lake County, an application for a Grading Permit. The application includes a Grading Plan that depicts the areas of vegetation removal and grading, including earthwork quantities. No grading or building would occur until the appropriate grading and building permits have been obtained from the County.

Power Source and Generator Use: Power for security cameras, security lights, and the dry barn would be powered using small, localized solar power at each cultivation area and on/or adjacent to the barn.

Water from the irrigation well would be pumped to approximately 27, 5,000 gallon water storage tanks using a 75 HP pump. The tanks are located at a high point on the property so that

water from the tanks would gravity feed through an above ground pipe system (aka, irrigation lines) to each cultivation area. The pump would be powered by a 120 kilowatt diesel generator that would be housed in a sound dampening enclosure.

Article 27, Section (at)1.iii lists prohibited activities associated with commercial cannabis cultivation and does not prohibit the use of generators for irrigation or outdoor cultivation, specifically, the section states, for electrical generators, that, "*The indoor or mixed-light cultivation of cannabis shall not rely on a personal gasoline, diesel, propane, or similar fuels, powered generator as a primary source of power and shall only allow properly permitted (when applicable) generators for temporary use in the event of a power outage or emergency ~~that~~ is beyond the permittee's control*".

The generator use proposed here is solely to operate the 75 HP well pump. The cultivation of outdoor cannabis would not rely on the use of a generator.

Water Use: Plants would be watered using an above ground, drip-irrigation system. Water for cultivation activities would be supplied from an existing groundwater well on APN 014-250-14 (a Well Completion Report was submitted to Lake County Department of Environmental Health on January 15, 2021). The well, which was drilled in January 2021, is approximately 215 feet in depth, and has an approximate yield of 800 gallons per minute (GPM). Water would be pumped from the well, using an existing 75 HP variable speed pump, to approximately twenty-seven (27), 5,000-gallon water tanks adjacent to Southwest Garden #2 on APN 014-250-14, where it would gravity feed through, new, above ground irrigation lines to each of the proposed garden areas. Fertigation (addition of liquid fertilizers and other amendments to the irrigation water) at each garden would be done using a mobile mixing tank and injected directly into the drip-irrigation system.

A Groundwater Availability Analysis was prepared for the project by Chico Environmental on April 21, 2021 and an Hydrology Report was prepared for the project by NorthPoint Consulting Group on September 8, 2021 (revised November 2, 2021). The purpose of the Hydrology Report is to meet the requirement of Urgency Ordinance 3106 passed on July 27, 2021 by the Lake County Board of Supervisors. The expected annual water use would be 3,000 gallons per day per acre. This would equate to approximately between **22,356,000 and 33,534,000 gallons** (68.6 and 102.9 acre-feet) for 62.1 acres of outdoor canopy over an approximately 120 to 180 day cultivation season. The daily demand would be approximately 186,300 gallons. The total water storage would be approximately 135,000 gallons. The well yield is approximately 800 gallons per minute (GPM). The well pump is a variable speed pump that can pump from 350 to 750 GPM; which would have the capacity to supply 190,000 gallons of water in less than 5 hours; meeting the average daily irrigation demand.

To confirm the well capacity and assess the drawdown, a 4-hour well pump test was conducted on October 19 and 20, 2021 by Pollack and Sons Pump. The existing 75 HP well pump was used to conduct the test. The static water level at the beginning of the test was 34 feet below ground surface (bgs). During the test, the water level dropped to 140 feet bgs and remained at that level the duration of the pump test, which was conducted at 625 GPM during the entire 4-hours. After 24-hours, the water level returned to 34 feet bgs. Pollack and Sons Pump reported that the well could produce more water with a larger pump installed.

Number of Employees: The approximate number of employees for the proposed project, which are based on employee numbers from similar operations, are summarized in Table 3. Seasonal employees would be contracted through a local company during planting and harvesting.

Table 2. Employee counts for the proposed project

Activity	Employees
Fulltime Cultivation	10
Seasonal Cultivation	120

Access, Parking, and Traffic: A Focused Transportation Analysis (FTA) for the Bar X Ranch Cultivation Project was prepared by W-Trans on October 6, 2021. The purpose of the FTA was to address the comments from Caltrans dated July 2, 2021 and September 1, 2021. The FTA determined that a left-turn lane would be warranted during the p.m. peak hour (occurs weekdays between 4 p.m. and 6 p.m.) traffic under existing conditions and would continue to be warranted with the proposed project and recommended that a single left-turn lane be constructed at the center driveway. The FTA recommended that internal access connections be provided on-site so that the proposed cultivation areas could be reached from the center driveway and that the north and south driveways should facilitate emergency access only. These features have been incorporated into the proposed project. (Refer to the Site Plans, Sheets C0 through C2 of the Bar X Farms On-Site Parking and Traffic Circulation Plan, and Left Turn Channelization Concepts Sheets C0 through C4)

The Ranch is currently accessed off State Highway 29 via three (3) existing driveways (north, center, and south [Figure 2]). The center driveway is proposed to be the access entrance for the proposed project. The northern and southern driveways would be used for emergency access only. The gates at these two driveways would be locked and include signage stating, "Emergency Access Only" (Refer to Sheets C0 through C2 of the Bar X Farms On-Site Parking and Traffic Circulation Plan).

The project proposes constructing a left-turn lane for access to the center driveway. Preliminary design concepts have been developed and incorporated into the proposed project. The left-turn lane and any associated roadway improvements, including possible culvert replacement at the northern entrance, will be designed and constructed to Caltrans' Design Standards. Design parameters for the left turn lane were provided in the FTA. Construction of the left-turn lane will not begin until all permits related to the roadway construction have been obtained, including full approval from Caltrans through the State of California Encroachment Permit Process. Prior to construction of the left-turn lane, left-turn access to the site via the center driveway will be controlled using temporary traffic control measures. A Temporary Traffic Control Plan to accommodate left turns will be prepared and submitted to Caltrans for approval prior to project activities (including both construction and operation of the project).

Seasonal laborers would be contracted through a company that specializes in seasonal labor for cultivation and harvesting. Seasonal laborers would be required to vanpool to the site. Parking for full time employees and vans used by the seasonal laborers would be provided at the East Garden. Seasonal laborers would be transported to the cultivation areas using golfcart type utility vehicles (or similar) via existing internal ranch roads. The employee parking area would have approximately ten (10) regular parking spaces and sixteen (16) van parking spaces, including one (1) ADA space.

Trip generation rates during operation were provided in the FTA for a larger project, thus, the trips presented here are conservative (high). The project is expected to result in an average of 63 trips per day at buildout during typical operation by fulltime, permanent employees. During peak harvest, with required vanpooling for seasonal laborers, the project is expected to result

in an average of 115 trips per day during the peak harvesting period. The FTA assumed that vans would have an occupancy of eight (8) seasonal laborers each, which equates to fifteen (15) vans needed to transport seasonal laborers to and from the site at buildout. Fulltime employees not living onsite will be encouraged to carpool.

Construction traffic would occur over approximately 4 to 8 weeks. Larger equipment would be mobilized once at the beginning of the construction season, and out and the end of the construction season. During construction, it is expected that there would be approximately 10 to 15 construction employees, with up to approximately 30 round trips per day. Assuming an average of one (1) delivery per day, the total construction trips would be approximately 31 trips per day.

Operation Details: Operations would occur up to seven (7) days per week with cultivation operations occurring approximately from April to November every year.

During the peak harvest, onsite food service catering or an onsite food catering truck would be offered to all employees.

Hours of operation for the proposed activities would typically be between approximately 6 a.m. and 8 p.m. daily. The Lake County Zoning Ordinance restricts deliveries and pickups for cannabis cultivation operations from 9 a.m. to 7 p.m. Monday through Saturday and Sunday from 12 p.m. to 5 p.m. Prior to construction of the left-turn lane, temporary left-turn traffic control would be provided during the weekday p.m. peak period to control left-turns into the Ranch.

Fertilizers, pesticides, and petroleum products would be stored with compatible chemicals and outside of riparian setbacks in the existing barn or stormproof sheds or, as needed, storage containers installed at each cultivation area. All waste would be kept in secured areas, located at each cultivation site, and regularly hauled off-site to be disposed of properly at an appropriate waste disposal facility. Any plant waste would be chipped/mulched and spread around the cultivation areas. A trash enclosure, soil stockpile, and compost pile would be established at each cultivation area.

Each cultivation area would be fully secured with 8-foot wire deer fencing and a minimum 14-foot wide locked gate that is wide enough to allow access for emergency vehicles.

The following erosion control measures would be followed:

- Preserve existing vegetation where required and when feasible;
- Apply temporary erosion control to exposed areas. Reapply as necessary to maintain effectiveness;
- Implement temporary erosion control measures at regular intervals throughout the defined rainy season to achieve and maintain stability. Implement erosion control prior to the defined rainy season; and
- Control erosion in concentrated flow paths by applying erosion control devices.

Bar X Ranch is enrolled with the State Water Resources Control Board (SWRCB) for Tier 2, Low Risk coverage under Order No. WQ 2019-001-DWQ (Cannabis Cultivation General Order). The Cannabis Cultivation General Order implements Cannabis Policy requirements with the purpose of ensuring that the diversion of water and discharge of waste associated with

cannabis cultivation does not have a negative impact on water quality, aquatic habitat, riparian habitat, wetlands, or springs. The site was assigned WDID No. 5S17CC429135. The Cannabis Cultivation General Order requires the preparation of a Site Management Plan (SMP), a Nitrogen Management Plan (NMP), and the submittal of annual technical and monitoring reports demonstrating compliance. The purpose of the SMP is to identify Best Practicable Treatment or Control (BPTC) measures that the site intends to follow for erosion control purposes and to prevent stormwater pollution. The purpose of the NMP is to identify how nitrogen is stored, used, and applied to crops in a way that is protective to water quality. The SMP and NMP are required prior to commencing cultivation activities and were submitted with the application materials.

Construction: Proposed grading activities would include vegetation removal and minor grading (clearing and grubbing) to prepare the outdoor cultivation areas and grading of the cultivation employee parking area. A grading permit application, Grading Plan and Dust Mitigation Plan have been submitted to Lake County. No grading would occur until an approved grading permit has been obtained from the County. Normal means and methods would be used to retrofit the barn and proposed left-turn lane.

Construction is expected to begin in the spring of 2022, with the exact start date dependent on permits, dry weather, and suitable soil conditions. Construction would include building fences, preparing the cultivation areas, installing the above ground irrigation system, retrofitting the existing barn, developing the employee parking area, preparing flats for the water tanks, and constructing the proposed left-turn lane. Activities would include some vegetation clearing and minor grading to create level areas, on contour, for the planter boxes or smart pots, to develop the cultivation employee parking area, and the water tank area. No removal of living trees is proposed. The existing 16,250 sq. ft. barn would be retrofitted and used for storage, drying, and curing of cannabis; no cultivation would occur in this building. A building permit is required and would be obtained from Lake County prior to retrofitting the barn. Construction is expected to take approximately 4 to 8 weeks. During construction, there would be approximately 15 to 30 workers. Truck deliveries would be expected to occur, on average, every two days throughout the construction season. Construction staging would occur in the proposed employee parking area and existing onsite access roads.

During construction, Best Management Practices (BMPs) would be used to minimize erosion and control dust: within a cultivation area of approximately 75.6 acres (3,293,136 sq. ft.). These are detailed in the Property Management Plan, Erosion Control Plan, and Dust Management Plan prepared for the proposed project. BMPs for erosion control during construction include preserving natural vegetation whenever possible, stabilize loose soil. Sediment control BMPs include vegetated swales, buffer strips, sediment traps, straw wattles, silt fences, or fiber rolls.

Dust control measures include installing weed barriers, maintaining existing vegetation outside cultivation areas, watering exposed surfaces (e.g. parking areas, staging areas, soil piles, graded areas, and unpaved access roads), and restrict onsite speeds to 15 mph or less.

Since, the project would disturb more than one acre in preparing the cultivation areas, constructing the parking area and left-turn lane, the project would be subject to the requirements State Water Resources Control Board (SWRCB) Construction General Permit (CGP, 2009-009-DWQ). The SWRCB CGP would require the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and Erosion Control Plan which documents the stormwater dynamics at the site, the, and water quality protection measures that are used, and the frequency of inspections. BMPs are activities or measures determined to be practicable,

acceptable to the public, and cost effective in preventing water pollution or reducing the amount of pollution generated by non-point sources. Obtainment of a CGP is also a BPTC Measure for compliance with the SWRCB General Order. The Construction General Permit does not cover disturbances of land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.

19. Surrounding Land Uses and Setting: Briefly describe the project's surroundings:

North: Rural Lands (RL), Rural Residential (RR), and Agricultural (A) zoned properties

South: Rural Lands (RL), Agricultural (A), Open Space (O), and Timberland Protection Zone (TPZ) zoned properties

East: Rural Lands (RL), Rural Residential (RR), Heavy Industrial (M2), Suburban Reserve (SR), and Service Commercial (C3) zoned properties

West: Rural Lands (RL) zoned properties

The nearest offsite residence is located on APN 014-480-03 approximately 1,000 feet west of Southwest Garden #1.

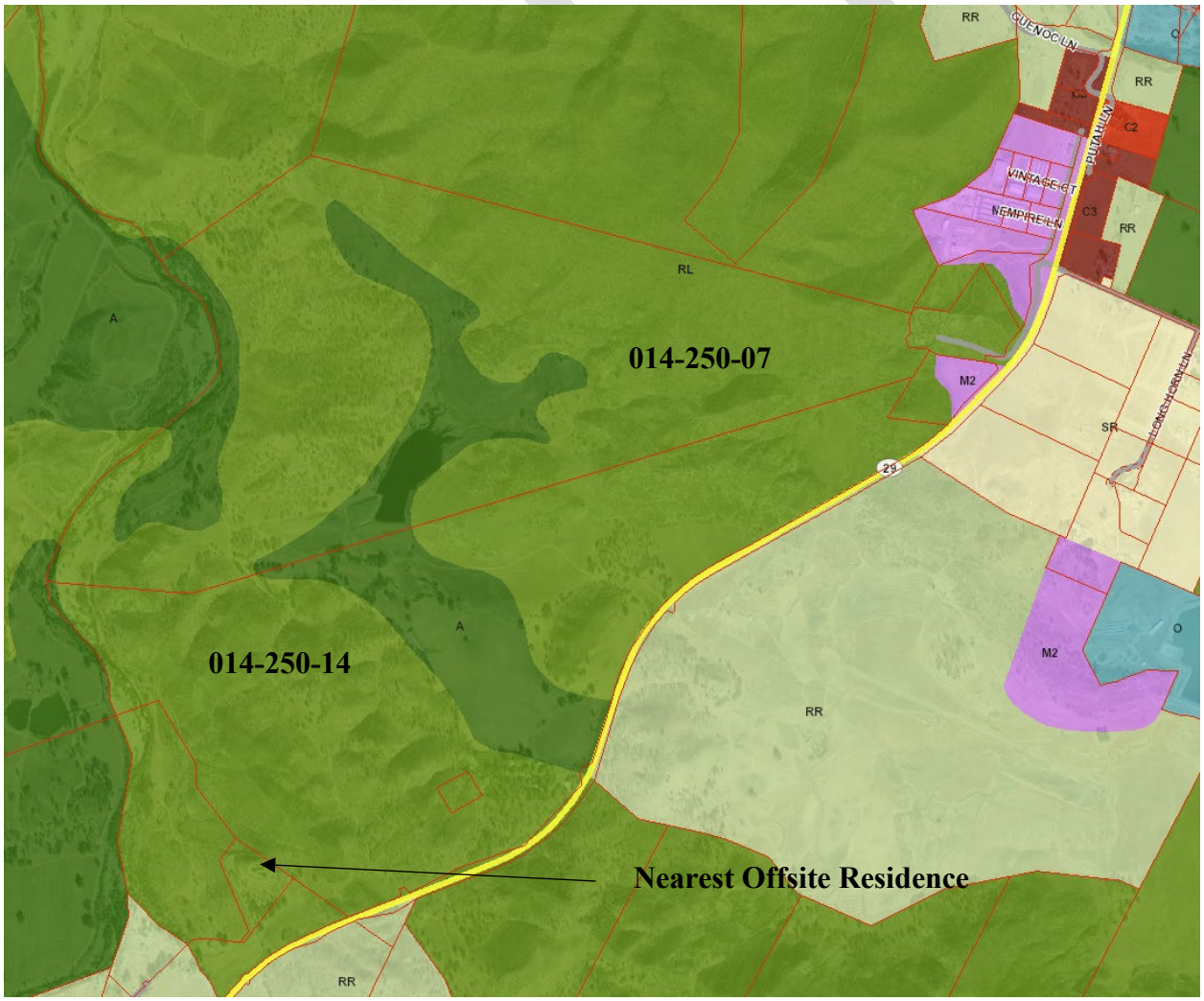


Figure 4. Zoning of project area and surrounding parcels

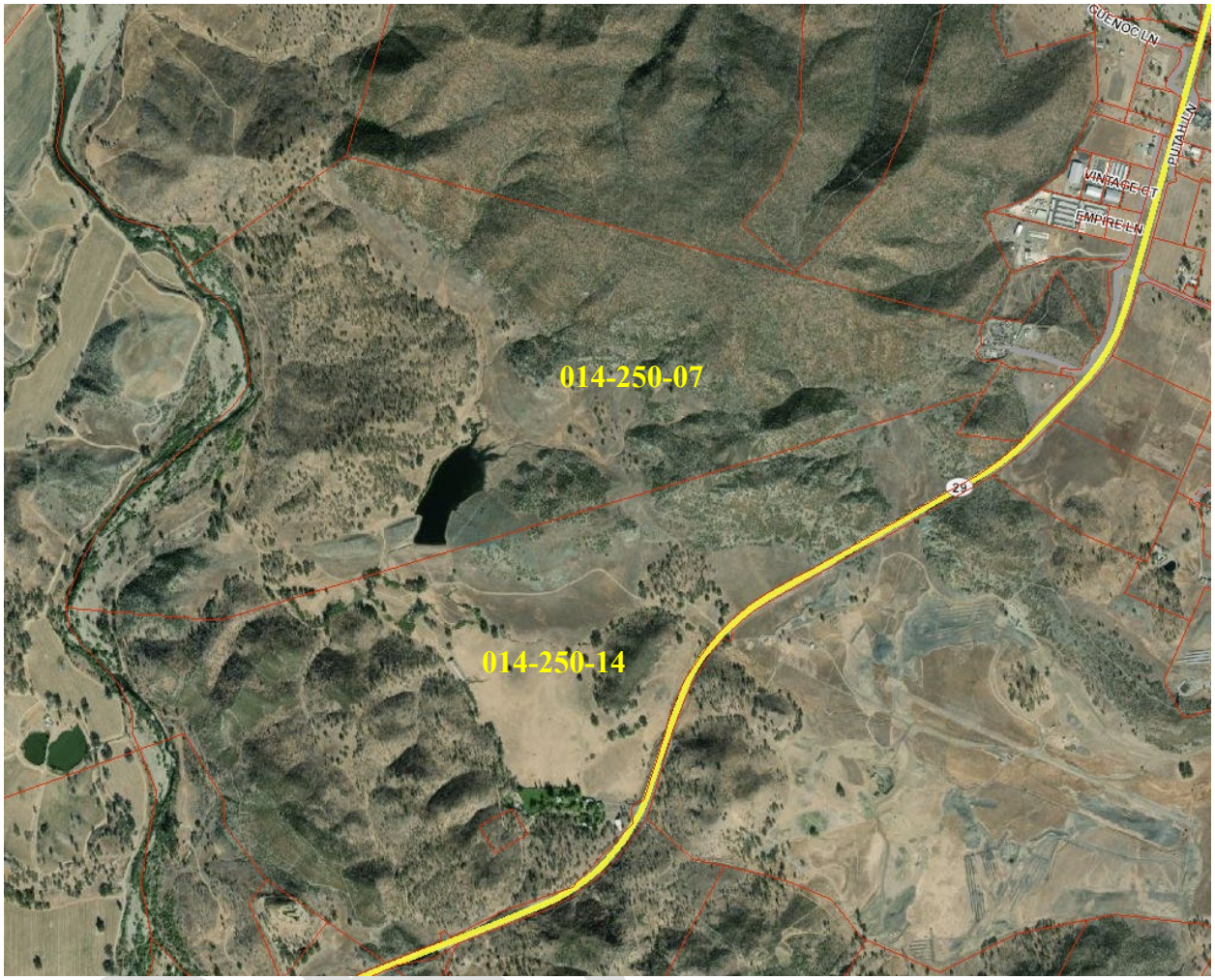


Figure 5. Aerial photo of project area and surrounding parcels

Other public agencies whose approval may be required (e.g., Permits, financing approval, or participation agreement.)

Lake County Department of Environmental Health
Lake County Air Quality Management District
Lake County Department of Public Works
Lake County Department of Public Services
Lake County Agricultural Commissioner
Lake County Sheriff's Office
South Lake County Fire Protection District
Central Valley Regional Water Quality Control Board
CalCannabis (via Dept. of Food and Agriculture)
California State Water Resources Control Board (SWRCB)
California Department of Forestry & Fire Protection (CALFIRE)
California Department of Fish & Wildlife (CDFW)
California Department of Food and Agriculture (CDFA)
California Department of Pesticides Regulations
California Department of Public Health

California Bureau of Cannabis Control
California Department of Consumer Affairs
California Department of Transportation (Caltrans)

20. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?** Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3 (c) contains provisions specific to confidentiality.

    Notification of the project was sent to the local tribes on December 18, 2020. The Middletown Rancheria Tribal Historic Preservation Department (Middletown Rancheria THPD) responded with an email dated January 4, 2021, and determined that, the Ranch is within the aboriginal territories of the Middletown Rancheria. The Middletown Rancheria THPD requested additional information regarding the project as well as a consultation regarding the project. In an email dated April 21, 2021, to Mr. Eric Porter of the County Community Development Department, the Middletown Rancheria THPD informed the County that Middletown Rancheria THPD and Bar X Farms, LLC were in the process of finalizing a Cultural Resources Monitoring (CRM) agreement for the proposed project. A CRM agreement between Bar X Farms, LLC and the Middletown THPD was finalized on April 28, 2021.

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.

☒ **Aesthetics**	☐ Greenhouse Gas Emissions	☐ Population / Housing
☐ Agriculture & Forestry	☒ **Hazards & Hazardous Materials**	☐ Public Services
☒ **Air Quality**	☒ **Hydrology / Water Quality**	☐ Recreation
☒ **Biological Resources**	☐ Land Use / Planning	☒ **Transportation**
☒ **Cultural Resources**	☐ Mineral Resources	☒ **Tribal Cultural Resources**
☒ **Geology / Soils**	☒ **Noise**	☐ Utilities / Service Systems
☒ **Wildfire**	☐ Energy	☒ **Mandatory Findings of Significance**

DETERMINATION: (To be completed by the lead Agency)
On the basis of this initial evaluation:

☐ 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 project proponent. 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" impact 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 or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Initial Study Prepared By: NorthPoint Consulting Group, Inc.
Reviewed by: Michael McGinnis, Principal Planner and Andrew Amelung, Program Manager, County of Lake

_____ Date:_____
SIGNATURE

Mary Darby –Community Development Director
Community Development Department

SECTION 1 - EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, and then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact"

to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures, which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

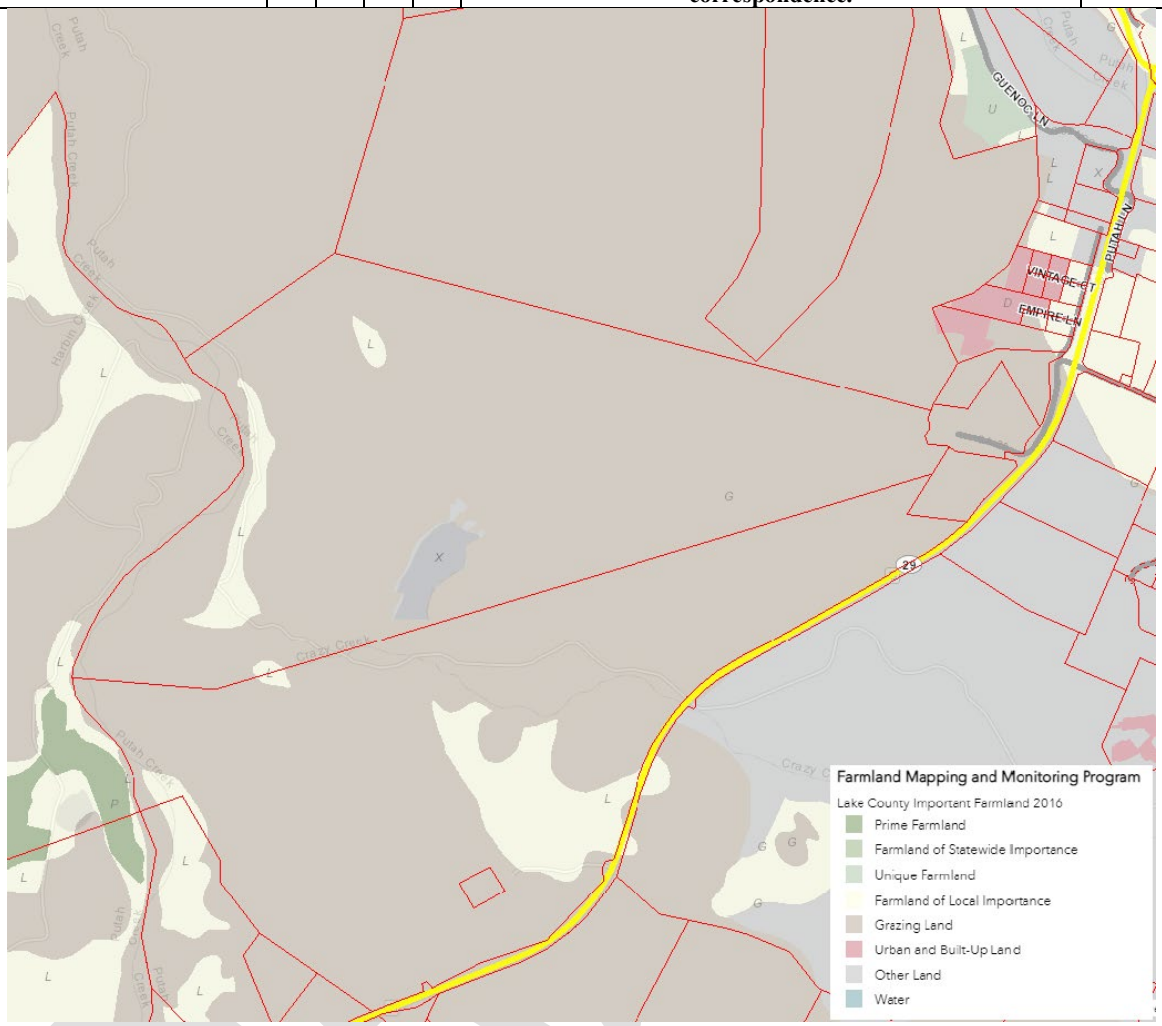
9) The explanation of each issue should identify:
   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance

KEY: 1 = Potentially Significant Impact
2 = Less Than Significant with Mitigation Incorporation
3 = Less Than Significant Impact
4 = No Impact

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
I. AESTHETICS *Would the project:*						
a) Have a substantial adverse effect on a scenic vista?			X		The Ranch is accessed off State Highway 29, approximately 1.3 miles northeast of Middletown. State Highway 29 borders to the Ranch to the east. In addition to natural features, the cultural landscape includes agricultural activities such as grazing lands, walnut orchards and vineyards that provide scenic vistas for those traveling State Highway 29, which is a gateway to Lake County from the Bay Area. State Highway 29 is eligible for listing as a State Scenic Highway, but is not an officially designated State Scenic Highway. According to the Middletown Area Plan, the concentration of agricultural lands	1, 2, 3, 4, 5, 6, 9

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					and their distribution in the County, especially large ranches, is a major contributing element to its rural character and scenic quality. In the vicinity of the Ranch, State Highway 29 is designated scenic through the use of the "SC", Scenic Combining District [Article 34 of the Lake County Code (Code)], which provides viewshed protection for scenic vistas visible from designated roadways. The "SC" Zoning District, as described in the Lake County Zoning Ordinance Article 34.1, sets forth to "protect and enhance views of scenic areas from the County's scenic highways and roadways for the benefit of local residential and resort development, the motoring public, and the recreation based economy of the County". According to Article 34.2, scenic criteria that applies to the Project parcels include 1) varied topographic features including dominant hills and mountains and 2) pastoral features such as pastures and vineyards, all visible from State Highway 29 at the location of the Project site. The proposed uses are permitted as described in Article 34.3 and the requirement of a major use permit as described in Article 34.4 is satisfied through the current use permit application. The proposed project meets the performance standards as described in Article 34.11. Bar X Ranch is a 1594.6 acre cattle ranch. The proposed cannabis activities would utilize approximately 80 acres (5%) of the Ranch. The remainder of the Ranch would continue to operate as it has in the past, including cattle ranching and hay production. The proposed activities are agricultural in nature and are consistent with the current and past use of the property, the surrounding existing uses, and existing zoning. **Less than Significant Impact.**	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X		The Ranch is accessed off State Highway 29, which is eligible for listing as a State Scenic Highway, but has not been officially designated.. In addition to natural features, the cultural landscape includes agricultural activities such as grazing lands, walnut orchards and vineyards that provide scenic vistas for those traveling State Highway 29, which is a gateway to Lake County from the Bay Area. The "SC" Combining District, which spans a portion of the Ranch adjacent to Highway 29, provides viewshed protection for scenic vistas visible from designated roadways. As Highway 29, is not an officially designated state scenic highway, the impacts would be less than significant. **Less than Significant Impact.**	2, 3, 4, 9
c) Substantially degrade the existing visual character or quality of public views the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X		The Ranch is located in a rural, unincorporated area of Lake County northeast of Middletown. Large ranches are of great value to the rural character and scenic quality of the County. The proposed activities are agricultural in nature and are consistent with the current and past use of the property, the surrounding existing uses, and existing zoning. However, the Ranch is partially within the SC Combining District and is located adjacent to Highway 29. Through compliance with Article 34 of the Lake County Zoning Ordinance, the impacts would be less than significant. **Less than Significant Impact.**	1, 2, 3, 4, 6, 9

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		X			The project has some potential to create additional light and/or glare through exterior security lighting. The following mitigation measures have been implemented that would reduce the impacts to less than significant: **Less than Significant Impact with Mitigation Measures AES-1 through AES-3 incorporated.** **<u>AES-1:</u> All outdoor lighting shall be directed downward onto the Project site and not onto adjacent properties. All lighting equipment shall comply with the recommendations of www.darksky.org.** **<u>AES-2:</u> All indoor lighting shall be fully contained within structures or otherwise shielded to fully contain any light or glare. Artificial light shall be completely shielded between sunset and sunrise.** **<u>AES-3:</u> Security lighting shall be motion activated and all outdoor lighting shall be shielded and downcast or otherwise positioned in a manner that will not shine light or allow light glare to exceed the boundaries of the lot of record upon which they are placed.**	1, 2, 3, 4, 5, 6, 9
II. AGRICULTURE AND FORESTRY RESOURCES ***In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest protocols adopted by the California Air Resources Board.*** *Would the project:*						
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?				X	Per the Farmland Mapping and Monitoring Program, the Ranch is mostly classified as Grazing Land with isolated pockets of land designated as Farmland of Local Importance (Figure 6). The Ranch is not located within a Farmland Protection Zone. The proposed activities are agricultural in nature and are consistent with the current and past use of the property, the surrounding existing uses, and existing zoning. Therefore, this proposed project would not convert farmland that is high quality farmland to a non-agricultural use. **No Impact**	1, 2, 3, 4, 7, 8, 11, 13, 39

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
 *Figure 6. Farmland Mapping and Monitoring Program designation*						
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?			X		The site is not under a Williamson Act contract. The cultivation site is not located within a Lake County Farmland Protection Zone and is not within 1-mile of the Farmland Protection Zone. The cultivation portion of the site would not interfere with the ability of the owner or neighbors to use the non-cannabis land for more traditional crop production. The site is zoned Rural Land (RL) and Agriculture (A), which is a designated zone for agriculture, including cannabis cultivation. **Less than Significant Impact**	1, 2, 3, 4, 5, 7, 8, 11, 13
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))?				X	The property is zoned Rural Lands (RL) and Agriculture (A) and does not contain forest land. Therefore, the proposed project would not conflict with existing zoning and/or cause the rezoning of forest land as defined by Public Resource Code section 4526, or of timberland as defined by Government Code section 51104(g). **No Impact**	1, 2, 3, 4, 5, 7, 8, 11, 13

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X	The property is zoned Rural Lands (RL) and Agriculture (A) and does not contain forest land. Therefore, the project would not result in the loss or conversion of forest land to a non-forest use. **No Impact**	1, 2, 3, 4, 5, 7, 8, 11, 13
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?			X		As proposed, this project would not induce changes to existing farmland that would result in its conversion to non-agricultural use. **Less than Significant Impact**	1, 2, 3, 4, 5, 7, 8, 11, 13
III. AIR QUALITY *Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.* *Would the project:*						
a) Conflict with or obstruct implementation of the applicable air quality plan?		X			The project site is located within the Lake County Air Basin, which is under the jurisdiction of the Lake County Air Quality Management District (LCAQMD). The LCAQMD applies air pollution regulations to all major stationary pollution sources and monitors air quality. The Lake County Air Basin is in attainment with both state and federal air quality standards. According to the USDA Soil Survey and the Ultramafic, ultrabasic, serpentine rock and soils map of Lake County, serpentine soils exist on the large Ranch, but the cultivation operations have been located in areas not designated as serpentine soils (Figure 7). Since the Lake County Air Basin is in attainment for all air pollutants, air quality plans are not required in Lake County. Although the Lake County Air Basin is not required to have an air quality plan, the proposed project has the potential to result in short- and long-term air quality impacts from construction and operation of the proposed project. Potential construction impacts are limited to vegetation clearing and minor grading to create level areas, on contour, for the planter boxes or smart pots, grading the cultivation employee parking area, and a flat area for the water tanks. These impacts would be temporary in nature and would occur over a 4 to 8 week period. Ongoing field management is considered an operational, not construction, activity. Operational impacts would include dust and fumes from site preparation of the cultivation areas, cultivation employee parking area, water tank area, and vehicular traffic, including delivery vehicles that would be contributors during and after site preparation/construction. Odors generated by the plants, particularly during harvest season, would be mitigated through passive means (separation distance), and other measures such as planting native flowering vegetation surrounding the cultivation area. Implementation of mitigation measures would reduce air quality impacts to less than significant. The project proposes the use of a gasoline-powered generator to operate the well pump. No generator use is proposed as part of the outdoor cultivation activities.	1, 3, 4, 5, 13, 21, 24, 31, 36

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					The diesel-powered equipment (tillers, weed-eaters, etc.) would be used for maintenance. Dust during site preparation would be limited during periods of high winds (over 15 mph). All visibly dry, disturbed soil and road surfaces would be watered to minimize fugitive dust emissions. Dust and fumes may be released as a result of vehicular traffic, including delivery vehicles. Minor grading is proposed. Additionally, implementation of mitigation measures below would further reduce air quality impacts to less than significant. **Impacts would be Less than Significant with Mitigation Measures AQ-1 through AQ-7 incorporated.** **AQ-1: Prior to obtaining the necessary County grading and building permits and/or approvals, applicant shall contact the Lake County Air Quality Management District and obtain an Authority to Construct (A/C) Permit for all operations and for any diesel-powered equipment and/or other equipment with potential for air emissions. Or provide proof that a permit is not needed. Evidence of compliance with this mitigation measure shall be provided to the Lake County Community Development Department prior to approval of any building permits for the project.** **AQ-2: All mobile diesel equipment used must be in compliance with State registration requirements. Portable and stationary diesel powered equipment must meet all Federal, State, and local requirements, including the requirements of the State Air Toxic Control Measures for Compression Ignition (CI) engines. Additionally, the Applicant must notify the Lake County Air Quality Management District prior to beginning construction activities and prior to engine use.** **AQ-3: The applicant shall maintain records of all hazardous or toxic materials used, including a Material Safety Data Sheet (MSDS) for all volatile organic compounds utilized, including cleaning materials. Said information shall be made available upon request and/or be provided to the Lake County Air Quality Management District if needed to complete an updated Air Toxic emission Inventory.** **AQ-4: All vegetation during site development shall be chipped and spread for ground cover and/or erosion control. The burning of vegetation, construction debris, including waste material is prohibited.** **AQ-5: The applicant shall have the primary access and parking areas surfaced with chip seal, asphalt or an equivalent all weather surfacing to reduce fugitive dust generation. The use of white rock as a road base or surface material for travel routes and/or parking areas is prohibited.** **AQ-6: All areas subject infrequent use of driveways, over flow parking, etc., shall be surfaced with gravel. Applicant shall regularly use and/or maintain graveled area to reduce fugitive dust generations.**	

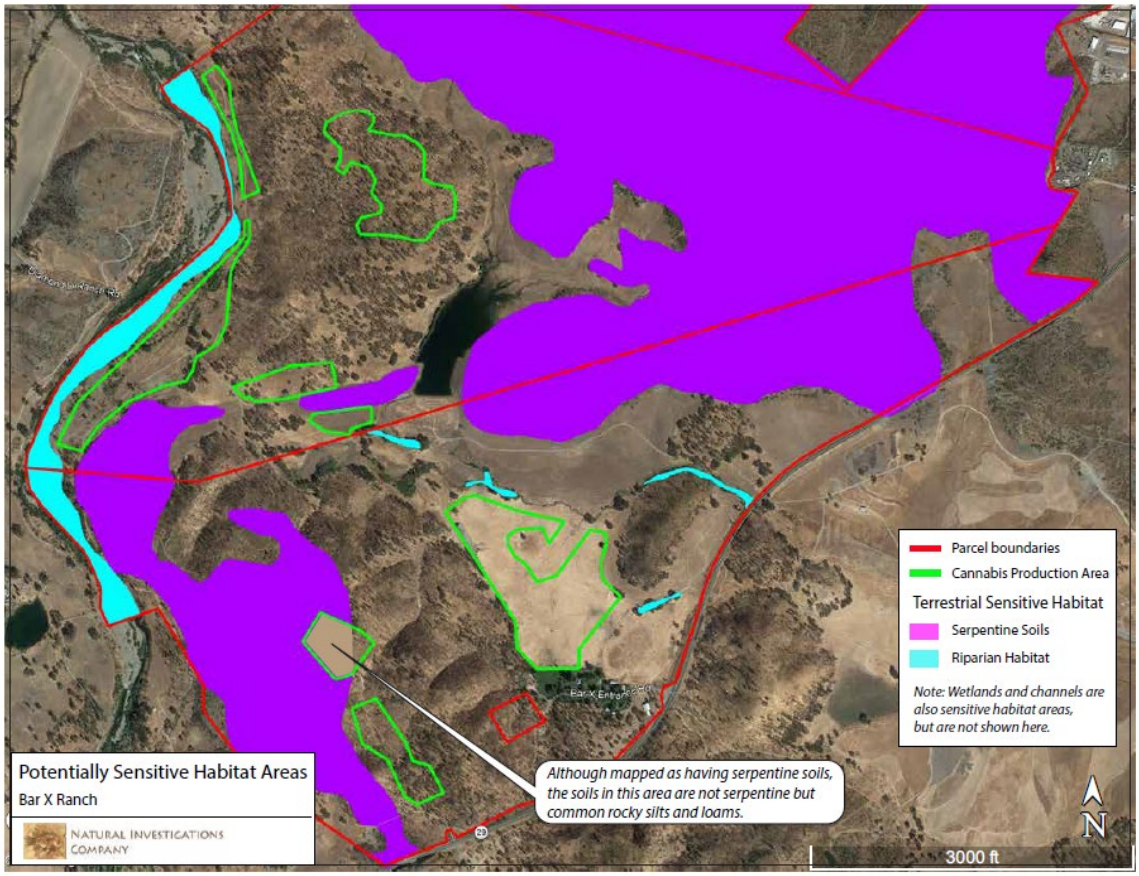
IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					AQ-7: Due to the presence of serpentine soil on the property, prior to any construction activities, the applicant shall prepare a Dust Mitigation and Control Plan (Plan) to show how the applicant will keep serpentine soil from migrating during site disturbance. This Plan shall be submitted to the Lake County Community Development Department and will be subject to review and acceptance by the Lake County Building Official and/or Air Quality Control Department. Acceptance of the Plan shall occur prior to the issuance of any grading or building permits for this project.	
						
b) Violate any air quality standard or result in a cumulatively considerable net increase in an existing or projected air quality violation?			X		The County of Lake is in attainment for all state and federal ambient air quality standards. Burning cannabis waste is prohibited within the commercial cannabis ordinance for Lake County. The project proposes the use of a gasoline-powered generator to operate the well pump. No generator use is proposed as part of the outdoor cultivation activities. The diesel-powered equipment (tillers, weed-eaters, etc.) would be used for maintenance.	1, 2, 3, 4, 5, 21, 24, 31, 36

Figure 7. Map of Serpentine Soils (Source: Botanical Survey Report, 2021)

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					On-site construction is likely to occur over a relatively short period of time, approximately 4 to 8 weeks, and would generally include vegetation removal and minor grading. Potential particulate matter could be generated during construction activities and build-out of the site; however, in general, construction activities that last for less than one year, and use standard quantities and types of construction equipment, are not required to be quantified and are assumed to have a less than significant impact. It is unlikely that this use would generate enough particulates during and after construction to violate any air quality standards. **Less than Significant Impact**	
c) Expose sensitive receptors to substantial pollutant concentrations?			X		Land uses that are considered sensitive receptors typically include residences, schools, parks, childcare centers, hospitals, convalescent homes, and retirement homes. There are no schools, parks, childcare centers, convalescent homes, or retirement homes located near the project. The nearest off-site residence appears to be located approximately 1,000 feet southwest of the cultivation activities. Article 27 of the Lake County Zoning Ordinance requires that the minimum setback requirement for commercial cannabis cultivation be 200 feet from off-site residences. Pesticide application would only be applied during the growing months and applied carefully to individual plants to prevent off-site drift of pesticides. As such, sensitive receptors would not likely be exposed to substantial pollutant concentrations from pesticides. Additionally, no demolition or renovation is proposed that could expose sensitive receptors to asbestos. No serpentine soils are mapped within the proposed cultivation areas, parking area, or processing building area. **Less than Significant Impact**	1, 2, 3, 4, 5, 10, 21, 24, 31, 36
d) Result in substantial emissions (such as odors or dust) adversely affecting a substantial number of people?		X			The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Odors generated by the plants, particularly during harvest season, would be mitigated through passive means (separation distance), and other measures such as planting native flowering vegetation surrounding the cultivation area. Emissions from outdoor cultivation activities would occur during construction occur over a relatively short period of time, approximately 4 to 8 weeks, from vegetation removal, grading, and construction vehicle trips. There are no off-site residences within 1,000 feet of the cultivation activities. With the implementation of **Mitigation Measures AQ-1 and AQ-7**, construction activities would not result in substantial emissions that would adversely affect a substantial number of people. Emissions during operation would be from on- and off-site vehicle traffic and potential odor from cultivation activities. Also, the proposed cultivation would generate minimal amounts of carbon dioxide from operation of small gasoline and/or diesel engines (tillers, weed eaters, lawn mowers, etc.). There are no off-site residences within 1,000 feet of the cultivation activities. With the implementation of **Mitigation Measures AQ-1 and AQ-7**, Project operations would not result in substantial emissions that would adversely affect a substantial number of people.	1, 2, 3, 4, 5, 21, 24, 31, 36

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Less than Significant Impact with Mitigation Measures AQ-1 and AQ-7 incorporated.	
IV. BIOLOGICAL RESOURCES *Would the project:*						
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 Game or U.S. Fish and Wildlife Service?		X			A Biological Resources Assessment (BA) and Botanical Survey Report (BSR) were prepared by Natural Investigations Company, updated September 30, 2021, and April 16, 2021, respectively. The BSR included a formal wetland delineation. Field surveys were conducted on June 25, 2020, August 21, 2020, January 4, 2021, February 24, 2021, and April 1, 2021. The purpose of the BA and the BSR were to provide information as to whether the proposed cultivation and cannabis operation areas contain sensitive plants or potentially contain sensitive wildlife requiring mitigation under CEQA. The BA and BSR refer to the combined parcels APN 014-250-07 and 14 as the Study Area. In addition to the BA and BSR, a Natural Environment Study (NES) was prepared for construction of the proposed left-turn lane. The NES was prepared by Natural Investigations Company on October 21, 2021. The Ranch is located within the Upper Putah Creek watershed (HUC-1802016203). Putah Creek, a Class I watercourse, bounds the western edge of the property and flows in the northerly direction and then turns east approximately 1.7 miles north of the Ranch. Crazy Creek, a Class II watercourse that is tributary to Putah Creek, flows east towards its confluence with Putah Creek located approximately 3.5 miles east of Bar X Ranch. Several Class III watercourses are located throughout Bar X Ranch, draining to Putah Creek or Crazy Creek (Figure 1). No development is proposed within 150-feet of the Class I watercourse or within 100-feet of any Class II or Class III watercourses. The BSR identified wetland areas on the Ranch, but the proposed project areas were designed with setbacks of at least 100-feet from these wetlands. Although there are no designated wildlife corridors in the Study Area, the open space within the Study Area allows for unrestricted animal movement, and the Putah Creek corridor functions as a wildlife movement corridor. Putah Creek also contains fishery resources. The Study Area is not located within any adopted Habitat Conservation Plan or Natural Community Conservation Plan. **Special-Status Plant Populations** Special-status plants have a moderate potential to occur in the Study Area in wetlands areas, and a moderate to high potential to occur in areas that have serpentine soils. No special-status	2, 5, 11, 12, 13, 16, 24, 29, 30, 31, 32, 33, 34

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					plant species were detected in the project area during numerous botanical field surveys that were conducted over the entire blooming season over a span of 2 years (2020 and 2021). Indirect impacts could occur from the loss of suitable habitat for regionally-occurring special-status species. The project area contains the following general habitat types: non-native annual grassland; oak woodland; pasture; and urbanized. Cattle grazing has degraded the habitat quality in the project area. The project area contains no aquatic habitats such as wetlands or channels. The surrounding property (Bar X Ranch) contains these habitat types plus riparian, open water, chaparral, serpentine soils, and wetlands sensitive habitats. Note that although Southwest Garden #2 is generally mapped as having a soil type that contains serpentine materials (Henneke-Montara-rock outcrop complex), serpentine materials were not observed in Southwest Garden #2. The majority of regionally-occurring special-status species occur in these sensitive habitat types. The proposed project has been designed to avoid these sensitive habitat types. Some regionally-occurring special-status plant species have the potential to utilize the habitat types in the project area. However, project implementation would have a less-than significant impact upon habitat loss for regionally occurring special-status plant species for numerous reasons. Outdoor cultivation would involve some vegetation removal and minor grading to create level areas, on contour, to place the wooden planters or smart pots, and grading is required to develop the employee parking area, and widening of State Highway 29 to construct the left-turn lane. The proposed project activities would occur on only 5% of the Property (80 acres out of 1,594.6 acres), which would leave the vast majority of the natural habitats undisturbed on the Ranch. Furthermore, cattle grazing has degraded the habitat quality in the project area, making it less suitable for special-status plant species. Finally, the majority of regionally-occurring special-status plant species require habitat types that would not be disturbed for the proposed on-site development, such as riparian, wetland, chaparral, and serpentine soil. For these reasons, project implementation would have a less than significant indirect or cumulative impact upon special-status plant species. **Sensitive Natural Communities** The project area does contain one general sensitive natural community type, Oak Woodlands and Forests, and specifically, Blue Oak Woodland and Forest or Valley Oak Woodland and Forest, depending upon location. Project implementation would have a less-than significant impact upon sensitive natural communities for numerous reasons. The majority of sensitive natural communities on the Ranch (riparian, open water, chaparral, serpentine soils, channels and wetlands) were avoided in design of the on-site improvements, which includes aquatic buffers of at least 100 ~~feet.~~ Construction would include building fences, preparing the cultivation areas, installing the above ground irrigation system, retrofitting the existing barn, developing the employee parking area, preparing flats for the water tanks, and construction of the left-turn lane. Activities would include some vegetation clearing and minor grading to create level areas, on contour, to place the planter boxes or smart pots, to develop the cultivation employee parking area and the water tank area, and construction	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					of the left-turn lane. No removal of living trees is proposed and disturbance would occur outside of oak canopies, so Oak Woodland habitats may be disturbed, but not eradicated. Indirect impacts could occur from the loss of suitable habitat for regionally-occurring special-status species. The Project Areas contain no high-quality habitats that are more likely to harbor rare plants (wetlands, serpentine soils, riparian, and chaparral habitats).The Project Area contains the following general habitat types: non-native annual grassland; mixed oak woodland; pasture or non-native annual grassland; and urbanized. Cattle grazing has degraded the habitat quality in the Project Area. Some regionally-occurring special-status species can utilize the habitat types in the Project Area. However, project implementation will have a less-than significant impact upon habitat loss for regionally-occurring special-status species for numerous reasons. Project implementation will not involve grading or tree removal but simply the placement of raised beds on existing contours, so natural habitats may be disturbed, but not totally eradicated. Furthermore, the ground disturbance will occur on only 20 percent of the Property (80 acres out of 1,600 acres), much of which is pasture; this leaves the vast majority of the natural habitats undisturbed on the Property. Cattle grazing has degraded the habitat quality in the Project Area, making it less suitable for special-status species. Finally, the majority of regionally occurring special-status species require habitat types that will not be disturbed, such as riparian, wetland, chaparral, and serpentine soil. For these reasons, project implementation will have a less than significant indirect or cumulative impact upon special-status species. The NES notes that the project impact areas of the proposed left-turn lane construction are near sensitive habitats (riparian and oak woodlands). Should construction activities occur within 50 feet of these habitats, as mapped in the NES, environmentally sensitive area (ESA) fencing shall be erected around these resources and maintained for the duration of construction activities in accordance with Mitigation Measure BIO-1. **Special-Status Animal Species** Special-status animals are considered to be moderately likely in potential project areas, and highly likely to occur in other portions of the Study Area, especially near Putah Creek, and also smaller watercourses and wetlands. Special-status animals (amphibians, mammals, fish, and birds) have been reported to occur on the Ranch. Areas near channels and wetlands should be avoided, as these areas are more likely to contain special-status animal species. The buffers required by the Cannabis Cultivation General Order may be sufficient to avoid special-status animal species. Special-status species were not observed within the project area during the aforementioned surveys; however, special-status species could migrate into project areas between the time that the field survey was completed and the start of construction. Mitigation Measure BIO-2 is recommended to mitigate this impact to less than significant. Special-status bird species were reported in databases (CNDDB and USFWS) in the vicinity of the project area. Trees within the project area, and adjacent trees and utility poles, contain suitable nesting habitat for various bird species. While no nests were	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					observed during the field survey, if construction activities are conducted during the nesting season, nesting birds could be directly impacted by tree removal and indirectly impacted by noise, vibration, and other construction-related disturbance. No tree removal is proposed. Therefore, Project construction is considered a potentially significant adverse impact to nesting birds before mitigation. Mitigation Measure BIO-3 is recommended to mitigate this impact to less than significant. **Impacts would be Less than Significant with Mitigation Measures BIO-1 through BIO-3 incorporated.** **<u>BIO-1</u>: Should construction activities encroach within 50 feet of the sensitive habitats (riparian and oak woodlands) mapped in the Natural Environment Study (NES) dated October 21, 2021, all construction in the vicinity of the sensitive habitats shall be paused until such time as environmentally sensitive area (ESA) fencing can be installed around these resources to prevent disturbance of the resources. ESA fencing shall be maintained for the duration of the construction activities.** **<u>BIO-2</u>: Because special-status species that occur in the vicinity could migrate onto the Study Area between the time that the field survey was completed and the start of construction, a pre-construction survey for special-status species shall be performed by a qualified biologist prior to construction to ensure that special-status species are not present. If any listed species are detected, construction should be delayed, and the appropriate wildlife agency (CDFW and/or USFWS) should be consulted and project impacts and mitigation reassessed. With the implementation of this mitigation measure, adverse impacts upon special-status species would be reduced to a less-than-significant level.** **<u>BIO-3</u>: If construction activities would occur during the nesting season (typically February through August), a pre-construction survey for the presence of special-status bird species or any nesting bird species shall be conducted by a qualified biologist within 500 feet of proposed construction areas. If active nests are identified in these areas, CDFW and/or USFWS should be consulted to develop measures to avoid "take" of active nests prior to the initiation of any construction activities. Avoidance measures may include establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site.**	
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 Game or U.S. Fish and Wildlife Service?		X			As discussed above, a BA and a BSR were prepared by Natural Investigations Company, updated September 30, 2021, and April 16, 2021, respectively. The BSR included a formal wetland delineation. The BA and BSR refer to the combined parcels APN 014-250-07 and 14 as the Study Area. In addition to the BA and BSR, a NES was prepared for construction of the proposed left-turn lane. The NES was prepared by Natural Investigations Company on October 21, 2021. The Ranch is located within the Upper Putah Creek watershed (HUC-1802016203). Putah Creek, a Class I watercourse,	1, 2, 3, 4, 5, 11, 12, 13, 16, 17, 29, 30, 31, 32, 33, 34

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					bounds the western edge of the property and flows in the northerly direction and then turns east approximately 1.7 miles north of the Ranch. Crazy Creek, a Class II watercourse that is tributary to Putah Creek, flows east towards its confluence with Putah Creek located approximately 3.5 miles east of Bar X Ranch. Several Class III watercourses are located throughout Bar X Ranch, draining to Putah Creek or Crazy Creek (Figure 1). No development is proposed within 150-feet of the Class I watercourse or within 100-feet of any Class II or Class III watercourses. The BSR identified wetland areas on the Ranch, but the proposed project areas were designed with setbacks of at least 100-feet from these wetlands. The Ranch contains wetlands and Class I, II, and III watercourses. No development is proposed within 100-feet of wetlands or watercourses, which is consistent with Article 27 of the Lake County Zoning Ordinance that regulates commercial cannabis cultivation. The applicant has provided a Property Management Plan, which addresses controlled water runoff in a manner that reduces impacts to this stream. No development would occur within the drainage buffers and setbacks. Erosion control measures to control erosion and sedimentation during construction and operation have been identified in the Property Management Plan, Erosion Control Plan, and Dust Management Plan. Measures that could be implemented include vegetated swales, buffer strips, sediment traps, straw wattles, silt fences, or fiber rolls. Bar X Ranch is enrolled with the State Water Resources Control Board (SWRCB) for Tier 2, Low Risk coverage under Order No. WQ 2019-001-DWQ (Cannabis Cultivation General Order). The Cannabis Cultivation General Order implements Cannabis Policy requirements with the purpose of ensuring that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, aquatic habitat, riparian habitat, wetlands, or springs. The Cannabis Cultivation General Order requires the preparation of a Site Management Plan (SMP), a Nitrogen Management Plan (NMP), and the submittal of annual technical and monitoring reports demonstrating compliance. The purpose of the SMP is to identify Best Practicable Treatment or Control (BPTC) measures that the site intends to follow for erosion control purposes and to prevent stormwater pollution. The purpose of the NMP is to identify how nitrogen is stored, used, and applied to crops in a way that is protective to water quality. The SMP and NMP are required prior to commencing cultivation activities and were submitted with the application materials. Since the project would disturb more than one acre in preparing the cultivation areas and constructing the parking area, the project would be subject to the requirements State Water Resources Control Board (SWRCB) Construction General Permit (CGP, 2009-009-DWQ). The SWRCB CGP would require the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and Erosion Control Plan which documents the stormwater dynamics at the site, the Best Management Practices (BMPs), and water quality protection measures that are used, and the frequency of inspections.	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					BMPs are activities or measures determined to be practicable, acceptable to the public, and cost effective in preventing water pollution or reducing the amount of pollution generated by non-point sources. Obtainment of a CGP is also a BPTC Measure for compliance with the SWRCB General Order. Implementation of Mitigation Measure BIO-4 will ensure compliance these requirements, which will reduce potential impacts to a less than significant level. In addition, the project area and surrounding Study Area are not within any designated listed species' critical habitat. The project areas do not contain special-status habitats, because they were designed to avoid all special-status habitats. The surrounding Study Area does contain special-status habitat: Putah Creek and its riparian corridor, and smaller watercourses and wetlands. With the incorporation of Mitigation Measure BIO-4, potential impacts to special-status habitat would be less than significant. **Impacts would be Less than Significant with Mitigation Measure BIO-4 incorporated.** **<u>BIO-4</u>: All work should incorporate erosion control measures consistent with the engineered Grading and Erosion Control Plans submitted; the Lake County Grading Regulations, and the State Water Resources Control Board Order No. WQ 2019-001-DWQ and Construction General Permit 2009-009-DWQ.**	
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?		X			A Biological Resources Assessment (BA) and Botanical Survey Report (BSR) were prepared by Natural Investigations Company, updated September 30, 2021, and April 16, 2021, respectively. The BSR included a formal wetland delineation. The BA and BSR refer to the combined parcels APN 014-250-07 and 14 as the Study Area. In addition to the BA and BSR, a Natural Environment Study (NES) was prepared for construction of the proposed left-turn lane. The NES was prepared by Natural Investigations Company on October 21, 2021. The Ranch is located within the Upper Putah Creek watershed (HUC-1802016203). Putah Creek, a Class I watercourse, bounds the western edge of the property and flows in the northerly direction and then turns east approximately 1.7 miles north of the Ranch. Crazy Creek, a Class II watercourse that is tributary to Putah Creek, flows east towards its confluence with Putah Creek located approximately 3.5 miles east of Bar X Ranch. Several Class III watercourses are located throughout Bar X Ranch, draining to Putah Creek or Crazy Creek (Figure 1). No development is proposed within 150-feet of the Class I watercourse or within 100-feet of any Class II or Class III watercourses. The Ranch contains wetlands and Class I, II, and III watercourses. No development is proposed within 100-feet of wetlands or watercourses, which is consistent with Article 27 of the Lake County Zoning Ordinance that regulates commercial cannabis cultivation. The applicant has provided a Property Management Plan and Erosion Control Plan, which addresses controlled water runoff in a manner that reduces impacts to this stream. No development would occur within the drainage buffers and setbacks.	1, 2, 3, 4, 5, 11, 12, 13, 16, 17, 21, 24, 29, 30, 31, 32, 33, 34

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Erosion control measures to control erosion and sedimentation during construction and operation have been identified in the Property Management Plan and Erosion Control Plan. Measures that could be implemented include vegetated swales, buffer strips, sediment traps, straw wattles, silt fences, or fiber rolls. Potential indirect impacts to water resources could occur during construction by increased erosion and sedimentation in receiving water bodies due to soil disturbance. As the total ground disturbance is greater than 1-acre, the applicant must enroll for coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ). Pursuant to Mitigation Measure BIO4, implementation of a stormwater pollution prevention plan, and erosion control plan, along with regular inspections, would ensure that construction activities do not pollute receiving waterbodies. Potential adverse impacts to water resources could occur during operation of cultivation activities resources by discharge of sediment or other pollutants (fertilizers, pesticides, human waste, etc.) into receiving waterbodies. However, the project proponent has enrolled in Cannabis Cultivation General Order. Compliance with this Order would ensure that cultivation operations would not significantly impact water resources by using a combination of Best Management Practices (BMPs), buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight. **Impacts would be Less than Significant with Mitigation Measure BIO-4 incorporated.**	
d) 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?			X		A Biological Resources Assessment (BA) and Botanical Survey Report (BSR) were prepared by Natural Investigations Company, updated September 30, 2021, and April 16, 2021, respectively. The BSR included a formal wetland delineation. The BA and BSR refer to the combined parcels APN 014-250-07 and 14 as the Study Area. In addition to the BA and BSR, a Natural Environment Study (NES) was prepared for construction of the proposed left-turn lane. The NES was prepared by Natural Investigations Company on October 21, 2021. Although the BA and NES did not identify designated wildlife corridors in the Study Area, the open space within the Study Area allows for unrestricted animal movement, and the Putah Creek river corridor functions as a wildlife movement corridor. Putah Creek also contains fishery resources. Implementation of the proposed project would not have a significant impact on wildlife movement and fisheries because it would not completely block wildlife movement, Putah Creek would not be affected, and the majority of the open space in the Study Area would still be available. Implementation of the proposed project would necessitate erection of security fences around the cultivation compounds. These fences would restrict animal movement and may act as a local barrier to wildlife movement. However, the fenced cultivation areas are surrounded by open space, allowing wildlife to move around these fenced areas. Thus, implementation of the proposed project would have a less than significant impact upon wildlife movement. Implementation of the project would not interfere substantially with the movement of any native resident or migratory fish or	13

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. **Less than Significant Impact**	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X		This project does not conflict with any local policies or ordinances protecting biological resources. The project does not propose to remove living trees. The Study Area is not within the coverage area of any adopted Habitat Conservation Plan or Natural Community Conservation Plan. Removal of trees is to be avoided, except as required by CALFIRE to create defensible space and removal of dead or dying trees burned during prior wildland fires. Implementation of the project does not conflict with any county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. **Less than Significant Impact**	1, 2, 3, 4, 5, 11, 12, 13
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X	No special conservation plans have been adopted for this site and no impacts are anticipated. **No Impact**	1, 2, 3, 4, 5, 13
V. CULTURAL RESOURCES *Would the project:*						
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?		X			A Cultural Resources Assessment for Bar X Ranch (updated October 2021, referred to as Bar X Ranch study area) and for the State Highway 29 left-turn lane construction (dated October 2021 referred to as proposed left-turn lane study area) were conducted by Natural Investigations Company. A California Historical Resources Information System (CHRIS) records search was completed by the Northwest Information Center (NWIC) on September 9, 2019. The results of the California Historical Resources Information System (CHRIS) records search were received from the Northwest Information Center (NWIC) on September 16, 2020. The Native American Heritage Commission (NAHC) returned the results of the SLF search on August 19, 2020. Finally, Natural Investigations conducted an intensive pedestrian survey of the project area on August 27 and 28, 2020 and on September 7, 2021. **Bar X Ranch study area findings -** The CHRIS records search indicates that six prior cultural resource studies have been completed which included all or portions of the Bar X Ranch project area, and 23 additional studies have been completed outside the project area but within the 0.25-mile record search radius. The CHRIS records search also indicated that one cultural resource has been previously recorded within the Bar X Ranch project area, and 23 additional resources have been recorded within the 0.25-mile search radius. The SLF search returned negative results for Native American resources in the vicinity of the Bar X Ranch project. The SLF search returned negative results for Native American resources in the vicinity of the Bar X Ranch project. One prehistoric isolate, one drainage ditch, and one foundation remnant were documented within the Bar X Ranch project area during the field survey. **Bar X Ranch study area recommendations** - Two previously unrecorded cultural resources were identified within the Bar X Ranch study area during the field survey, and one known	1, 3, 4, 5, 11, 14c, 15

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					resource was revisited. The first newly discovered resource is an isolated obsidian flake (NIC-2020-Bar X-Iso 1). Isolated artifacts are by definition found outside of an interpretable archaeological context which is constituted of groups of contemporary and associated artifacts, ecofacts, features, and/or sites. Without this context, isolates typically lack the potential to yield information important in prehistory, the California Register of Historical Resources (CRHR) criterion (Criterion 4) under which archaeological resources are most often found to be significant. As such, the isolate identified during this assessment is not eligible for listing on the CRHR and no further consideration is needed. The second newly recorded resource is a concrete ditch segment (NIC-2021-BarX-01). This minor feature is of a type that is ubiquitous throughout the region and so does not appear to constitute a CRHR eligible resource. Similarly, the previously recorded and partially destroyed historical foundation feature (P-17-000022) does not appear to meet CRHR eligibility criteria either, due in part to the extent of past impacts sustained. The data potential of both resources appears to be exhausted in existing documentation, including historical aerial photographs, topographic maps, plans, as well as in the formal recordation of the features completed as part of this assessment. The features do not appear to constitute historical resources as defined under CEQA Section 15064.5, or unique archaeological resources as defined under CEQA Section 21083.2(g). For these reasons, no further cultural resources work is recommended at this time. **Proposed left-turn lane construction study area findings** – The CHRIS records search indicates that six prior cultural resource studies have been completed which included all or portions of the proposed left-turn lane construction project area, and 23 additional studies have been completed outside the proposed left-turn lane construction project area but within the 0.25-mile record search radius. The CHRIS records search also indicates that three cultural resources have been previously recorded within the proposed left-turn lane construction project area, and 21 additional resources have been recorded within the 0.25-mile search radius. The SLF search returned negative results for Native American resources in the vicinity of the proposed left-turn lane construction project area. Two previously unrecorded cultural resources were identified within the proposed left-turn lane construction project area during the field survey, and three previously recorded cultural resources within the proposed left-turn lane construction project area were revisited. **Proposed left-turn lane construction study area recommendations** – There are five known cultural resources within the proposed left-turn lane construction project area, a prehistoric lithic scatter (P-17-002508), several C-block right-of-way monuments (P-17-002752), a redeposit of lithic artifacts (P-17-002766), a concrete drainage ditch (NIC-2021-BarX-01), and a segment of State Highway 29 (NIC-2021-BarX-02). Due to the extent of past impacts and/or lack of historical significance, three of these resources do not appear to be eligible for listing in the California Register of Historical Resources (CRHR), or to constitute historical resources as defined under CEQA Section 15064.5, or unique archaeological resources as defined under CEQA Section 21083.2(g). These include the right-of-way	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					monuments, drainage ditch, and roadway segment. Based on existing data, the artifact constituents of the redeposit (P-17-002766) appear to be very sparsely distributed across a large area, with fewer than 20 reported at the time of its initial discovery, and no artifacts of any kind observed during the present field survey. Additionally, given the nature of its formation, this redeposited site has lost all horizontal and stratigraphic integrity. These factors suggest that its informational value is quite limited, and hence, it does not appear to meet CRHR eligibility criteria either. Finally, the CRHR eligibility of the in situ lithic scatter present on the northern end of the proposed left-turn lane construction project area (P-17-002508) cannot be determined based on findings of the assessment-level studies conducted at the site to date. However, it is known that the site location is underlain by soils of the Jafa Series, which have been dated to the Early Pleistocene period (1.9 million to 25,000 years ago), long before the earliest evidence of human occupation in the area. For this reason, the presence of a substantial subsurface component is highly unlikely. Nevertheless, it is recommended that the site be avoided during all Project-related (construction of the proposed left-turn lane) actions. If the site cannot be avoided during Project-related (construction of the proposed left-turn lane) ground-disturbance, it is recommended that an archaeologist meeting the Secretary of Interior's Qualifications Standards be present to monitor this work. It is possible, but unlikely, that significant artifacts or human remains could be discovered during project construction. If, however, significant artifacts or human remains of any type are encountered it is recommended that the project sponsor contact the culturally affiliated tribe and a qualified archaeologist to assess the situation. The Sheriff's Department must also be contacted if any human remains are encountered. **Impacts would be than Significant with Mitigation Measures CUL-1, CUL-2, and CUL-3 incorporated:** **<u>CUL-1:</u> Should any archaeological, paleontological, or cultural materials be discovered during site development, all activity shall be halted in the vicinity of the find(s), the applicant shall notify the culturally affiliated Tribe, and a qualified archaeologist to evaluate the find(s) and recommend mitigation procedures, if necessary, subject to the approval of the Community Development Director. Should any human remains be encountered, the applicant shall notify the Sheriff's Department, the culturally affiliated Tribe, and a qualified archaeologist for proper internment and Tribal rituals per Public Resources Code Section 5097.98 and Health and Safety Code 7050.5.** **<u>CUL-2:</u> All employees shall be trained in recognizing potentially significant artifacts that may be discovered during ground disturbance. If any artifacts or remains are found, the culturally affiliated Tribe shall immediately be notified; a licensed archaeologist shall be notified, and the Lake County Community Development Director shall be notified of such finds.**	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					<u>CUL-3:</u> If the site of in situ lithic scatter (P-17-002508) located on the northern end of the proposed left-turn lane construction area cannot be avoided during project related ground disturbance, an archeologist meeting the Secretary of Interior's Qualifications Standards shall be present to monitor the work.	
b) Cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5?		X			A Cultural Resources Assessment for Bar X Ranch (updated October 2021, referred to as Bar X Ranch study area) and for the State Highway 29 left-turn lane construction (dated October 2021 referred to as proposed left-turn lane study area) were conducted by Natural Investigations Company. A California Historical Resources Information System (CHRIS) records search was completed by the Northwest Information Center (NWIC) on September 9, 2019. The results of the California Historical Resources Information System (CHRIS) records search were received from the Northwest Information Center (NWIC) on September 16, 2020. The Native American Heritage Commission (NAHC) returned the results of the SLF search on August 19, 2020. Finally, Natural Investigations conducted an intensive pedestrian survey of the project area on August 27 and 28, 2020 and on September 7, 2021. **Bar X Ranch study area findings -** The CHRIS records search indicates that six prior cultural resource studies have been completed which included all or portions of the Bar X Ranch project area, and 23 additional studies have been completed outside the project area but within the 0.25-mile record search radius. The CHRIS records search also indicated that one cultural resource has been previously recorded within the Bar X Ranch project area, and 23 additional resources have been recorded within the 0.25-mile search radius. The SLF search returned negative results for Native American resources in the vicinity of the Bar X Ranch project. The SLF search returned negative results for Native American resources in the vicinity of the Bar X Ranch project. One prehistoric isolate, one drainage ditch, and one foundation remnant were documented within the Bar X Ranch project area during the field survey. **Bar X Ranch study area recommendations** - Two previously unrecorded cultural resources were identified within the Bar X Ranch study area during the field survey, and one known resource was revisited. The first newly discovered resource is an isolated obsidian flake (NIC-2020-Bar X-Iso 1). Isolated artifacts are by definition found outside of an interpretable archaeological context which is constituted of groups of contemporary and associated artifacts, ecofacts, features, and/or sites. Without this context, isolates typically lack the potential to yield information important in prehistory, the California Register of Historical Resources (CRHR) criterion (Criterion 4) under which archaeological resources are most often found to be significant. As such, the isolate identified during this assessment is not eligible for listing on the CRHR and no further consideration is needed. The second newly recorded resource is a concrete ditch segment (NIC-2021-BarX-01). This minor feature is of a type that is ubiquitous throughout the region and so does not appear to constitute a CRHR eligible resource. Similarly, the previously recorded and partially destroyed historical foundation feature (P-17-000022) does not appear to meet CRHR eligibility criteria either, due in part to the extent of past impacts sustained. The data potential of both resources appears to be exhausted in existing documentation, including historical aerial photographs,	1, 3, 4, 5, 11, 14, 15

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					topographic maps, plans, as well as in the formal recordation of the features completed as part of this assessment. The features do not appear to constitute historical resources as defined under CEQA Section 15064.5, or unique archaeological resources as defined under CEQA Section 21083.2(g). For these reasons, no further cultural resources work is recommended at this time. **Proposed left-turn lane construction study area findings** – The CHRIS records search indicates that six prior cultural resource studies have been completed which included all or portions of the proposed left-turn lane construction project area, and 23 additional studies have been completed outside the proposed left-turn lane construction project area but within the 0.25-mile record search radius. The CHRIS records search also indicates that three cultural resources have been previously recorded within the proposed left-turn lane construction project area, and 21 additional resources have been recorded within the 0.25-mile search radius. The SLF search returned negative results for Native American resources in the vicinity of the proposed left-turn lane construction project area. Two previously unrecorded cultural resources were identified within the proposed left-turn lane construction project area during the field survey, and three previously recorded cultural resources within the proposed left-turn lane construction project area were revisited. **Proposed left-turn lane construction study area recommendations** – There are five known cultural resources within the proposed left-turn lane construction project area, a prehistoric lithic scatter (P-17-002508), several C-block right-of-way monuments (P-17-002752), a redeposit of lithic artifacts (P-17-002766), a concrete drainage ditch (NIC-2021-BarX-01), and a segment of State Highway 29 (NIC-2021-BarX-02). Due to the extent of past impacts and/or lack of historical significance, three of these resources do not appear to be eligible for listing in the California Register of Historical Resources (CRHR), or to constitute historical resources as defined under CEQA Section 15064.5, or unique archaeological resources as defined under CEQA Section 21083.2(g). These include the right-of-way monuments, drainage ditch, and roadway segment. Based on existing data, the artifact constituents of the redeposit (P-17-002766) appear to be very sparsely distributed across a large area, with fewer than 20 reported at the time of its initial discovery, and no artifacts of any kind observed during the present field survey. Additionally, given the nature of its formation, this redeposited site has lost all horizontal and stratigraphic integrity. These factors suggest that its informational value is quite limited, and hence, it does not appear to meet CRHR eligibility criteria either. Finally, the CRHR eligibility of the in situ lithic scatter present on the northern end of the proposed left-turn lane construction project area (P-17-002508) cannot be determined based on findings of the assessment-level studies conducted at the site to date. However, it is known that the site location is underlain by soils of the Jafa Series, which have been dated to the Early Pleistocene period (1.9 million to 25,000 years ago), long before the earliest evidence of human occupation in the area. For this reason, the presence of a substantial subsurface component is highly unlikely.	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Nevertheless, it is recommended that the site be avoided during all Project-related (construction of the proposed left-turn lane) actions. If the site cannot be avoided during Project-related (construction of the proposed left-turn lane) ground-disturbance, it is recommended that an archaeologist meeting the Secretary of Interior's Qualifications Standards be present to monitor this work. It is possible, but unlikely, that significant artifacts or human remains could be discovered during project construction. If, however, significant artifacts or human remains of any type are encountered it is recommended that the project sponsor contact the culturally affiliated tribe and a qualified archaeologist to assess the situation. The Sheriff's Department must also be contacted if any human remains are encountered. **Impacts would be than Significant with Mitigation Measures CUL-1, CUL-2, and CUL-3 incorporated.**	
c) Disturb any human remains, including those interred outside of formal cemeteries?		X			A Cultural Resources Assessment for Bar X Ranch (updated October 2021, referred to as Bar X Ranch study area) and for the State Highway 29 left-turn lane construction (dated October 2021 referred to as proposed left-turn lane study area) were conducted by Natural Investigations Company. A California Historical Resources Information System (CHRIS) records search was completed by the Northwest Information Center (NWIC) on September 9, 2019. The results of the California Historical Resources Information System (CHRIS) records search were received from the Northwest Information Center (NWIC) on September 16, 2020. The Native American Heritage Commission (NAHC) returned the results of the SLF search on August 19, 2020. Finally, Natural Investigations conducted an intensive pedestrian survey of the project area on August 27 and 28, 2020 and on September 7, 2021. It is possible, but unlikely, that significant artifacts or human remains could be discovered during project construction. If, however, significant artifacts or human remains of any type are encountered it is recommended that the project sponsor contact the culturally affiliated tribe and a qualified archaeologist to assess the situation. The Sheriff's Department must also be contacted if any human remains are encountered. **Impacts would be Less than Significant with Mitigation Measure CUL-2 incorporated.**	1, 3, 4, 5, 11, 14, 15
VI. ENERGY *Would the project:*						
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation?			X		Power for security cameras, security lights, and the dry barn would be provided by small, localized solar power at each cultivation area and on/or adjacent to the barn. Water from the irrigation well would be pumped to approximately 27, 5,000 gallon water storage tanks using a 75 Horse Power (HP) pump. The tanks are located at a high point on the property so that water from the tanks would gravity feed through an above ground pipe system (aka, irrigation lines) to each cultivation area. The pump would be powered by a 120 kilowatt diesel generator.	5

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					The generator use proposed here is solely to operate the 75 HP well pump. The cultivation of outdoor cannabis would not rely on the use of a generator. **Less than significant impact.**	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X		There are no mandatory energy reductions for cultivation activities within Article 27 of the Lake County Zoning Ordinance unless the applicant proposes 'indoor cultivation' (not proposed with this application). **Less than Significant Impact.**	1, 3, 4, 5
VII. GEOLOGY AND SOILS *Would the project:*						
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 or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides?			X		<u>Earthquake Faults</u> Lake County contains numerous known active faults, however, there are no mapped earthquake faults on or adjacent to the Ranch. Future seismic events in the Northern California region can be expected to produce seismic ground shaking at the site. All proposed construction is required to be built consistent with current California Building Code construction standards. <u>Seismic Ground Shaking and Seismic–Related Ground Failure, including liquefaction.</u> The mapping of the site's soil indicates that the soil is stable and not prone to liquefaction. <u>Landslides</u> According to the Landslide Hazard Identification Map prepared by the California Department of Conservation, Division of Mines and Geology, the area is considered generally stable. **Less Than Significant Impact**	1, 2, 3, 4, 5, 18, 19
b) Result in substantial soil erosion or the loss of topsoil?		X			Proposed grading activities would include vegetation removal and minor grading (clearing and grubbing) to prepare the outdoor cultivation areas, grading of the cultivation employee parking area, and widening of State Highway 29 to construct the left-turn lane. A grading permit application, Grading Plan, and Dust Mitigation Plan have been submitted to Lake County. No grading would occur until an approved grading permit has been obtained from the County. Construction of the left-turn lane would not occur until an encroachment permit has been obtained from Caltrans. Normal means and methods would be used to retrofit the barn and the proposed left-turn lane. After the cultivation areas are prepared, all cultivation would occur in full sun, with imported soil and amendments, in planter boxes or smart pots (grow bags) placed on top of the existing grade utilizing natural contours in open areas. No additional disturbance of topsoil is proposed. In addition to obtaining a grading permit from the County, which would require measures to minimize erosion during construction, the project would be subject to the requirements State Water Resources Control Board (SWRCB) Construction General Permit (CGP, 2009-009-DWQ). The SWRCB CGP would require the preparation of a Stormwater Pollution	1, 3, 4, 5, 19, 21, 24, 25, 30

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Prevention Plan (SWPPP) and Erosion Control Plan which documents the stormwater dynamics at the site, the Best Management Practices (BMPs), and water quality protection measures that are used, and the frequency of inspections. BMPs are activities or measures determined to be practicable, acceptable to the public, and cost effective in preventing water pollution or reducing the amount of pollution generated by non-point sources. Obtainment of a CGP is also a BPTC Measure for compliance with the SWRCB General Order. Potential erosion and loss of topsoil could occur during operation of cultivation activities. Bar X Ranch is enrolled with the SWRCB for Tier 2, Low Risk coverage under Order No. WQ 2019-001-DWQ (Cannabis Cultivation General Order). The Cannabis Cultivation General Order implements Cannabis Policy requirements with the purpose of ensuring that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, aquatic habitat, riparian habitat, wetlands, or springs. The Cannabis Cultivation General Order requires the preparation of a Site Management Plan (SMP), a Nitrogen Management Plan (NMP), and the submittal of annual technical and monitoring reports demonstrating compliance. The purpose of the SMP is to identify Best Practicable Treatment or Control (BPTC) measures that the site intends to follow for erosion control purposes and to prevent stormwater pollution. The purpose of the NMP is to identify how nitrogen is stored, used, and applied to crops in a way that is protective to water quality. The SMP and NMP are required prior to commencing cultivation activities and were submitted with the application materials. However, a portion of the Riverside Garden is located within Zone A of Putah Creek floodplain, which is defined as Areas subject to inundation by the 1-percent-annual-chance flood event. During the rainy season (typically October 15 to April 15), to stabilize the soil and prevent sediment runoff, all disturbed soils within portions of the Riverside Garden within Zone A of Putah Creek shall be planted with a nutrient binding cover crop in accordance with Mitigation Measure GEO-1. The cover crop shall be installed by October 15, or upon removal of cannabis plants, whichever comes later. Compliance with the Lake County Grading Ordinance (Chapter 30 of the Lake County Code), the Construction General Permit (pursuant to Mitigation Measure BIO-4), the Cannabis General Order, and Mitigation Measures GEO-2 through GEO-5 would ensure that the proposed project would not result in substantial soil erosion or the loss of topsoil. Impacts would be **Less Than Significant with Mitigation Measures BIO-4 and GEO-1 through GEO-5 incorporated.** **<u>GEO-1</u>: During the rainy season (typically October 15 to April 15), to stabilize the soil and prevent sediment runoff, all disturbed soils within portions of the Riverside Garden within Zone A of Putah Creek shall be planted with a nutrient binding cover crop. The cover crop shall be installed by October 15, or upon removal of cannabis plants, whichever comes later.** **<u>GEO-2</u>: Prior to any ground disturbance for building construction, the permittee shall submit engineered erosion control and sediment plans to the Lake County**	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Water Resource Department and the Lake County Community Development Department for review and approval. Said engineered erosion control and sediment plans shall show all earth being imported, exported or moved within the site, and shall show the method(s) used to protect the local watershed from runoff pollution through the implementation of appropriate Best Management Practices (BMPs) in accordance with the Lake County Grading Ordinance (Chapter 30 of the Lake County Code). Typical BMPs include the placement of straw, mulch, seeding, straw wattles, silt fencing, and the planting of native vegetation on all disturbed areas. No silt, sediment, or other materials exceeding natural background levels shall be allowed to flow from the project area. The natural background level is the level of erosion that currently occurs from the area in a natural, undisturbed state. Vegetative cover and water bars shall be used as permanent erosion control after project installation. **<u>GEO-3</u>: Excavation, filling, vegetation clearing, or other disturbance of the soil shall not occur between October 15 and April 15 unless authorized by the Lake County Community Development Department Director. The actual dates of this defined grading period may be adjusted according to weather and soil conditions at the discretion of the Community Development Director.** **<u>GEO-4</u>: The permit holder shall monitor the site during the rainy season (October 15 – May 15), including post-installation, application of BMPs, erosion control maintenance, and other improvements as needed.** **<u>GEO-5</u>: The project design shall incorporate Best Management Practices (BMPs) to the maximum extent practicable to prevent or reduce the discharge of all construction or post-construction pollutants into the County storm drainage system. BMPs typically include scheduling of activities, erosion and sediment control, operation and maintenance procedures, and other measures in accordance with Chapters 29 and 30 of the Lake County Code.**	
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-site or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X		The project site is not identified as containing landslides or other unstable geologic conditions. The proposed cultivation sites are located within areas with less than 20 percent slopes. There is a less than significant chance of landslide, subsidence, liquefaction or collapse as a result of the proposed project. **Less Than Significant Impact**	1, 3, 4, 5, 6, 7, 10, 16, 17, 18, 19
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?		X			The Uniform Building Code (1994), which is incorporated in the California Building Code, is a set of rules that specify standards for structures. No new structures are proposed. Expansive soils possess a "shrink-swell" characteristic. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may occur over a long period of time due to expansive soils, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils.	5, 7, 39

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					The Middletown Area Plan Policy 4.1.1a requires site specific soils analysis of lands identified as having high shrink-swell characteristics before development is allowed to determine if soils can adequately support structures and that foundations are designed to withstand expansive soils. No new buildings are proposed. **Less Than Significant Impact with Mitigation Measures GEO-1 through GEO-6 incorporated.** **GEO-6: Prior to operation, all buildings, accessible compliant parking areas, routes of travel, building access, and bathrooms shall meet all California Building Code Requirements.**	
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 waste water?			X		The proposed project would be served by portable toilets located at each of the cultivation sites. No new onsite wastewater treatment septic system is proposed. Therefore, the proposed project would not have soils incapable of adequately supporting the use of septic tanks for the disposal of wastewater. In addition, the system would be reviewed and approved by the County Division of Environmental Health. **Less Than Significant Impact**	2, 4, 5, 7, 13, 39
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X	The project site does not contain any known unique geologic feature or paleontological resources. Disturbance of these resources is not anticipated. **No Impact**	1, 2, 3, 4, 5, 14, 15
VIII. GREENHOUSE GAS EMISSIONS *Would the project:*						
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X		The project site is located within the Lake County Air Basin, which is under the jurisdiction of the LCAQMD. The LCAQMD applies air pollution regulations to all major stationary pollution sources and monitors air quality. Climate change is caused by greenhouse gases (GHGs) emitted into the atmosphere around the world from a variety of sources, including the combustion of fuel for energy and transportation, cement manufacturing, and refrigerant emissions. GHGs are those gases that have the ability to trap heat in the atmosphere, a process that is analogous to the way a greenhouse traps heat. GHGs may be emitted as a result of human activities, as well as through natural processes. Increasing GHG concentrations in the atmosphere are leading to global climate change. The Lake County Air Basin is in attainment for all air pollutants and has therefore not adopted thresholds of significance for GHG emissions. The primary GHGs that are of concern for development projects include Carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). CO_2, CH_4, and N_2O occur naturally, and through human activity. Emissions of CO_2 are largely by-products of fossil fuel combustion and CH_4 results from off-gassing associated with agricultural practices and landfills. CO_2 is the most common GHG emitted by human activities. In general, greenhouse gas emissions come from construction activities (vehicles and equipment) and from post-construction activities (vehicles primarily). An air quality assessment is provided in the Property Management Plan. Construction	1, 3, 4, 5, 36

<table>
<tr><th>IMPACT CATEGORIES*</th><th>1</th><th>2</th><th>3</th><th>4</th><th>All determinations need explanation. Reference to documentation, sources, notes and correspondence.</th><th>Source Number**</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>emissions and operational emissions were calculated using the California Emissions Estimator Model (CalEEMod®), Version 2016.3.2. Construction and operational emissions are summarized in the following tables. The results are expressed as a range of potential emissions. To magnify any air quality impacts, the model was run using the worst-case scenarios, and emissions estimates are reported here using the unmitigated emissions values. The main sources of construction emissions are exhaust from heavy equipment and tailpipe emissions from cars and trucks. In the operational phase, no direct emissions would occur. Electrical consumption would contribute incrementally, but not significantly, to greenhouse gas generation.

Lake County has adopted the Bay Area Air Quality Management District (BAAQMD) thresholds of significance as a basis for determining the significance of air quality and GHG impacts. Air emissions modeling performed for this project demonstrates that the project, in both the construction phase and the operational phase, would not generate significant quantities of greenhouse gases and does not exceed the project-level thresholds established by BAAQMD.

Comparison of Daily Construction Emissions Impacts with Thresholds of Significance
<table><tr><th>Criteria Pollutants</th><th>Project Emissions unmitigated (pounds/day)</th><th>BAAQMD Threshold (pounds/day)</th><th>Significance</th></tr><tr><td>ROG (VOC)</td><td>1 to 10</td><td>54</td><td>Less than significant</td></tr><tr><td>NO_x</td><td>10 to 20</td><td>54</td><td>Less than significant</td></tr><tr><td>CO</td><td>10 to 30</td><td>548</td><td>Less than significant</td></tr><tr><td>SO_x</td><td>< 1</td><td>219</td><td>Less than significant</td></tr><tr><td>Exhaust PM_{10}</td><td>1 to 5</td><td>82</td><td>Less than significant</td></tr><tr><td>Exhaust $PM_{2.5}$</td><td>1 to 5</td><td>54</td><td>Less than significant</td></tr><tr><td>Greenhouse Gasses (CO_2e)</td><td>2,000 to 3,000</td><td>No threshold established</td><td>Less than significant</td></tr></table>
Comparison of Daily Operational Emissions Impacts with Thresholds of Significance
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Comparison of Annual Operational Emissions Impacts with Thresholds of Significance
<table><tr><th>Criteria Pollutants</th><th>Project Emissions (tons/year)</th><th>BAAQMD Threshold (tons/year)</th><th>Significance</th></tr><tr><td>ROG (VOC)</td><td>0 to 1</td><td>10</td><td>Less than significant</td></tr><tr><td>NO_X</td><td>0 to 1</td><td>10</td><td>Less than significant</td></tr><tr><td>CO</td><td>0 to 1</td><td>100</td><td>Less than significant</td></tr><tr><td>SO_X</td><td>0 to 1</td><td>40</td><td>Less than significant</td></tr><tr><td>PM_{10}</td><td>0 to 1</td><td>15</td><td>Less than significant</td></tr><tr><td>$PM_{2.5}$</td><td>0 to 1</td><td>10</td><td>Less than significant</td></tr><tr><td>Greenhouse gasses (as CO_2 or methane)</td><td>1 to 100</td><td>10,000</td><td>Less than significant</td></tr></table>
Less than Significant Impact</td><td></td></tr>
<tr><td>b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</td><td></td><td></td><td>X</td><td></td><td>Lake County has not adopted any specific GHG reduction strategies or climate action plans. Therefore, this project would not conflict with any adopted plans or policies for the reduction of greenhouse gas emissions.

Less than Significant Impact.</td><td>1, 3, 4, 5, 36</td></tr>
</table>

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
IX. HAZARDS AND HAZARDOUS MATERIALS *Would the project:*						
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X			Materials associated with the proposed cannabis cultivation, such as gasoline, pesticides, fertilizers, alcohol, hydrogen peroxide, and the equipment emissions may be considered hazardous if released into the environment. The applicant has stated that all potentially harmful chemicals would be stored and locked in a secured building on site. Bulk fertilizers would be incorporated into the soil shortly after delivery and would not typically be stockpiled/stored on site. Should bulk fertilizers need to be stockpiled, they would be covered with a tarp and secured with ropes and weights. Dry and liquid fertilizers would be stored in a stormproof shed inside each cultivation compound. Additionally, according to the applicant, pesticides and fertilizers would be stored in the retrofitted barn or stormproof storage sheds or storage containers, in their original containers with labels intact, and according to the product labeling. Agricultural chemicals and petroleum products would be stored in secondary containment, within separate storage structures, with compatible chemicals and to promote chemical compatibility. The pesticide, fertilizer, chemical, and petroleum product storage buildings would have impermeable floors. The storage buildings would be located 150-feet from the Class I watercourse and 100-feet from wetlands, riparian areas, Class II, and Class III watercourses. The project would comply with Section 41.7 of the Lake County Zoning Ordinance that specifies that all uses involving the use or storage of combustible, explosive, caustic, or otherwise hazardous materials shall comply with all applicable local, state, and federal safety standards and shall be provided with adequate safety devices against the hazard of fire and explosion, and adequate firefighting and fire suppression equipment. Any petroleum products brought to the site, such as gasoline or diesel to fuel construction equipment, would be stored under cover and in State of California-approved containers. All pesticides, fertilizers, or petroleum products would be stored a minimum of 100 feet from all potential sensitive areas and watercourses. Cannabis waste, as appropriate, would be chipped and spread on site; burning cannabis waste is prohibited in Lake County. A spill containment and cleanup kit would be kept on site in the unlikely event of a spill. All employees would be trained to properly use all cultivation equipment, including pesticides. Proposed site activities would not generate hazardous waste. In accordance with Mitigation Measures HAZ-1 and HAZ-2, all equipment shall be maintained and operated in a manner that minimizes any spill or leak of hazardous materials. Hazardous materials and contaminated soil shall be stored, transported, and disposed of consistent with applicable local, state, and federal regulations. **Impacts would be Less than Significant with Mitigation Measures HAZ-1 and HAZ-2 incorporated.**	1, 3, 5, 13, 21, 24, 29, 31, 32, 33, 34

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					HAZ-1: All equipment shall be maintained and operated to minimize spillage or leakage of hazardous materials. All equipment shall be refueled in locations more than 100 feet from surface water bodies. Servicing of equipment shall occur on an impermeable surface. In an event of a spill or leak, the contaminated soil shall be stored, transported, and disposed of consistent with applicable local, state, and federal regulations. **HAZ-2: The storage of hazardous materials equal to or greater than fifty-five (55) gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of compressed gas, then a Hazardous Materials Inventory Disclosure Statement/Business Plan shall be submitted and maintained in compliance with requirements of Lake County Environmental Health Division. Industrial waste shall not be disposed of on site without review or permit from Lake County Environmental Health Division or the California Regional Water Quality Control Board. The permit holder shall comply with petroleum fuel storage tank regulations if fuel is to be stored on site.**	
b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X			The pesticides and fertilizers proposed would be stored in secure buildings. The site preparation would require some construction equipment and would last for about 4 to 8 weeks during. All equipment staging would occur on previously disturbed areas on the Ranch. As stated above, a spill kit would be kept on site in the unlikely event of a spill. All equipment shall be maintained and operated in a manner that minimizes any spill or leak of hazardous materials. Hazardous materials and contaminated soil shall be stored, transported, and disposed of consistent with applicable local, State, and Federal regulations. **Less than Significant Impact with Mitigation Measures HAZ-1 through HAZ-7 Incorporated.** **HAZ-3: Prior to operation, the applicant shall schedule an inspection with the Lake County Code Enforcement Division within the Community Development Department to verify adherence to all requirements of Chapter 13 of the Lake County Code, including but not limited to adherence with the Hazardous Vegetation requirements.** **HAZ-4: Prior to operation, all employees shall have access to restrooms and hand-wash stations. The restrooms and hand wash stations shall meet all accessibility requirements.** **HAZ-5: The proper storage of equipment, removal of litter and waste, and cutting of weeds or grass shall not constitute an attractant, breeding place, or harborage for pests.** **HAZ-6: All food scraps, wrappers, food containers, cans, bottles, and other trash from the project area should be deposited in trash containers with an adequate lid or cover to contain trash. All food waste should be placed in a securely covered bin and removed from the site weekly to avoid attracting animals.** **HAZ-7: The applicant shall maintain records of all hazardous or toxic materials used, including a Material Safety Data Sheet (MSDS) for all volatile organic compounds utilized, including cleaning materials. Said**	1, 3, 5, 13, 21, 24, 29, 31, 32, 33, 34

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					information shall be made available upon request and/or the ability to provide the Lake County Air Quality Management District such information to complete an updated Air Toxic Emission Inventory.	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X	The proposed project is not located within one-quarter mile of an existing or proposed school. **No Impact**	1, 2, 5
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?				X	The California Environmental Protection Agency (CALEPA) has the responsibility for compiling information about sites that may contain hazardous materials, such as hazardous waste facilities, solid waste facilities where hazardous materials have been reported, leaking underground storage tanks and other sites where hazardous materials have been detected. Hazardous materials include all flammable, reactive, corrosive, or toxic substances that pose potential harm to the public or environment. The following databases compiled pursuant to Government Code §65962.5 were checked for known hazardous materials contamination within ¼-mile of the project site: • State Water Resources Control Board (SWRCB) GeoTracker database • Department of Toxic Substances Control EnviroStor database • SWRCB list of solid waste disposal sites with waste constituents above hazardous waste levels outside the waste management unit. The project site is not listed in any of these databases as a site containing hazardous materials as described above. **No Impact**	2, 40
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?				X	The project is not located within two (2) miles of an airport and/or within an Airport Land Use Plan. **No Impact**	1, 3, 4, 5, 20, 22
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X	The project would not impair or interfere with an adopted emergency response or evacuation plan. **No Impact**	1, 3, 4, 5, 20, 22, 35, 37
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X		The Ranch is mapped as both moderate and very high fire risk (Figure 9). The proposed project areas are within the areas mapped as moderate fire risk and the project would not further heighten fire risks on the site. The project is located on flatter areas throughout the Ranch and requires minor vegetation clearing for planting and defensible space as required by CALFIRE, thus reducing the fuel load. Additionally, the project proposes approximately twenty-seven (27, 5,000 gallon water tanks for water storage. The applicant would adhere to all Federal, State, and local fire requirements/regulations for setbacks and defensible space. No new buildings are proposed. Refer to Section XX, Wildfire, for additional details.	1, 3, 4, 5, 20, 35, 37

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Less than Significant Impact	

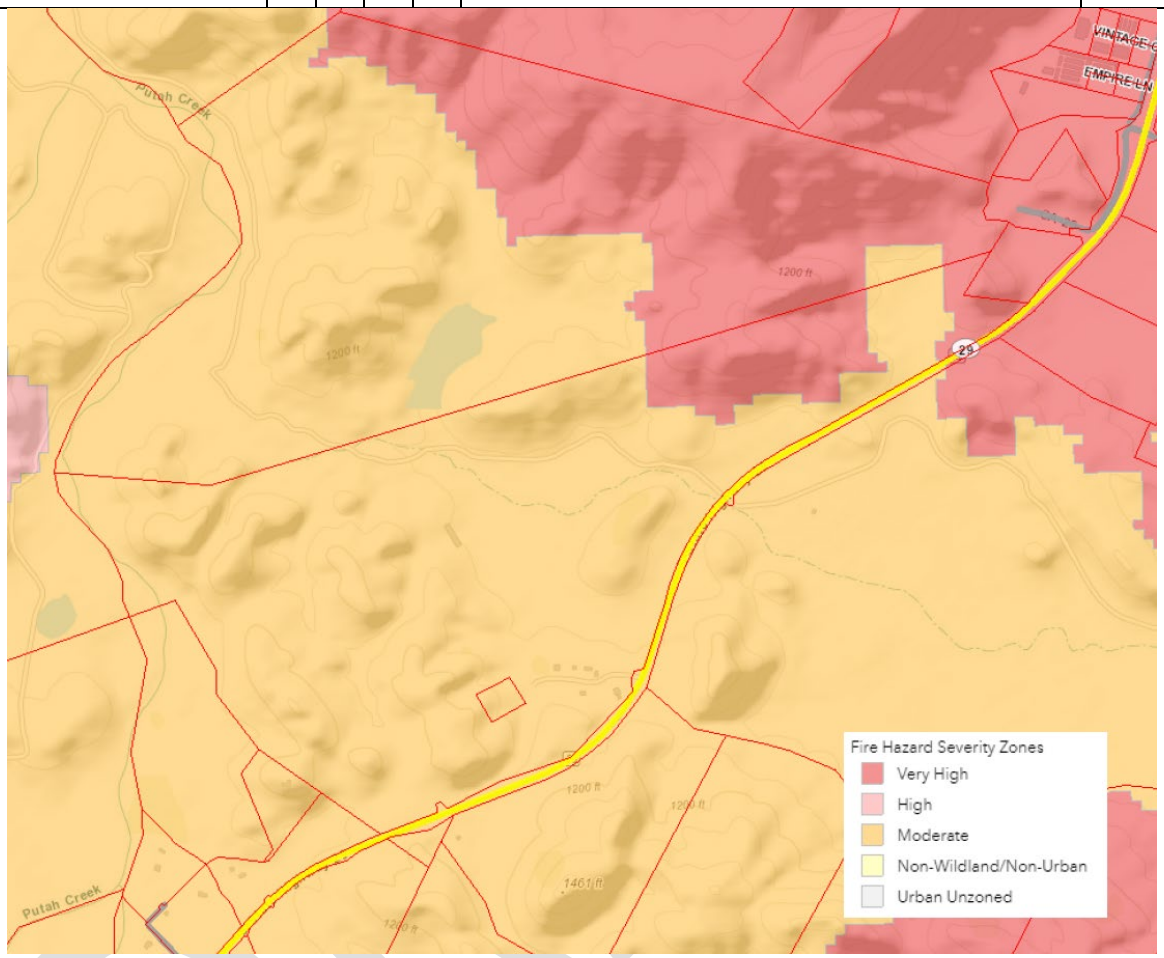

Figure 8. Fire Hazard Severity Zones

X. HYDROLOGY AND WATER QUALITY *Would the project:*						
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		X			The Ranch is located within the Upper Putah Creek watershed (HUC-1802016203). Putah Creek, a Class I watercourse, bounds the western edge of the property and flows in the northerly direction and then turns east approximately 1.7 miles north of the Ranch. Crazy Creek, a Class II watercourse that is tributary to Putah Creek, flows east towards its confluence with Putah Creek located approximately 3.5 miles east of Bar X Ranch. Several Class III watercourses are located throughout Bar X Ranch, draining to Putah Creek or Crazy Creek (Figure 1). No development is proposed within 150-feet of the Class I watercourse or within 100-feet of any Class II or Class III watercourses. Putah Creek is not listed on the California Clean Water Act Section 303(d) List. The Property Management Plan submitted with the application materials address runoff, and certain BMPs during and after construction to reduce impacts associated with water quality. Including that all equipment shall be maintained and operated in a manner that minimizes any spill or leak of pollutants.	1, 2, 3, 4, 5, 13, 21, 23, 24, 33, 34, 41, 42

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Since, the project would disturb more than one acre in preparing the cultivation areas, constructing the parking areas, and constructing the left-turn lane, the project would be subject to the requirements State Water Resources Control Board (SWRCB) Construction General Permit (CGP, 2009-009-DWQ). The SWRCB CGP would require the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and Erosion Control Plan which documents the stormwater dynamics at the site, the Best Management Practices (BMPs), and water quality protection measures that are used, and the frequency of inspections. BMPs are activities or measures determined to be practicable, acceptable to the public, and cost effective in preventing water pollution or reducing the amount of pollution generated by non-point sources. Obtainment of coverage under the CGP is also a BPTC Measure for compliance with the SWRCB General Order. In addition, Bar X Ranch is enrolled with the State Water Resources Control Board (SWRCB) for Tier 2, Low Risk coverage under Order No. WQ 2019-001-DWQ (Cannabis Cultivation General Order). The Cannabis Cultivation General Order implements Cannabis Policy requirements with the purpose of ensuring that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, aquatic habitat, riparian habitat, wetlands, or springs. The Cannabis Cultivation General Order requires the preparation of a Site Management Plan (SMP), a Nitrogen Management Plan (NMP), and the submittal of annual technical and monitoring reports demonstrating compliance. The purpose of the SMP is to identify Best Practicable Treatment or Control (BPTC) measures that the site intends to follow for erosion control purposes and to prevent stormwater pollution. The purpose of the NMP is to identify how nitrogen is stored, used, and applied to crops in a way that is protective to water quality. The SMP and NMP are required prior to commencing cultivation activities and were submitted with the application materials. The proposed project has been designed to maintain riparian buffers and grading setbacks of 100 feet. No development would occur within the drainage buffers and setbacks. Additionally, straw wattles would be staked around the cultivation areas to provide an additional buffer between the cultivation area and surface waters. Additionally, Mitigation Measure GEO-1 would require that all disturbed soil within the Riverside Garden be planted with a nutrient binding cover crop to stabilize and prevent sediment runoff from the disturbed soil within the Zone A of the Putah Creek floodplain. The proposed project would be served by portable toilets located at each of the cultivation sites and maintained by a local contractor. Implementation of Mitigation Measures BIO-4, GEO-1 through GEO-5, and HAZ-1 and HAZ-2 would help to ensure potential impacts to surface or ground water quality would be less than significant. **Impacts would be Less than Significant with Mitigation Measures BIO-4, GEO-1 through GEO-5, and HAZ-1 through HAZ-2 incorporated.**	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?		X			The project site does not have a municipal water supply service and relies on well water for domestic water and proposed cannabis irrigation and an existing appropriative water right (Division of Water Rights Permit for Diversion and Use of Water #20993) for irrigation of the Bar X Ranch (non-cannabis). The proposed project would use water from an existing, onsite well to irrigate cannabis. On July 27, 2021, the Lake County Board of Supervisors passed an Urgency Ordinance (Ordinance 3106) requiring land use applicants to provide enhanced water analysis during a declared drought emergency. Ordinance 3106 requires all projects that require a CEQA analysis of water use prepared by a licensed professional experienced in water resources and a Drought Management Plan (DMP) depicting how the applicant proposes to reduce water during a declared drought emergency. A Hydrology Report and DMP were prepared for the proposed project in compliance with Ordinance 3106. The results are incorporated herein. **Project Water Demand**: The CalCannabis Environmental Impact Report (CDFA, 2017) uses 6.0 gallons per day per plant as an estimated water demand for cannabis cultivation. This is 1.0 gallons (gpd) per plant more than reported by Bauer et. el. (2015), who reported up to 5.0 (gpd) per plant (18.9 Liters/day/plant). Using the more conservative estimate of 6.0 gpd, and assuming there are approximately 500 plants per acre of canopy (CDFA, 2017), the demand is 3,000 gpd (2.1 gallons per minute [gpm]) per acre of canopy; this use rate is consistent with the Water Use Management Plan section (Section 16.2) of the project's Property Management Plan. The total estimated water demand is as follows: Daily: 186,300 gpd (130.4 gpm) Yearly (cultivations season ranges between 120 and 180 days): 68.6 to 102.9 acre-feet (AF) **Water Source and Supply**: There is one (1) existing, permitted groundwater well that would be used for cultivation (Lat/Long 38.76947, -122.59708). The well is approximately 215 feet deep and was drilled in January 2021. The well is screened at two water bearing intervals, 40 and 60 feet and 180 and 220 feet below the ground surface (bgs). During the drilling of the well, the depth of first water was at 60 feet bgs and the static water level was estimated to be 30 feet bgs. When the well was drilled, it was determined to have a yield of 800 gpm (1290.4 acre-feet per year). The potential daily demand of 130.4 gpm represents 16.3% of the well yield and between 4.9-8.0% of the annual potential well production in acre-feet. A 4-hour well pump test was conducted on October 19 and 20, 2021 by Pollack and Sons Pump. The pump test was conducted with the existing 75 HP pump with a maximum pump rate of 625 gpm. The static water level at the beginning of the test was 34 feet bgs. During the test, the water level dropped to 140 feet bgs where it remained for the duration of the pump test. The well sustained a production capacity of 625 gpm throughout the entire 4-hours. After 24-hours, the water level returned to 34 feet bgs. Pollack and Sons Pump reported that the well could produce more water with a larger pump installed. The test was	1, 2, 3, 4, 5, 13, 21, 23, 24, 33, 34, 41, 42, 47, 48, 49, 51, 52, 53, 54

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					conducted during an extreme drought, at the end of a dry season. The test results validate the yield reported on the Well Completion Report for the well. **Irrigation and Water Storage**: Irrigation for the cultivation operation would use water supplied by the existing well. The irrigation water would be pumped (using an existing 75 HP pump) from the well, via PVC piping, to approximately 27, 5,000-gallon water storage tanks (135,000 gallons of storage) and delivered to the individual gardens via an above ground. Drip irrigation systems would be used at each garden. The drip lines would be sized to irrigate the cultivation areas at a rate slow enough to maximize absorption and prevent runoff. Drip irrigation systems, when done properly, conserve water compared to other irrigation techniques. **Groundwater Basin Information and Hydrogeology**: The well is located in a groundwater basin situated between the Collayomi Valley Groundwater Basin (Basin #5-19), to the west, and the Coyote Valley Groundwater Basin (Basin #5-018) to the east (Figure 10). Groundwater throughout the Collayomi and Coyote Valley Groundwater Basins primarily occurs in alluvium formations comprised of clay, silt, sand, and gravel deposits. The water-bearing formation in the Collayomi Groundwater Basin is comprised of clay and silt, with localized areas of channelized gravel. The water-bearing formations in the Coyote Valley Groundwater Basin are the Holocene Alluvium, the primary water bearing unit consisting of course sand and gravel, and the Plio-Pleistocene Volcanics and Cache Formation consisting of gravel, silt, sand and water-laid tuffs. The major source of recharge to these two basins is from percolation of streamflow from Putah Creek and its tributaries. Some recharge is derived from infiltration of rainfall and irrigation return flows. The project well is drilled through (in order of increasing depth), clay, shale, sandstone, and hard grey rock - indicating that it is in its own water-bearing unit. Although the project's well yield and depth are consistent with wells in both the Collayomi and Coyote Valley Groundwater Basins, the well is clearly located outside of the alluvial areas and in distinct geologic formations units of Franciscan Formation Jurassic shale and sandstone. According to a groundwater study conducted by Faye (1973) (Ground-water Hydrology of Northern Napa Valley, California - Robert E. Faye - Google Books) on behalf of the USGS in Northern Napa, in close geographic proximity and with similarly mapped geology to southern Lake County, Franciscan Formation is considered a relatively low-productivity water-bearing unit except for when highly fractured or weathered. From the well pump test conducted in October 2021 to validate the well productivity, it appears the dominant water-bearing formation of the well is within the deeper sandstone. Water well driller's reports maintained by the California DWR and published on the DWR Well Completion Report Map Application were reviewed to identify additional wells located in the same water-bearing formation as the project's well. The scope of the California DWR research encompassed the available records for wells located within Sections 29 and 30 of Township 11 North (T11N), Range 6 West (R06W) and Sections 2, 25, 26,27 34, 35 of T11N, Range 7 West (R07W), Mount Diablo Basin and Meridian within 1 to 2 miles of the property boundary. This resulted in 102 reports, of which, only	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					four (4) corresponded to locations potentially within the same geologic formation as the project's well (Figure 4), the remainder reports were for wells within the described water-bearing formations of the Collayomi and Coyote Valley Groundwater Basins. Two of the four reports were for abandoned wells located on the Bar X Ranch. Of the remaining two reports, one well was drilled into varying layers of shale/sandstone, screened at an elevation similar to the project's well, and was reported to have a yield of 200 gpm (refer to WCR2003-010038). There is a domestic groundwater well located on APN 014-250-05. The well has been used to supply domestic water to the housing area on the ranch for several years. Details regarding the well yield and dimensions are unknown. On October 2, 2020, Chico Environmental submitted a Well Completion Report Form to California DWR, but no records were found by DWR regarding this well. This domestic well would not be used for irrigation of cannabis. The theoretical storage capacity of the water source's water-bearing formation can be estimated by multiplying the volume of the aquifer by the specific yield. The area of the water-bearing formation is assumed to be the area associated with the geologic units of the formation in which it is situated. The thickness is estimated as the difference in the static groundwater level and the maximum aquifer depth. A range in values for the specific yield (effective porosity) was obtained from documented literature values, assuming the water-bearing formation is comprised of sandstone. According to the Hydrology Report the estimated theoretical storage capacity is between 8,869 AF and 53,214 AF. **Groundwater Source Recharge**: The annual groundwater recharge was estimated in the Hydrology Report assuming recharge area of 768 acres consisting of the Crazy Creek Watershed within the Bar X Ranch. The estimated annual recharge is 184 AF during an average rainfall year and 148 AF during a dry rainfall year. **Potential Impacts**: The maximum annual water demand of the proposed project would be up to 102.9 AF per year; depending on the length of the cultivation season. The irrigation demand is approximately 56% and 70% of the annual recharge during an average and dry year, respectively. The recharge area used to estimate annual recharge is less than the Bar X Ranch total area, which is approximately 1,600 acres, and does not include potential recharge from Putah Creek, which has a contributing area of 62 square miles upstream of the Bar X Ranch. Thus, the recharge estimate is likely low. Even so, there is sufficient recharge on an annual basis to meet the project's demand, even during dry years. The project's water source is located within a water-bearing formation that is not included in California's Groundwater Bulletin 118. Additionally, the groundwater source is in an area with numerous mapped local faults and contacts between geologic units which can serve as conduits for water and may explain the well's high productivity. An estimate of the hypothetical storage capacity of the water-bearing formation is between 8,869 AF and 53,214 AF. The annual project demand is only 0.2% to 3% of the estimated storage capacity.	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Although there are several wells located in the adjacent Collayomi and Coyote Groundwater Basins, there is only one well that may be within the same water-bearing formation as the project's well, located approximately 0.4 miles southeast. This well was drilled in October 2003 and was shown to have a yield of 200 gpm, however, the well diameter of 4.5-inches is much smaller than the project's well diameter of 14-inches. Thus, the nearby well's productivity would be limited by the smaller well diameter. The source well has an estimated yield of 800 gpm, which was confirmed by a well pump test conducted in October 2021 during a period drought. Using the existing well pump to pump at 625 gpm, the well can supply the daily irrigation needs in under 5-hours. In addition to the proposed project, there are two projects proposed that may have the potential to result in a cumulative impact to the surrounding area. These two proposed projects are the Diamond J Ranch cannabis cultivation project and the Guenoc Valley development project (Figure 11 and Figure 12). Diamond J Ranch is located approximately 2.5 miles northeast of Bar X Ranch and is within the Coyote Valley Groundwater Basin. Therefore, the two properties are not hydrogeologically connected, and the proposed project would not have a hydrogeologic effect on the Diamond J Ranch. The Guenoc Valley project is located over 3 miles to the southeast of the proposed project. According to the Environmental Impact Report for the Guenoc Valley project, 1,340 acres (approximately 8% of the project site) are located within the Coyote Valley Basin and 100 acres (approximately 1%) is located within the Collayomi Valley Groundwater Basin. The majority of the project (over 90%) is located outside of these basins, east of the Coyote Valley Groundwater Basin, which separates Bar X Ranch from Guenoc Valley. Therefore, the Bar X Ranch is not hydrogeologically connected to the Guenoc Valley project and the proposed project would not have a hydrogeologic effect on the Guenoc Valley project. Therefore, the proposed cannabis cultivation project, in combination with the Diamond J project and Guenoc Valley project, would not have a cumulative impact on groundwater. Since the project's water source is in a water-bearing formation with little background information and the recharge rate is an estimate determined using an approximation of the recharge area and the *in-situ* characteristics of the water source; it is recommended that the project applicant monitor and report water levels in the well. The purpose of the monitoring is to evaluate the functionality of the well to meet the long-term water demand of the proposed project and validate the annual recharge of the water-bearing formation. Water level monitoring is required by the Lake County Zoning Ordinance: Article 27 Section 27.11(at) 3.v.e. requires the well to have a continuous water level monitor. This monitoring and the subsequent reporting have been incorporated as Mitigation Measure HYD-1. Since the project is not hydrogeologically connected to the Diamond J project or the Gueonoc Valley project, the project's demand is only 8.0% of the estimated annual well production, the annual project demand is only 0.2% to 3% of the estimated aquifer storage capacity, and there is sufficient recharge to meet the project's demand during average and dry years. With	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					implementation of Mitigation Measure HYD-1, the proposed cannabis development is consistent with local plans and would likely not impede sustainable management of the local groundwater basin. **Impacts would be Less than Significant with Mitigation Measure HYD-1 incorporated.** **<u>HYD-1</u>: The project shall conduct seasonal monitoring of the water level in the irrigation well and record the water level at least once in the spring (March/April) before cultivation activities begin and once in the fall (October/November) after cultivation is complete. Records shall be kept, and elevations reported to Lake County as part of the project's annual reporting requirements. Reporting shall include a hydrograph plot of all seasonal water level measurements recorded to-date, beginning with the initial measurement. A continuous water level monitor shall be utilized.** **The project shall conduct monitoring of the water level in the well during the irrigation period. The frequency of water level monitoring will depend on the source, the source's capacity, and the pumping rate. Records shall be kept, and elevations reported to Lake County as part of the project's annual reporting requirements. Reporting shall include a hydrograph plot of the water level measurements during the cultivation season and compared to prior seasons.** **Measuring a water level in a well can be difficult and the level of difficulty will depend on site-specific conditions. As part of the well monitoring program, the well owner/operator shall work with a well expert to determine the appropriate methodology and equipment to measure the water level in their well(s) as well as who would conduct the monitoring and recording of the well level data. The methodology of the well monitoring program shall be described and provided in the project's annual report to Lake County.** **In addition to monitoring and reporting, an analysis of the water level monitoring data shall be provided and included in the project's annual report, demonstrating whether use of the well is causing significant drawdown and/or impacts to the surrounding area and what measures were taken to reduce impacts. If there are impacts, a revised Water Management Plan shall be prepared and submitted to Lake County, for review and approval prior to the use of groundwater for the subsequent season, demonstrating how the project would mitigate the impacts.**	

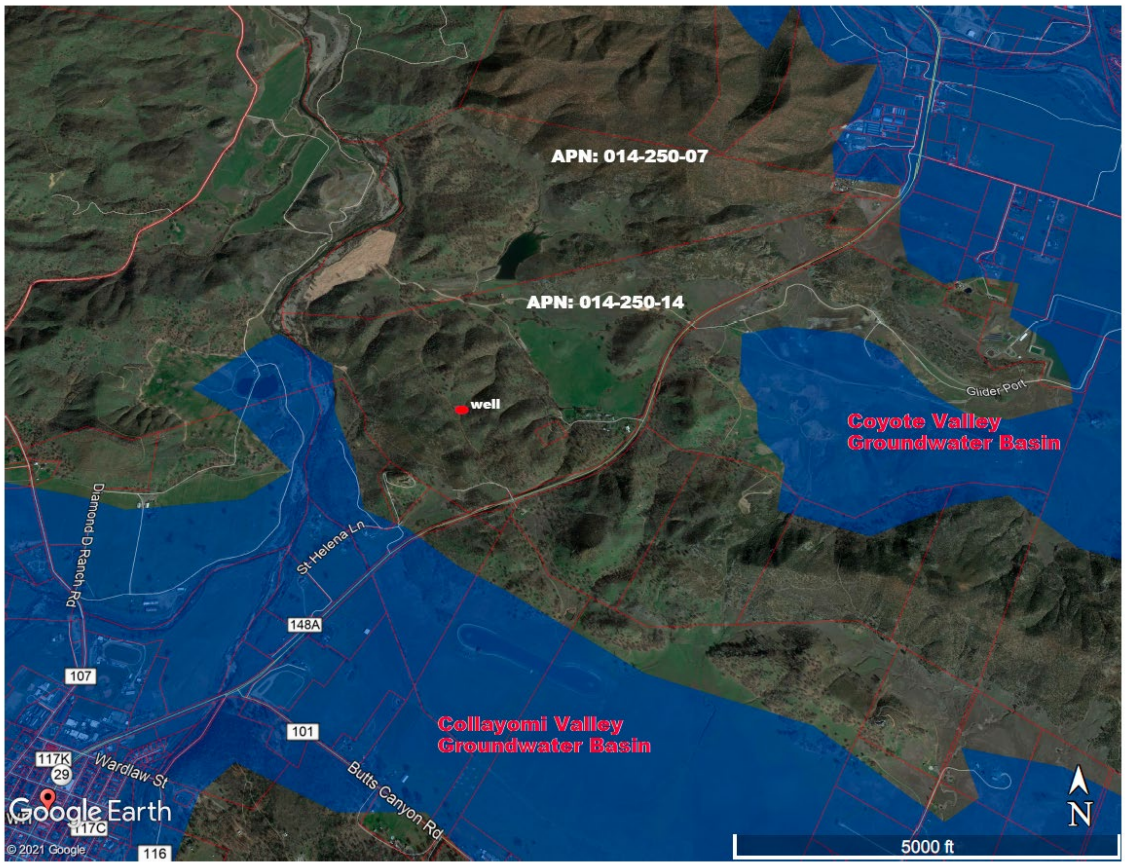

Figure 9. Groundwater Basins (Source: California Department of Water Resources)

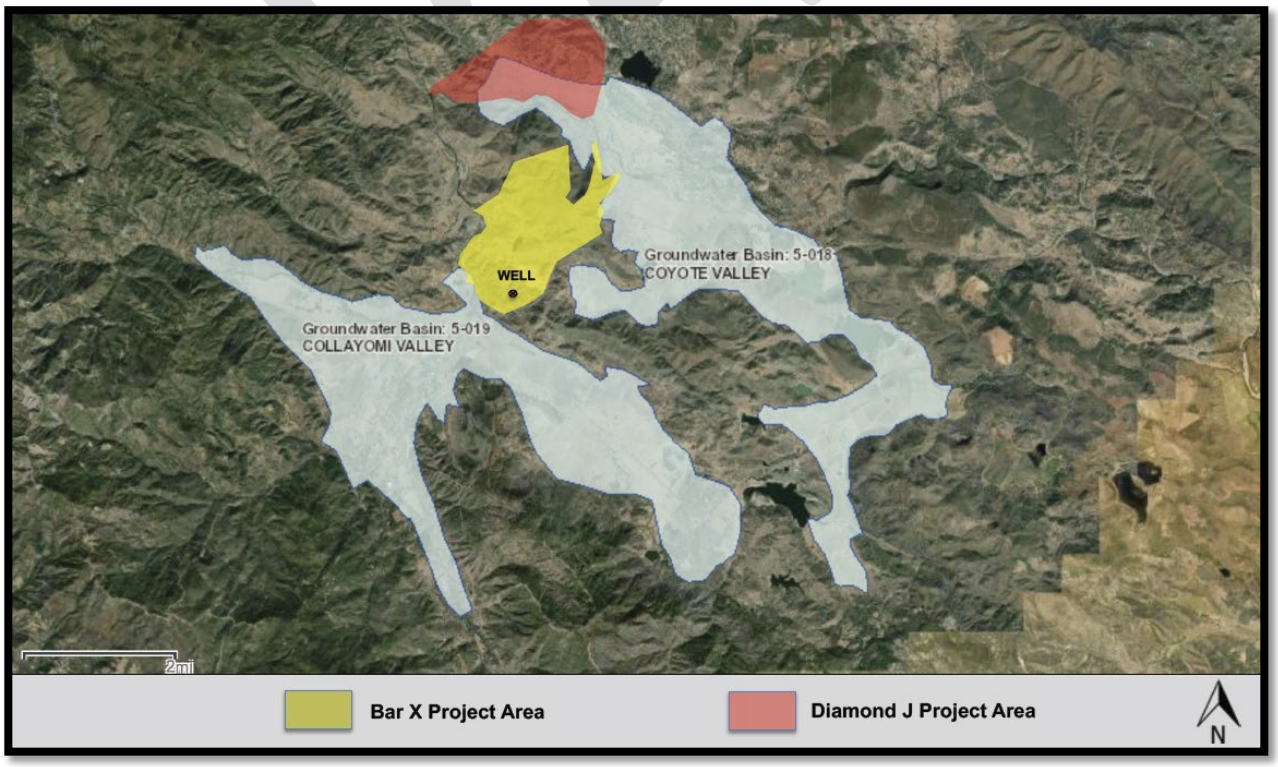

Figure 10. Bar X Project Area and Diamond J Project Area (Source: Chico Environmental)

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**

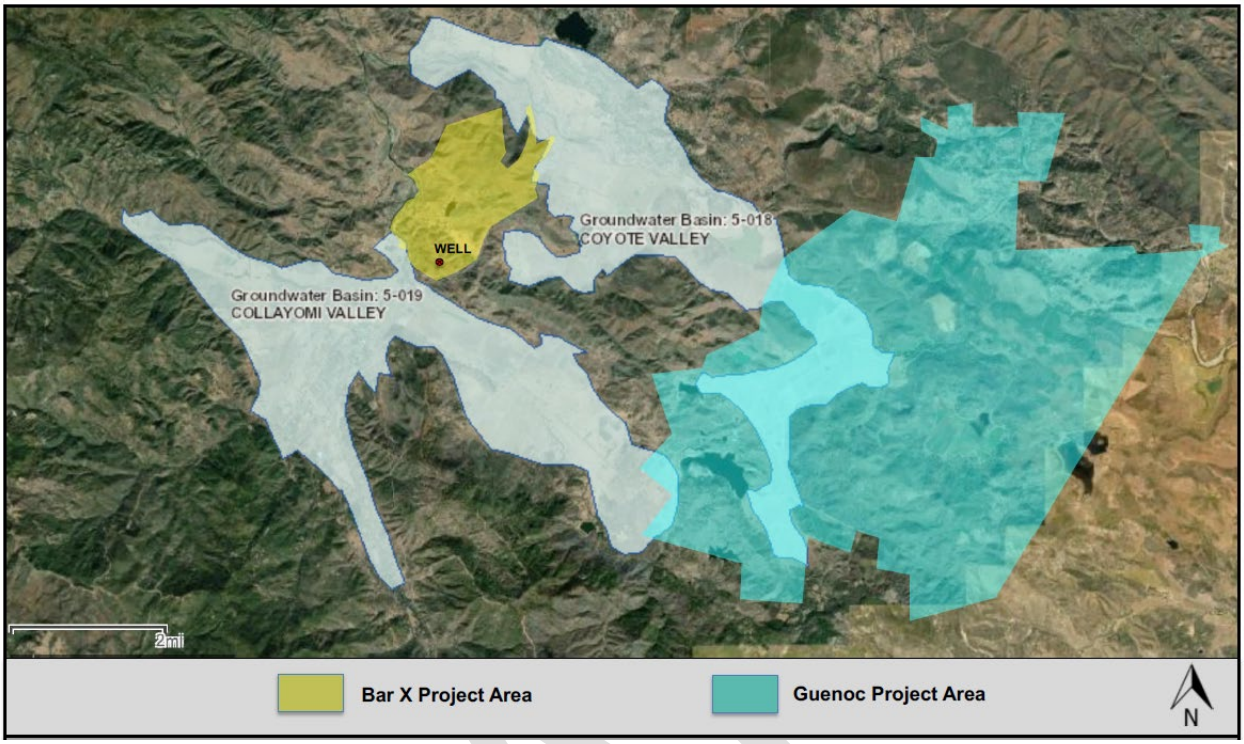

Figure 11. Bar X Project Area and Guenoc Project Area (Source: Chico Environmental)

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; ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; iii) Create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; iv) Impede or redirect flood flows?		X			Vegetation clearing and grading (clearing and grubbing) are proposed for the outdoor cultivation activities to create level areas, on contour, for the planter boxes or smart pots, the cultivation employee parking area, a flat for the water tanks near the Southwest Garden #2, and construction of the left-turn lane. No removal of living trees is proposed. Cultivation would occur in full sun, with imported soil and amendments, in planter boxes and grow bags placed on top of the existing grade utilizing natural contours in open areas. An existing 16,250 sq. ft. barn would be retrofitted and used for storage, drying, and curing of cannabis. No cultivation would occur in this building. Minor grading would be required for the proposed employee parking area. Construction of the employee parking area and left-turn lane would not occur until the appropriate grading permit is obtained from Lake County and Caltrans. Since the Project requires grading, the applicant has submitted, to Lake County, an application for a Grading Permit. The application includes a Grading Plan that demonstrate the areas of vegetation removal and grading, including earthwork quantities. No grading or building would occur until the appropriate grading and building permits have been obtained from the County. The proposed cannabis sites were selected to occur within active agricultural areas and to avoid all wetlands and channels, setbacks from watercourses and other natural resources, sensitive terrestrial habitats (serpentine soils, riparian, chaparral habits), sensitive plant areas, steep slopes, and dense oak stands. The proposed cannabis cultivation would be setback a minimum 150 ft. from Class I watercourses and a minimum of 100 ft. from wetlands and from the top of bank all Class II, and	1, 3, 4, 5, 13, 21, 23, 24, 25, 29, 31, 32, 33, 34

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Class III watercourses. However, a portion of the Riverside Garden is located within Zone A of the Putah Creek floodplain. No development would occur within the drainage buffers and setbacks. The proposed project has been designed to maintain existing flow paths. There are no wetlands or channels within the project impact area associated with construction of the left-turn lane. Potential indirect impacts to water resources could occur during construction by increased erosion and sedimentation in receiving water bodies due to soil disturbance. However, the project proponent must enroll in the Construction General Permit, and implement an erosion/sediment control plan and monitoring plan. Compliance with this Clean Water Act program would ensure that construction activities do not impact receiving waterbodies. (i) Construction activities and operation of the proposed project would not result in substantial erosion or siltation, with compliance with the erosion control plan, SWRCB Construction General Permit, and SWRCB Cannabis General Order. Less than significant impact with Mitigation Measures BIO-4 and GEO-1 through GEO-5 incorporated. (ii)&(iii) At full buildout, the proposed cannabis operation would utilize approximately 80 acres (5%) of the 1594.6 acre Ranch. No new impervious area is proposed on the Ranch. There would be an increase in impervious area associated with widening State Highway 29 to construct the left-turn lane. However, this increase is linear in nature, and would be only a few feet over about 0.5 miles. Increased runoff would be from sheet flow directed and incorporated into the existing drainage system on State Highway 29. (iv) The majority of proposed outdoor cultivation area is within a FEMA Zone D (Figure 13), areas of possible but undetermined flood hazards, or not within a FEMA flood zone. A portion of the Riverside Garden (Figure 3) is located in FEMA Zone A, Areas subject to inundation by the 1-percent-annual-chance flood event. However, this is outdoor cultivation that would generally occur April through November, largely outside of the normal wet season (typically October 15 to April 15). No new structures or storage of materials would be proposed within this area, aside from fencing, which would not be solid or otherwise impede flood flows. **Less than significant impact with Mitigation Measures BIO-4 and GEO-1 through GEO-5 incorporated.**	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**

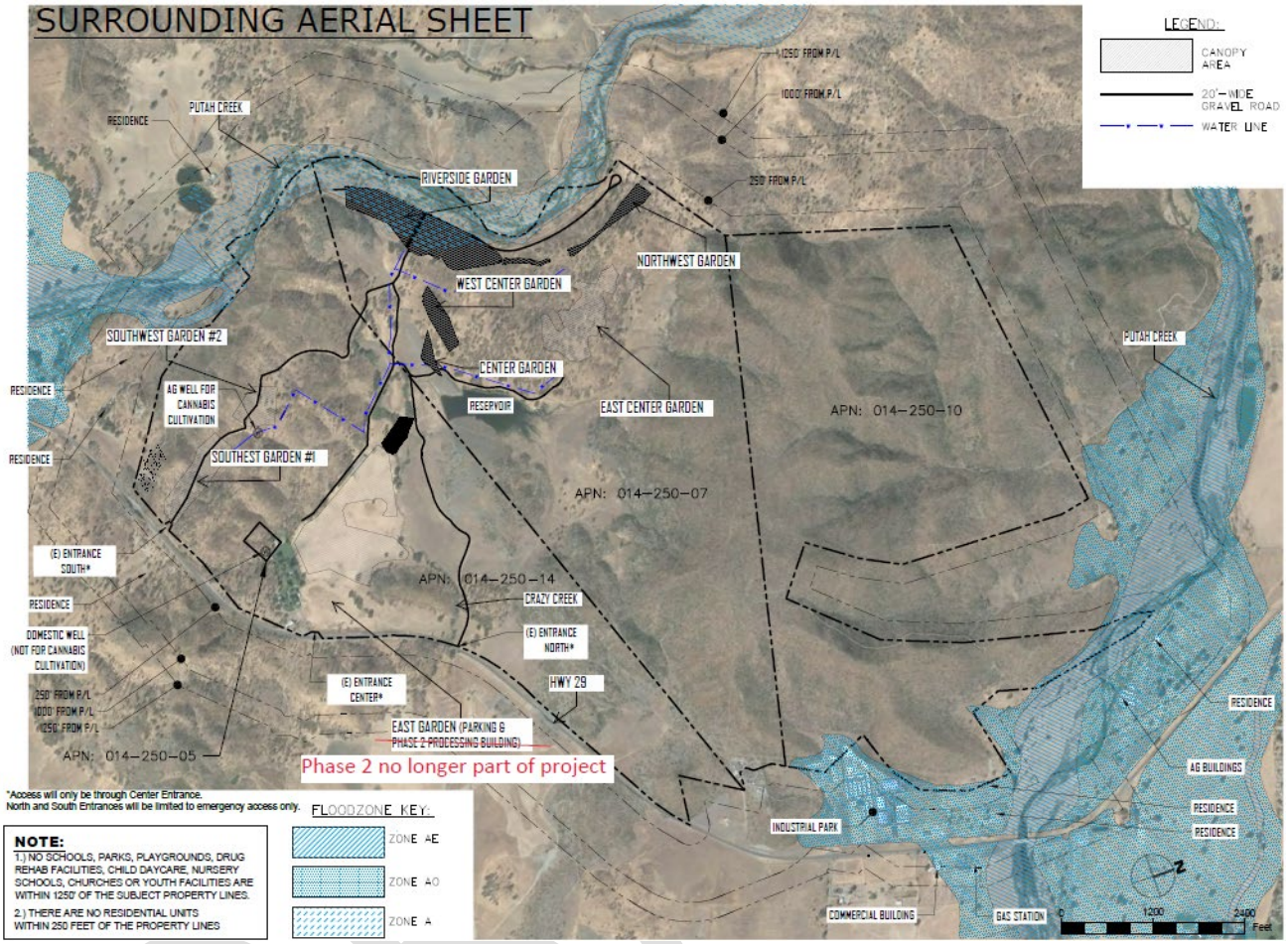

Figure 12. FEMA Flood Zones and Site Map

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?		X			A portion of the Riverside Garden is located in the floodplain created by Putah Creek; however, outdoor cultivation would generally occur April through November, outside of the normal wet season (typically October 15 to April 15). To stabilize the soil and prevent sediment runoff, all disturbed soils within portions of the Riverside Garden within Zone A of Putah Creek shall be planted with a nutrient binding cover crop pursuant to Mitigation Measure GEO-1. The cover crop shall be installed by October 15, or upon removal of cannabis plants, whichever comes later. Additionally, the Cannabis Cultivation General Order requires winterization measures to protect water quality outside of the cultivation season. The proposed project is not located in a tsunami or seiche zone. **Less than Significant Impact with implementation of BIO-4 and GEO-1.**	1

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X		The proposed project area and vicinity is not subject to a water quality control plan, thus the proposed project would not conflict with or obstruct the implementation of water quality control plan as all hazardous materials including pesticides and fertilizers would be stored in a locked / secured building or shed, and would meet all Federal, State and Local agency requirements for hazardous material storage and handling. The well is located in the proximity of the Collayomi Valley Groundwater Basin and the Coyote Valley Groundwater Basin (Figure 10), According to the California Department of Water Resources, these basins are Very Low priority groundwater basins and do not require sustainable groundwater management plans. Therefore, the proposed project would not conflict with or obstruct the implementation of a sustainable groundwater management plan. **Less than Significant Impact**	1, 3, 4, 5, 10, 13, 21, 23, 24, 25, 29, 31, 32, 33, 34, 41, 42, 47, 48, 49
XI. LAND USE AND PLANNING *Would the project:*						
a) Physically divide an established community?				X	The proposed project site would not physically divide an established community. **No Impact**	1, 3, 4, 5, 6
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?			X		This project is consistent with the Lake County General Plan, the Middletown Area Plan, and the Lake County Zoning Ordinance. **Less than Significant Impact**	1, 3, 4, 5, 20, 21, 22, 27
XII. MINERAL RESOURCES *Would the project:*						
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?				X	The Aggregate Resource Management Plan (ARMP) does not identify this project as having an important source of aggregate. Additionally, according to the California Department of Conservation, Mineral Land Classification, there are no known mineral resources on the project site. **No Impact**	1, 3, 4, 5, 26
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?				X	The County of Lake's General Plan, the Middletown Area Plan nor the Lake County Aggregate Resource Management Plan designates the project site as being a locally important mineral resource recovery site. **No Impact**	1, 3, 4, 5, 26
XIII. NOISE *Would the project result in:*						
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?		X			County noise standards require noise levels at the property line adjacent to residential and agricultural uses not to exceed 55dBA between the hours of 7:00 a.m. and 10:00 p.m. and 45 dBA between the hours of 10:00 p.m. and 7:00 a.m. Where adjacent uses are industrial (northeast) noise levels must not exceed 65dBA during daytime hours and 60dBA during nighttime hours. "dBA" is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. Noise related to outdoor cannabis cultivation typically occurs either during construction, or as the result of machinery related	1, 3, 4, 5, 13

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					to post construction equipment such as the generator to operate the well pump,. Water from the irrigation well would be pumped to storage tanks using a 75 Horse Power (HP) pump. The tanks are located at a high point on the property so that water from the tanks would gravity feed through an above ground pipe system (aka, irrigation lines) to each cultivation area. The pump would be powered by a 120kW diesel generator. Article 27, Section (at)1.iii lists prohibited activities associated with commercial cannabis cultivation and does not prohibit the use of generators for irrigation or outdoor cultivation, specifically, the section states, for electrical generators, that, "*The indoor or mixed-light cultivation of cannabis shall not rely on a personal gasoline, diesel, propane, or similar fuels, powered generator as a primary source of power and shall only allow properly permitted (when applicable) generators for temporary use in the event of a power outage or emergency that is beyond the permittee's control*". The generator use proposed here is solely to operate the 75 HP well pump. This generator would be housed within a sound dampening enclosure to reduce noise levels at or below the County noise standards at property lines. The cultivation of outdoor cannabis would not rely on the use of a generator. Short-term noise levels would be increased during the construction of the proposed project. Construction is expected to begin in spring 2022 and take 4 to 8 weeks. Construction-related noise may involve the use of heavy equipment, employee and delivery traffic, and human voices. Compliance with NOI-1 and NOI-2 would ensure that the proposed project activities would not exceed County noise standards. **Less Than Significant with Mitigation incorporated.** Operation of the proposed project would result in some increases in ambient noise levels in the project vicinity due to the water pump generator and light vehicle traffic. Compliance with NOI-1 and NOI-2 would ensure that the proposed project activities would not exceed County noise standards. **Less Than Significant with Mitigation incorporated.** **Impacts would be Less than Significant with Mitigation Measures NOI-1 and NOI-2 incorporated.** **<u>NOI-1</u>: All construction activities including engine warm-up shall be limited Monday Through Friday, between the hours of 7:00am and 7:00pm, and Saturdays from 12:00 noon to 5:00 p.m. to minimize noise impacts on nearby residents. Back-up beepers shall be adjusted to the lowest allowable levels. This mitigation does not apply to night work.** **<u>NOI-2</u>: The proposed project shall comply with the noise standards identified in Section 41.11 of the Zoning Ordinance, including, but not limited to: maximum non-construction project-related noise levels shall not exceed: (a) 55 dBA between the hours of 7:00 a.m. to 10:00 p.m. and 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. adjacent**	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					to residential districts; and (b) 65 dBA between the hours of 7:00 a.m. to 10:00 p.m. and 50 dBA between the hours of 10:00 p.m. to 7:00 a.m. adjacent to industrial districts at the property lines as outlined in Table 11.1. Should the proposed project exceed these noise standards during construction or operational phases, noise-generating activities shall cease until noise attenuation measures are implemented such that the proposed project is compliant with noise standards.	
b) Generation of excessive groundborne vibration or groundborne noise levels?			X		The project is not expected to create significant groundborne vibration due to construction or to post-construction facility operation. Vegetation clearing and minor grading (clearing and grubbing) is proposed for the outdoor cultivation activities to create level areas, on contour, for the planter boxes or smart pots, the cultivation employee parking area, a flat for the water tanks near the Southwest Garden #2, and construction of the left-turn lane. However, earth movement is not expected to generate groundborne vibration or noise levels. The low-level truck traffic during construction and for deliveries would create a minimal amount of groundborne vibration. **Less Than Significant Impact**	1, 3, 4, 5, 13
XIV. POPULATION AND HOUSING *Would the project:*						
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X		The project does not involve the construction of new homes or businesses, or the extension of roads or other infrastructure that would induce a permanent growth in population. While the project would require up to 10 fulltime and 120 seasonal workers, and would generate business income, an increase in local employment opportunities, and increase public fee and tax revenue, which may result in slight increases in population growth, it is anticipated that fulltime employees will reside in the surrounding communities and seasonal employees will be contracted through a local company, when needed. **Less than Significant Impact**	1, 3, 4, 5
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X	No housing would be displaced as a result of the project. **No Impact**	1, 3, 4, 5
XV. PUBLIC SERVICES *Would the project:*						
a) 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: - Fire Protection? - Police Protection? - Schools? - Parks?			X		The project does not propose housing or other uses that would necessitate the need for new or altered government facilities. No new roads are proposed. The project would be required to comply with all applicable local and state fire code requirements related to design and emergency access. Construction and operation of the proposed project may result in accidents or crime emergency incidents that would require police services. Additionally, as the project proposes new development that would require up to 10 fulltime employees and 120 seasonal employees, there would be an increased risk of fire incidents at the site. However, construction activities would be temporary and limited in scope. During project operation, accidents or crime emergency incidents during operation are expected to be infrequent and minor in nature. Furthermore, the Lake County Sheriff's Department and local	1, 2, 3, 4, 5, 20, 21, 22, 23, 27, 28, 29, 32, 33, 34, 36, 37

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
- Other Public Facilities?					fire districts were sent referrals regarding the proposed project and no responses were received. There would be a less than significant impact to public services, including fire and police protection, schools, parks or other public facilities as a result of the project's implementation. **Less than Significant Impact**	
XVI. RECREATION *Would the project:*						
a) 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?			X		The project would generate business income, an increase in local employment opportunities, and increase public fee and tax revenue, which may result in slight increases in population growth, which could lead to increased use of park and recreation facilities. However, the increased use of park and recreation, would occur over a large area and in multiple sites and therefore be diminished and would not substantially deteriorate existing parks or other recreational facilities. The project would have a less than significant impact on existing parks or other recreational facilities. **Less than Significant Impact**	1, 2, 3, 4, 5
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?				X	This project would not necessitate the construction or expansion of any recreational facilities. **No Impact**	1, 3, 4, 5
XVII. TRANSPORTATION *Would the project:*						
a) Conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths?			X		The Ranch is accessed off of State Highway 29 via three (3) existing driveways (north, center, and south [Figure 2]). The center driveway is the access entrance for the proposed project. The northern and southern driveways would be used for emergency access only. The gates at these two driveways would be locked and include signage stating, "Emergency Access Only" (Refer to Sheets C0 through C2 of the Bar X Farms On-Site Parking and Traffic Circulation Plan) There are no bicycle or pedestrian facilities on State Highway 29 in the vicinity of the project. The proposed project does not conflict with an ordinance or policy addressing the circulation along State Highway 29. **Less than Significant Impact**	1, 3, 4, 5, 9, 20, 22, 27, 28, 35
b) For a land use project, would the project conflict with or be inconsistent with CEQA guidelines section 15064.3, subdivision (b)(1)?		X			State CEQA Guidelines Section 15064.3, Subdivision (b) states that for land use projects, transportation impacts are to be measured by evaluating the proposed project's vehicle miles traveled (VMT). VMT refers to the amount and distance of automobile travel attributable to a project. A Focused Transportation Analysis (FTA) for the Bar X Ranch Cultivation Project was prepared by W-Trans on October 6, 2021. Included in the FTA was an evaluation of the project's potential impact on VMT. Like many other jurisdictions in California, Lake County has not yet formally adopted a policy or threshold of significance regarding VMT, so the project-related VMT impacts were assessed based on guidance provided by the California	1, 3, 4, 5, 9, 20, 22, 27, 28, 35, 45, 50

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Govenor's Office of Planning and Research (OPR) in the Publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018 as well as information contained within the *Senate Bill 743 Vehicle Miles Traveled Regional Baseline Study* (RBS), Fehr & Peers, 2020, prepared for the Lake Area Planning Council (LAPC). The OPR Technical Advisory and the RBS identify several criteria that may be used to identify certain types of projects that are unlikely to have a significant VMT impact and can be "screened" from further analysis. One of these screening criteria pertains to "small projects," which are defined as generating fewer than 110 new vehicle trips or 1,393 VMT per typical weekday. This means that for uses that have trip generation characteristics that vary over the course of the year, the annualized average trip generation should be taken into consideration when assessing VMT impacts. Annualized average values are used in other CEQA topic areas including Air Quality and Greenhouse Gas (GHG) emissions analyses, and the State's GHG reduction targets, a primary motivation for transition away from Level of Service (LOS) to VMT-based analysis, are also based on annual averages. While assessment of worst-case seasonal conditions can be relevant for LOS and operational analyses, such as queuing, it would be inconsistent with typical VMT practices. This is also supported by the fact that thresholds recommended in the RBS are based on average VMT data between 2015 and 2018, not peak seasonal data. Trip generation for the proposed project was estimated for buildout conditions based on the proposed employee count. At the request of Caltrans, trip generation for the peak season was estimated with and without proposed vanpooling measures. Trip generation is based on standard rates for "General Industrial" published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual*, Edition, 2017. Application rates were based on number of employees as the independent variable, rather than floor area, which is suited for cultivation and accessory cannabis land uses since these uses generally require substantially lower number of employees for a given floor area compared to other industrial uses. At full buildout, the proposed project is anticipated to result in 63 new daily trips during typical operation and 660 new daily trips during the peak season without vanpooling. However, with vanpooling for seasonal laborers, the project would result in 115 new daily trips during the peak season. Accounting for a peak season that occurs for four months out of the year, the annual average daily trip generation for the project would be 262 trips without vanpooling and 80 trips with vanpooling. The latter falls well below the project threshold of 110 daily trips. As a result, it is reasonable to conclude that the project would have a less than significant transportation impact on VMT with the implementation of Mitigation Measure TRA-1, which requires the use of vanpools for seasonal workers. **Impacts would be Less than Significant with Mitigation Measure TRA-1 incorporated.** **<u>TRA-1</u>: Seasonal laborers shall be transported to and from the project site using a vanpool or similar system. Records of vanpooling shall be kept and reported to Lake County with the project's annual reports.**	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
c) For a transportation project, would the project conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(2)?				X	The project is not a transportation project. The proposed use would not conflict with and/or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(2). **No Impact.**	1, 3, 4, 5, 9, 20, 22, 27, 28, 35, 46

d) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		X			A Focused Transportation Analysis (FTA) for the Bar X Ranch Cultivation Project was prepared by W-Trans on October 6, 2021. The purpose of the FTA is to address the comments from Caltrans dated July 2, 2021 and September 1, 2021. **Vehicle Access**: The section of State Highway 29 adjacent to Bar X Ranch is designated as an "access-controlled expressway," which means that Caltrans has acquired access rights to parcels adjacent to the highway. The project site has three existing driveways on the west side of State Highway 29. The south driveway is located on a straight segment of roadway at Post Mile (PM) 7.31, though there is a crest vertical curve to the south of the driveway; the center driveway is located just north of a horizontal curve in the roadway alignment at PM 7.80; and the north driveway is located in the center of a horizontal curve at PM 8.15. The existing driveways do not have left-turn channelization, though an eight- to ten-foot shoulder allows southbound motorists to move out of the travel lane when completing right turns into the site. **Site Distance**: State Highway 29 has a posted speed limit of 55 mph. For speeds of 55 mph, the minimum stopping sight distance needed is 500 feet. As contained in a letter from Mr. Jesse Robertson with Caltrans to Mr. Eric Porter with Lake County Community Development, dated July 2, 2021, Caltrans measured sight lines and determined that they extend a minimum of 550 feet in each direction at all three driveways, which is adequate for speeds in excess of 55 mph. Additionally, adequate stopping sight distances are available for following drivers to notice and react to a preceding motorist slowing to turn right or stopped waiting for an acceptable gap to turn left into any of the driveways, though again motorists are expected to use the roadway shoulders to move out of the travel lane when turning into the site. Therefore, existing sight lines are adequate to accommodate all turns into and out of the project driveways. **Left-Turn Warrants**: The need for a left-turn lane along the project frontage was evaluated using the methodology from the American Association of State Highway and Transportation Officials (AASHTO), which is typically used by Caltrans District 1. Based on the analysis provided in the FTA, a left-turn lane would be warranted during the p.m. peak hour (occurs weekdays between 4 p.m. and 6 p.m.) traffic under existing conditions and would continue to be warranted with the proposed project. Since the project is anticipated to result in few inbound trips during the peak hour for which volumes meet the AASHTO warrant for a turn lane (most p.m. peak hour project trips would be outbound, not inbound), and since there have been no documented historical safety issues associated with motorists accessing the site, the FTA suggests that it would be reasonable for the project to be allowed to operate prior to completing construction of a left-turn lane so long as no inbound left turns are made during the p.m. peak hour. Based on the FTA recommendations and correspondence with Caltrans, the project proposes constructing a left-turn lane for access to the center driveway and restricting access to the northern and southern driveways to emergency access only. Pursuant to Mitigation Measure TRA-2, the gates to the northern and southern driveways would be locked and include signage stating, "Emergency Access Only".	1, 3, 4, 5, 9, 20, 22, 27, 28, 35, 50

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Preliminary design concepts of the left-turn lane at the center driveway have been developed and incorporated into the proposed project. The left-turn lane would be designed and constructed to Caltrans' Design Standards. Design parameters were provided in the FTA. Construction of the left-turn lane would not begin until full approval from Caltrans has been obtained through the State of California Encroachment Permit Process. Prior to construction of the left-turn lane, left-turn access to the site via the center driveway would be controlled using temporary traffic control measures. A Temporary Traffic Control Plan to accommodate left turns would be prepared and submitted to Caltrans for approval prior to project activities (including both construction and operation of the project). With the incorporation of left-turn channelization at the center driveway, providing a Temporary Traffic Control Plan prior to construction of the left-turn lane, and limiting access to the northern and southern driveways to emergency access only, the proposed project would not increase hazards due to incompatible uses. **Impacts would be Less than Significant with Mitigation Measures TRA-2 and TRA-3 incorporated.** **<u>TRA-2</u>: Access to the site shall be restricted to the center driveway. Gates to the northern and southern driveways shall be locked and include signage stating, "Emergency Access Only". The northern and southern entrances shall be utilized only in the event of an emergency.** **<u>TRA-3</u>: Prior to operation, a Temporary Traffic Control Plan shall be prepared and submitted to Caltrans for approval of an Encroachment Permit for traffic control on a State highway. The purpose of the Temporary Traffic Control Plan is to identify measures to be taken to control left-turn access to the center driveway during weekday p.m. peak hours until construction of the left-turn lane is complete.**	
e) Result in inadequate emergency access?			X		The proposed project would not alter the physical configuration of the existing roadway network serving the area, and would have no effect on access to local streets or adjacent uses (including access for emergency vehicles). Conditions of Approval would require that internal roadways meet CALFIRE requirements for vehicle access. Furthermore, as noted above under impact discussion (a), project-related operational traffic would be minimal. Additionally, pursuant to mitigation measure TRA-2, the northern and southern site entrances would be restricted for emergency access only, providing for additionally emergency access points for the site, should they be warranted. The proposed project would not inhibit the ability of local roadways to continue to accommodate emergency response and evacuation activities. The proposed project would not interfere with the County's adopted Emergency Operations Plan. **Less than Significant Impact**	1, 3, 4, 5, 9, 20, 22, 27, 28, 35

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
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:*						
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), or			X		A Cultural Resources Assessment for Bar X Ranch (updated October 2021, referred to as Bar X Ranch study area) and for the State Highway 29 left-turn lane construction (dated October 2021 referred to as proposed left-turn lane study area) were conducted by Natural Investigations Company. A California Historical Resources Information System (CHRIS) records search was completed by the Northwest Information Center (NWIC) on September 9, 2019. The results of the California Historical Resources Information System (CHRIS) records search were received from the Northwest Information Center (NWIC) on September 16, 2020. The Native American Heritage Commission (NAHC) returned the results of the SLF search on August 19, 2020. Finally, Natural Investigations conducted an intensive pedestrian survey of the project area on August 27 and 28, 2020 and on September 7, 2021. The project area is not 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). **Less than Significant Impact**	1, 3, 4, 5, 11, 14, 15
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 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X			A Cultural Resources Assessment for Bar X Ranch (updated October 2021, referred to as Bar X Ranch study area) and for the State Highway 29 left-turn lane construction (dated October 2021 referred to as proposed left-turn lane study area) were conducted by Natural Investigations Company. A California Historical Resources Information System (CHRIS) records search was completed by the Northwest Information Center (NWIC) on September 9, 2019. The results of the California Historical Resources Information System (CHRIS) records search were received from the Northwest Information Center (NWIC) on September 16, 2020. The Native American Heritage Commission (NAHC) returned the results of the SLF search on August 19, 2020. Finally, Natural Investigations conducted an intensive pedestrian survey of the project area on August 27 and 28, 2020 and on September 7, 2021. **Bar X Ranch study area findings -** The CHRIS records search indicates that six prior cultural resource studies have been completed which included all or portions of the Bar X Ranch project area, and 23 additional studies have been completed outside the project area but within the 0.25-mile record search radius. The CHRIS records search also indicated that one cultural resource has been previously recorded within the Bar X Ranch project area, and 23 additional resources have been recorded within the 0.25-mile search radius. The SLF search returned negative results for Native American resources in the vicinity of the Bar X Ranch project. The SLF search returned negative results for Native American resources in the vicinity of the Bar X Ranch project. One prehistoric isolate, one drainage ditch, and one foundation remnant were documented within the Bar X Ranch project area during the field survey. **Bar X Ranch study area recommendations** - Two previously unrecorded cultural resources were identified within the Bar X Ranch study area during the field survey, and one known resource was revisited. The first newly discovered resource is an isolated obsidian flake (NIC-2020-Bar X-Iso 1). Isolated	1, 3, 4, 5, 11, 14, 15

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					artifacts are by definition found outside of an interpretable archaeological context which is constituted of groups of contemporary and associated artifacts, ecofacts, features, and/or sites. Without this context, isolates typically lack the potential to yield information important in prehistory, the California Register of Historical Resources (CRHR) criterion (Criterion 4) under which archaeological resources are most often found to be significant. As such, the isolate identified during this assessment is not eligible for listing on the CRHR and no further consideration is needed. **Proposed left-turn lane construction study area findings** – The CHRIS records search indicates that six prior cultural resource studies have been completed which included all or portions of the proposed left-turn lane construction project area, and 23 additional studies have been completed outside the proposed left-turn lane construction project area but within the 0.25-mile record search radius. The CHRIS records search also indicates that three cultural resources have been previously recorded within the proposed left-turn lane construction project area, and 21 additional resources have been recorded within the 0.25-mile search radius. The SLF search returned negative results for Native American resources in the vicinity of the proposed left-turn lane construction project area. Two previously unrecorded cultural resources were identified within the proposed left-turn lane construction project area during the field survey, and three previously recorded cultural resources within the proposed left-turn lane construction project area were revisited. **Proposed left-turn lane construction study area recommendations** – There are five known cultural resources within the proposed left-turn lane construction project area, a prehistoric lithic scatter (P-17-002508), several C-block right-of-way monuments (P-17-002752), a redeposit of lithic artifacts (P-17-002766), a concrete drainage ditch (NIC-2021-BarX-01), and a segment of State Highway 29 (NIC-2021-BarX-02). Due to the extent of past impacts and/or lack of historical significance, three of these resources do not appear to be eligible for listing in the California Register of Historical Resources (CRHR), or to constitute historical resources as defined under CEQA Section 15064.5, or unique archaeological resources as defined under CEQA Section 21083.2(g). These include the right-of-way monuments, drainage ditch, and roadway segment. Based on existing data, the artifact constituents of the redeposit (P-17-002766) appear to be very sparsely distributed across a large area, with fewer than 20 reported at the time of its initial discovery, and no artifacts of any kind observed during the present field survey. Additionally, given the nature of its formation, this redeposited site has lost all horizontal and stratigraphic integrity. These factors suggest that its informational value is quite limited, and hence, it does not appear to meet CRHR eligibility criteria either. Finally, the CRHR eligibility of the in situ lithic scatter present on the northern end of the proposed left-turn lane construction project area (P-17-002508) cannot be determined based on findings of the assessment-level studies conducted at the site to date. However, it is known that the site location is underlain by soils of the Jafa Series, which	

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					have been dated to the Early Pleistocene period (1.9 million to 25,000 years ago), long before the earliest evidence of human occupation in the area. For this reason, the presence of a substantial subsurface component is highly unlikely. Nevertheless, it is recommended that the site be avoided during all Project-related (construction of the proposed left-turn lane) actions. If the site cannot be avoided during Project-related (construction of the proposed left-turn lane) ground-disturbance, it is recommended that an archaeologist meeting the Secretary of Interior's Qualifications Standards be present to monitor this work. It is possible, but unlikely, that significant artifacts or human remains could be discovered during project construction. If, however, significant artifacts or human remains of any type are encountered it is recommended that the project sponsor contact the culturally affiliated tribe and a qualified archaeologist to assess the situation. The Sheriff's Department must also be contacted if any human remains are encountered. In addition, notification of the project was sent to the local tribes on December 18, 2020. The Middletown Rancheria Tribal Historic Preservation Department (Middletown Rancheria THPD) responded with an email dated January 4, 2021, and determined that, the Ranch is within the aboriginal territories of the Middletown Rancheria. The Middletown Rancheria THPD requested additional information regarding the project as well as a consultation regarding the project. In an email dated April 21, 2021, to Mr. Eric Porter from the County Community Development Department, the Middletown Rancheria THPD informed the County that Middletown Rancheria THPD and Bar X Farms, LLC were in the process of finalizing a Cultural Resources Monitoring (CRM) agreement for the proposed project. A CRM agreement between Bar X Farms, LLC and the Middletown Rancheria THPD was finalized on April 28, 2021. **Impacts would be Less than Significant with Mitigation Measures CUL-1 through CUL-3 incorporated.**	
XIX. UTILITIES AND SERVICE SYSTEMS *Would the project:*						
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?			X		The proposed project would be served by an existing onsite irrigation well. The proposed project would be served by portable toilets located at each of the cultivation sites. No new onsite wastewater treatment septic system is proposed. The proposed cannabis operation would utilize approximately 80 acres (5%) of the 1594.6 acre Ranch. No new impervious area is proposed. There would be an increase in impervious area associated with widening State Highway 29 to construct the left-turn lane. However, this increase is linear in nature, and would be only a few feet over about 0.5 miles. Increased runoff would be from sheet flow directed and incorporated into the existing drainage system on State Highway 29. The project would not significantly increase the rate or amount of surface runoff or create or contribute to runoff water which would exceed the capacity of an existing drainage system.	1, 3, 4, 5, 29, 32, 33, 34, 37

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					Power for the cultivation operations would be powered using small, localized solar power with backup battery storage. Additionally, water from the irrigation well would be pumped using a 75 Horse Power (HP) pump powered by a 120 kilowatt (kW) diesel generator. The generator would be utilized for operation of the 75 HP well pump. Pursuant to Article 27, Section (at)1.iii of the Lake County Code, the proposed generator use would be allowed. Therefore, the proposed project would not result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. **Less than Significant Impact**	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?		X			The project site does not have a municipal water supply service and relies on well water for domestic water and proposed cannabis irrigation and an existing appropriative water right (Division of Water Rights Permit for Diversion and Use of Water #20993) for irrigation of the Bar X Ranch (non-cannabis). The proposed project would use water from an existing, onsite well to irrigate cannabis. On July 27, 2021, the Lake County Board of Supervisors passed an Urgency Ordinance (Ordinance 3106) requiring land use applicants to provide enhanced water analysis during a declared drought emergency. Ordinance 3106 requires all projects that require a CEQA analysis of water use prepared by a licensed professional experienced in water resources and a Drought Management Plan (DMP) depicting how the applicant proposes to reduce water during a declared drought emergency. A Hydrology Report and DMP were prepared for the proposed project in compliance with Ordinance 3106. The results are incorporated herein. **Project Water Demand**: The CalCannabis Environmental Impact Report (CDFA, 2017) uses 6.0 gallons per day per plant as an estimated water demand for cannabis cultivation. This is 1.0 gallons (gpd) per plant more than reported by Bauer et. el. (2015), who reported up to 5.0 (gpd) per plant (18.9 Liters/day/plant). Using the more conservative estimate of 6.0 gpd, and assuming there are approximately 500 plants per acre of canopy (CDFA, 2017), the demand is 3,000 gpd (2.1 gallons per minute [gpm]) per acre of canopy; this use rate is consistent with the Water Use Management Plan section (Section 16.2) of the project's Property Management Plan. The total estimated water demand is as follows: Daily: 186,300 gpd (130.4 gpm) Yearly (cultivations season ranges between 120 and 180 days): 68.6 to 102.9 acre-feet (AF) **Water Source and Supply**: There is one (1) existing, permitted groundwater well that would be used for cultivation (Lat/Long 38.76947, -122.59708). The well is approximately 215 feet deep and was drilled in January 2021. The well is screened at two water bearing intervals, 40 and 60 feet and 180 and 220 feet below the ground surface (bgs). During the drilling of the well, the depth of first water was at 60 feet bgs and the static water level was estimated to be 30 feet bgs. When the well was drilled, it was determined to have a yield of 800 gpm (1290.4 acre-feet per year). The potential daily demand of 130.4 gpm represents 16.3% of the well yield and	1, 3, 4, 5, 29, 32, 33, 34, 36, 37, 51, 52

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
					between 4.9-8.0% of the annual potential well production in acre-feet. A 4-hour well pump test was conducted on October 19 and 20, 2021 by Pollack and Sons Pump. The pump test was conducted with the existing 75 HP pump with a maximum pump rate of 625 gpm. The static water level at the beginning of the test was 34 feet bgs. During the test, the water level dropped to 140 feet bgs where it remained for the duration of the pump test. The well sustained a production capacity of 625 gpm throughout the entire 4-hours. After 24-hours, the water level returned to 34 feet bgs. Pollack and Sons Pump reported that the well could produce more water with a larger pump installed. The test was conducted during an extreme drought, at the end of a dry season. The test results validate the yield reported on the Well Completion Report for the well. **Groundwater Basin Capacity and Recharge**: The theoretical storage capacity of the water source's water-bearing formation can be estimated by multiplying the volume of the aquifer by the specific yield. The area of the water-bearing formation is assumed to be the area associated with the geologic units of the formation in which it is situated. The thickness is estimated as the difference in the static groundwater level and the maximum aquifer depth. A range in values for the specific yield (effective porosity) was obtained from documented literature values, assuming the water-bearing formation is comprised of sandstone. According to the Hydrology Report the estimated theoretical storage capacity is between 8,869 AF and 53,214 AF. The annual groundwater recharge was estimated in the Hydrology Report assuming recharge area of 768 acres consisting of the Crazy Creek Watershed within the Bar X Ranch. The estimated annual recharge is 184 AF during an average rainfall year and 148 AF during a dry rainfall year. The project's demand is only 8.0% of the annual well production, only 0.2% to 3% of the estimated aquifer storage capacity, and there is sufficient recharge to meet the project's demand during both average and dry years. The dry year recharge exceeds the project's demand, indicating there would be sufficient recharge during to meet the project's demand during multiple dry years. In addition, a Drought Management Plan has been prepared for the project describing operational water monitoring and conservation measures and describing how the applicant proposes to reduce water use during a declared drought emergency to ensure both the success [of the project] and decreased impacts to surrounding areas. **Impacts would be Less Than Significant Impact with Mitigation Measure HYD-1 incorporated.**	
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?			X		The proposed project would be served by portable toilets located at each of the cultivation sites. The portable toilets would be serviced regularly by a local, licensed service provider. **Less Than Significant Impact**	2, 5

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
d) Generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure?			X		According to the Property Management Plan, the volume of solid waste per year per acre of cultivation would generate approximately 5,000 to 10,000 pounds (17 to 34 cubic yards) of solid waste and about 60,000 to 120,000 pounds of organic waste. The majority of organic waste would be composted or mulched on site. All recyclable waste would be collected separately from non-recyclable waste. All waste and recycling would be hauled to the Lake County Transfer and Recycling Facility where it would be sorted and deposited at the Eastlake Sanitary Landfill (Landfill). The Landfill is well below its current capacity of 6,050,000 cubic yards, with 2,859,962 cubic yards (47%) remaining capacity. In addition, the Lake County Public Services Department is proposing an expansion of the Landfill to extend the landfill's life to about the year 2046; increasing the landfill footprint from 35 acres to 56.6 acres. Therefore, the Landfill would have sufficient capacity accommodate the solid waste generated by the project. **Less than Significant Impact**	1, 2, 3, 34, 36
e) Negatively impact the provision of solid waste services or impair the attainment of solid waste reduction goals?			X		The applicant would compost or chip / mulch, and spread the cannabis waste onsite, and the estimated total amount of solid waste from this project would be approximately 60,000 to 120,000 pounds annually. **Less than Significant Impact**	1, 3, 4, 5, 29, 32, 33, 34, 36
f) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X		The County uses a standard condition of approval regarding compliance with all Federal, State and Local management for solid waste. The cultivator would be required to chip and spread any vegetative waste on-site, and the estimated total amount of solid waste from this project is 60,000 to 120,000 pounds annually. **Less than Significant Impact**	1, 3, 4, 5, 29, 32, 33, 34, 36

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
XX. WILDFIRE *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*						
a) Impair an adopted emergency response plan or emergency evacuation plan?		X			The mapped fire risk on the site is moderate high. The project site is located in the CALFIRE State Responsibility Area (SRA) and is subject to all state fire safe related codes. Access to the sites are taken from on-site driveways accessed from State Highway 29. On-site driveways would be required to meet PRC 4290 and 4291 CALFIRE Standards through the Conditions of Approval. The project proposes approximately twenty-seven (27) 5,000 gallon water storage tanks. Should this site need to evacuate, State Highway 29 would be the evacuation route. Like much of Lake County, this area is prone to wildfire. This site is no more prone to excessive fire risk than other sites in Lake County. The applicant would adhere to all regulations of California Code Regulations Title 14, Division 1.5, Chapter 7, Subchapter 2, and Article 1 through 5 shall apply to this project; and all regulations of California Building Code, Chapter 7A, Section 701A, 701A.3.2.A Approval of this permit would not further exacerbate the risk of wildfire, nor would it interfere with emergency evacuation should this be necessary. **Less than Significant Impact with GEO-6 incorporated.**	1, 2, 4, 5, 6, 20, 23, 31, 35, 37, 38
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?			X		The site driveway allows for fire access. Approval of this project would not increase the fire risk in this area. The Ranch has moderate and very high fire risk areas. The proposed project areas are located within the moderate fire risk areas. In addition, the cultivation areas would help to act as a fire break should one be needed. **Less than Significant Impact**	1, 2, 4, 5, 6, 20, 23, 31, 35, 37, 38
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?			X		The site is served by State Highway 29, a State maintained highway. Access to the cultivation areas would be via existing ranch roads ranging between 14-feet and 20-feet with gravel and native material, and turnouts no more than 400-feet apart. No other infrastructural improvements appear to be necessary for this project. On-site driveways would be required to meet PRC 4290 and 4291 CALFIRE Standards through the Conditions of Approval. **Less than Significant Impact**	1, 2, 4, 5, 6, 20, 23, 31, 35, 37, 38
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?			X		The site is generally flat near the cultivation areas; there is little chance of risks associated with post-fire slope runoff, instability or drainage changes based on the lack of site changes that would occur by this project. **Less than Significant Impact**	1, 2, 4, 5, 6, 20, 23, 31, 35, 37, 38
XXI. MANDATORY FINDINGS OF SIGNIFICANCE						

IMPACT CATEGORIES*	1	2	3	4	All determinations need explanation. Reference to documentation, sources, notes and correspondence.	Source Number**
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?		X			Per the impact discussions above, the potential of the proposed project to substantially degrade the environment is less than significant with incorporated mitigation measures. As described in this Initial Study, the proposed project has the potential for impacts related to Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards & Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, Utilities, and Wildfire. However, these impacts would be avoided or reduced to a less-than-significant level with the incorporation of avoidance and mitigation measures discussed in each impact section. **Impacts would be Less than Significant with Mitigation Incorporated.**	All
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)?		X			Potentially significant impacts have been identified related to Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards & Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, Utilities, and Wildfire. These impacts in combination with the impacts of other past, present and reasonably foreseeable future projects could cumulatively contribute to significant effects on the environment. However, implementation of and compliance with mitigation measures identified in each section as project conditions of approval would avoid or reduce potential impacts to less than significant levels and would not result in cumulatively considerable environmental impacts. **Impacts would be Less than Significant with Mitigation Measures Incorporated.**	All
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X			The proposed project has potential to result in adverse indirect or direct effects on human beings in the areas of Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards & Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, Utilities, and Wildfire. Implementation of and compliance with mitigation measures identified in each section as conditions of approval would not result in substantial adverse indirect or direct effects on human beings and impacts would be considered less than significant**.** **Impacts would be Less than Significant with Mitigation Measures Incorporated.**	All

* Impact Categories defined by CEQA.

Source List

1. Lake County General Plan (2008)
2. Lake County GIS Database
3. Lake County Code (Chapter 21): Zoning Ordinance
4. Middletown Area Plan (2010)
5. Bar X Farms Cannabis Cultivation Application – Major Use Permit
6. United States Geological Survey (USGS) Topographic Maps
7. United States Department of Agriculture (USDA), Soil Survey of Lake County, California (*https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/CA033/0/lake.pdf*)
8. Lake County Important Farmland Map, California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP)

9. California Department of Transportation's (Caltrans) Scenic Highway Mapping Program, *(https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways)*
10. Lake County Serpentine Soil Mapping
11. California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (https://www.wildlife.ca.gov/Data/CNDDB)
12. United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI)
13. Biological Resources Assessment for the Cannabis Cultivation Operation at Bar X Ranch, Middletown California updated September 30, 2021,Botanical Survey Report for the Cannabis Cultivation Operation at Bar X Ranch, Middletown, California dated April 16, 2021, and Natural Environment Study (NES) for State Route 29 Left-Turn Lane dated October 2021, all prepared by Natural Investigations, Co.
14. Cultural Resources Assessment for the Cannabis Cultivation Operation at 20103 South State Highway 29, Middletown, CA, prepared by Natural Investigations Company, updated October 2021.
15. California Historical Resource Information Systems (CHRIS); Northwest Information Center (NWIC), Sonoma State University; Rohnert Park, CA.
16. Water Resources Division, Lake County Department of Public Works Wetlands Mapping
17. USGS. Geologic Map and Structure Sections of the Clear Lake Volcanic, Northern California, Miscellaneous Investigation Series (1995)
18. California Department of Conservation (DOC), California Earthquake Hazards Zone Application (2021) (*https://www.conservation.ca.gov/cgs/geohazards/eq-zapp*)
19. California Department of Conservation (DOC), Division of Mines and Geology (DMG), Landslide Hazards in the Eastern Clear Lake Area, Lake County, California, Landslide Hazard Identification Map No. 16, Open –File Report 89-27 (1990)
20. Lake County Emergency Operations Plan (July 2020)
21. Lake County Hazardous Waste Management Plan (adopted 1989)
22. Lake County Airport Land Use Compatibility Plan(adopted 1992)
23. California Department of Forestry and Fire Protection (CAL FIRE) - Fire Hazard Mapping
24. California State Water Resources Control Board (SWRCB), National Pollution Discharge Elimination System (NPDES) Construction General Permit Order 2009-0009-DWQ (2009)
25. Federal Emergency Management Agency Flood Hazard Maps
26. Lake County Aggregate Resource Management Plan (adopted 1992)
27. Lake County Bicycle Plan
28. Lake County Transit for Bus Routes
29. Lake County Environmental Health Division
30. Lake County Code (Chapter 30): Grading Ordinance
31. Lake County Natural Hazard database
32. Lake County Countywide Integrated Waste Management Plan and Siting Element (1996)
33. Lake County Water Resources Department
34. Lake County Waste Management Department
35. California Department of Transportation (Caltrans)
36. Lake County Air Quality Management District website
37. South Lake County Fire Protection District
38. Site Visit – May 18, 2020
39. United States Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS), Web Soil Survey
40. California Department of Toxic Substances Control (DTSC), Hazardous Waste and Substances Sites List (*www.envirostor.dtsc.ca.gov/public*)
41. State Water Resources Control Board (SWRCB) Cannabis Policy and General Order (*https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2019/wqo2019_0001_dwq.pdf*)
42. Lake County Groundwater Management Plan (March 31, 2006) and Lake County Water Inventory Analysis (March 2006)

(*http://www.lakecountyca.gov/Government/Directory/WaterResources/Programs___Projects/Groundwater_Management.htm*)
43. Lake County Rules and Regulations (LCF) for On-Site Sewage Disposal
44. Lake County Code: Sanitary Disposal of Sewage (Chapter 9: Health and Sanitation, Article III)
45. California Department of Transportation (Caltrans), Traffic Census Program. (*https://dot.ca.gov/programs/traffic-operations/census*)
46. California Department of Transportation (Caltrans), Highway Design Manual, Section 200
47. California Department of Water Resources (DWR), Bulletin 118 – Coyote Valley Groundwater Basin (*https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/5_018_CoyoteValley.pdf*)
48. California Department of Water Resources (DWR), Bulletin 118 – Collayomi Valley Groundwater Basin (*https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/5_019_CollayomiValley.pdf*)
49. California Department of Water Resources (DWR), Sustainable Groundwater Management Act Basin Prioritization Dashboard (*https://gis.water.ca.gov/app/bp-dashboard/final/*)
50. Focused Transportation Analysis for the Bar X Ranch Cultivation Project prepared by W-Trans. October 6, 2021.
51. Ordinance 3106 Hydrology Report, prepared by NorthPoint Consulting Group, Inc. revised November 2021.
52. Drought Management Plan for Bar X Farms, LLC, prepared by NorthPoint Consulting Group, Inc. revised November 2021.
53. California Department of Food and Agriculture (2017) CalCannabis Cultivation Licensing Program Draft Program Environmental Impact Report. State Clearinghouse #2016082077. Prepared by Horizon Water and Environment, LLC, Oakland, California. 484 pp.
54. Analytical Environmental Services (AES). (2020). Draft Environmental Impact Report Guenoc Valley Mixed Use Planned Development Project. February 2020.