Attachment 6

NORTHPOINT
CONSULTING GROUP, INC.

REGISTERED PROFESSIONAL ENGINEER
ANNJANETTE DODD
No. 77756
Exp. 6/30/2023
CIVIL
STATE OF CALIFORNIA

TECHNICAL MEMORANDUM

To: Lake County Community Development Department

From: Annjanette Dodd, PhD, CA PE #77756 Exp. 6/30/2023

Date: May 27, 2022

Subject: Canna Factory LLC
Ordinance 3106 Hydrology Report
17900 Cantwell Ranch Road, Lower Lake, California (APN: 049-290-01)

INTRODUCTION AND PURPOSE

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 include the following items in a Hydrology Report prepared by a licensed professional experienced in water resources:

- Approximate amount of water available for the project's identified water source,
- Approximate recharge rate for the project's identified water source, and
- Cumulative impact of water use to surrounding areas due to the project.

The purpose of this Technical Memorandum (TM) is to provide the information required by Ordinance 3106. Ordinance 3106 also requires a Drought Management Plan (DMP) depicting how the applicant proposes to reduce water use during a declared drought emergency. The DMP for this project has been submitted as a separate document.

PROJECT LOCATION

The project is located at 17900 Cantwell Ranch Road, Lower Lake, California (APN: 049-290-01). The property area amounts to 56.36 acres, as per the Lake County Parcel Viewer web application. The cultivation area is located approximately 2.4 miles southeast of Lower Lake and is accessed from Spruce Grove Road, off SR 29. (Attachment 1).

PROPOSED PROJECT

The applicant, Canna Factory LLC, proposes to permit commercial cannabis cultivation in accordance with the Lake County Zoning Ordinance (Article 27). The proposed project is for a Major Use Permit (UP) for 40,500 sq. ft. (0.93 acres) of mixed light cannabis cultivation. The proposal includes the development of facilities appurtenant to cultivation, storage sheds, the appropriate water storage and irrigation infrastructure.

SITE DESCRIPTION

The site is accessed by a private road off Cantwell Ranch Rd. The subject property is designated as 'SPLIT' 'Agricultural' and 'Rural Lands' zoning, with a General Plan land use designated the same. There are multiple existing buildings on APN 049-290-01. The Biological Resources Assessment (Rhyzl, 2021) classifies the three principal ecological communities on the project parcel as Douglas Fir Forest Alliance, disturbed grassland, and riparian woodland. The Douglas Fir Forest Alliance primarily occurs in the undeveloped northern portion of the property, whereas the southern half of the property is disturbed grassland with some building development and riparian woodland corresponds with a Class III watercourse on the project parcel. The topography of the cultivation area is comprised of rolling hills in the northern portion of the property and relatively low-gradient grassland in the southern portion of the property, with elevations ranging from 1,440 to 1,510 feet (Rhyzl, 2021). The Class III watercourse on the project property flows into Copsey Creek (HUC12-180201160601), tributary to the Cache Creek watershed.

WATER SOURCE AND SUPPLY

The irrigation water source is an existing groundwater well (Lat/Long: 38.88231, -122.58029). The well was drilled on January 31st, 2022, to a depth of 214 ft below ground surface (bgs) through 40 ft of soft topsoil and clays into interbeds of shale, clay, fractured basalt, and hard basalt with quartz. Water was noted in the geologic log at 84 and 168 ft bgs, static water level was recorded at 16 feet bgs. The well casing was installed to a depth of 194 ft bgs with one 40 ft screened interval and three 20 ft screened intervals occurring between 24 and 184 ft bgs (Attachment 2).

The yield at the time of drilling was estimated to be 7 gallons per minute (gpm). This was determined using a 6-hour well production test was completed by JAK Drilling & Pump on February 3rd, 2022 (Attachment 3). The initial pumping rate was 25 gpm and tapered down to 7 gpm where the water level stabilized at about 177.5 feet bgs after approximately 1-hour, where it remained for the rest of the pump test. The well water level began to recharge immediately upon cessation of pumping and recovered to 29 ft bgs within 30 minutes of cessation of pumping. The well production test noted a technical difficulty in which "…the pump broke suction within 40-minutes of the test starting", to which the operators reduced the pump rate to 7 gpm, where it stabilized for the remainder of the test.

IRRIGATION METHOD AND WATER STORAGE

The project proposes to use the existing permitted groundwater well to fill ten (10) 5,000-gallon water tanks adjacent to the proposed cultivation areas, amounting to a total of 50,000-gallons of storage (Attachment 1). Water from the storage tanks will be piped to drip irrigation systems in individual greenhouses. Drip lines will be sized to irrigate the cultivation areas at a slow rate to maximize absorption and prevent runoff. Drip irrigation systems, when implemented properly, conserve water compared to other irrigation techniques.

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 gallon (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 (CDFA, 2017), the demand is 3,000 gpd (2.1 gallons per minute [gpm]) per acre of canopy; however, this is an average daily demand over the cultivation period which is lower during seedling/vegetative states and higher during the flowering period. The Property Management Plan for the project states a slightly higher demand (Section 12(b)) of 6,970 gpd (0.16 gallons per sq ft) per acre of canopy during the flowering period and 4,180 gpd (0.096 gallons per sq ft) per acre of canopy during the vegetative period. Assuming 35% of the time the cultivation is in the flowering state and 35% it is in the vegetative state, the average daily demand per acre of canopy is 5,160 gpd per acre of canopy. The total estimated irrigation water demand, for 0.93 acres of cannabis canopy is as follows:

- Average Daily – 4,800 gpd (3.3 gpm)
- Maximum Daily (Flowering Period) – 6,500 (4.5 gpm)
- Yearly (cultivation will be a 300-day outdoor season):
    - 4.4 acre-feet per year (AFY) or 1,438,700 gallons per year

The estimated irrigation water demand reported above is an average daily rate over the course of the growing season; however, seasonal water demand likely varies in response to temporal and environmental variables (e.g., temperature, relative humidity, wind, plant age and size, etc.).

GROUNDWATER BASIN INFORMATION AND HYDROGEOLOGY

The project water source is approximately 1.75 miles south of the southern-most boundary of the Lower Lake Valley Groundwater Basin (LLVGB), identified as California Bulleting 118 Groundwater Basin #5-30 (Figure 1).

Lower Lake Valley Groundwater Basin **(LLVGB)**

The LLVGB is a long, narrow 2,400-acre basin located at the southeast end of Clear Lake. The aquifer system of the LLVGB consists of two water bearing formations primarily composed of deposits of the Quaternary alluvium, 50 to 75-feet thick, and Plio-Pleistocene Cache Formation, underlying the younger alluvial deposits over about two-thirds of the basin. Recharge in the LLVGB is derived from precipitation and seepage from Herndon, Copsey, and Seigler Canyon Creeks, and Clearlake as well as infiltration of precipitation over the Cache Formation. Storage capacity is estimated to range from 3,000 to 4,000 acre-feet. Additional capacity is available as part of the Cache Formation; however, thickness and specific yield of that formation is unknown. High end well yields in the Cache Formation range between 150 and 240 gpm.

The LLVGB has not been identified by the California Department of Water Resources (DWR) as a critically overdrafted basin. Critically overdrafted is defined by DWR as, "A basin subject to critical overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts." In addition, as part of the California Statewide Groundwater Elevation Monitoring (CASGEM) Program, DWR created the CASGEM Groundwater Basin Prioritization statewide ranking system to prioritize California groundwater basins in order to help identify, evaluate, and determine the need for additional groundwater level monitoring. California's groundwater basins were classified into one of four categories high-, medium-, low-, or very low-priority. LLVGB is ranked as very low-priority basins by the CASGEM ranking system (DWR, 2021).

Copsey Creek Groundwater Basin (CCGB)

The project water source and cultivation area are located at the eastern edge of an alluvial valley within the Copsey Creek Watershed (Figure 1). Although not identified as a California Bulletin 118 Groundwater Basin, USGS topographic mapping and Well Completion Reports (WCRs) within the area indicate the presence of an alluvial basin associated with the lower Copsey Creek Watershed (Figure 1, Figure 2). The Copsey Creek Watershed drains towards the north and is tributary to Cache Creek, which is tributary to the Sacramento River miles to the east. The estimated alluvial area extent of the Copsey Creek Groundwater Basin (CCGB) is approximately 1,630 acres or 2.54 square miles (sq. mi.). Groundwater resources around Clear Lake primarily occur in unconsolidated alluvium comprised of clay, silt, sand, and gravel deposits, where the main sources of groundwater recharge are from infiltration of precipitation and percolation of streamflow. In CCGB, recharge is likely to occur over the Copsey Creek Watershed.

WCRs maintained by the California Department of Water Resources in the area overlying the CCGB were reviewed to garner an understanding of the characteristics of the CCGB. Sixty (60) WCRs were reviewed, 40 of which were drilled into the alluvium, with alluvium depths ranging between 15 and 66 feet bgs (Attachment 4). Many of the WCR geologic logs reported wells drilled to depths beyond alluvium and into underlying volcanic deposits or marine sedimentary basement rock, generally comprised of shales and sandstones. Similar to the adjacent LLVGB, there are likely at least two water bearing formations associated with the CCGB, an upper alluvial formation and additional underlying geologic unit(s) of mixed Upper and Lower Cretaceous, Jurassic, and Paleocene sandstones, shales, and conglomerates (Figure 3). The California Geologic Map also includes intermixed Quaternary volcanic flow rocks and minor pyroclastic deposits present on the eastern margin of the CCGB. Based on the depth of the project well and the WCR geologic log, the well likely draws water from aquifers associated with both fine alluvium sediments and underlying basalt clays, and quartz geologic units.

The storage capacity of the CCGB can be estimated by multiplying the volume of the aquifer by the specific yield of unconsolidated alluvial sediments. The aquifer thickness is estimated as the difference between the average depth of alluvium and the average depth to static groundwater table (Attachment 4). A specific yield of 8% for unconsolidated alluvial sediments used in similar calculations for nearby alluvial groundwater basins was used (Upson, 1955; CDWR, 2003). The storage capacity of the CCGB is approximately 2,600 AF.

- Aquifer Area: 1,630 acres
- Average Static Groundwater Depth: 17 ft BGS
- Average Depth of Alluvium: 37 ft BGS
- Average Aquifer Thickness: 20 ft
- Specific Yield: 8%
- Calculated Storage Capacity: 2,600 AF

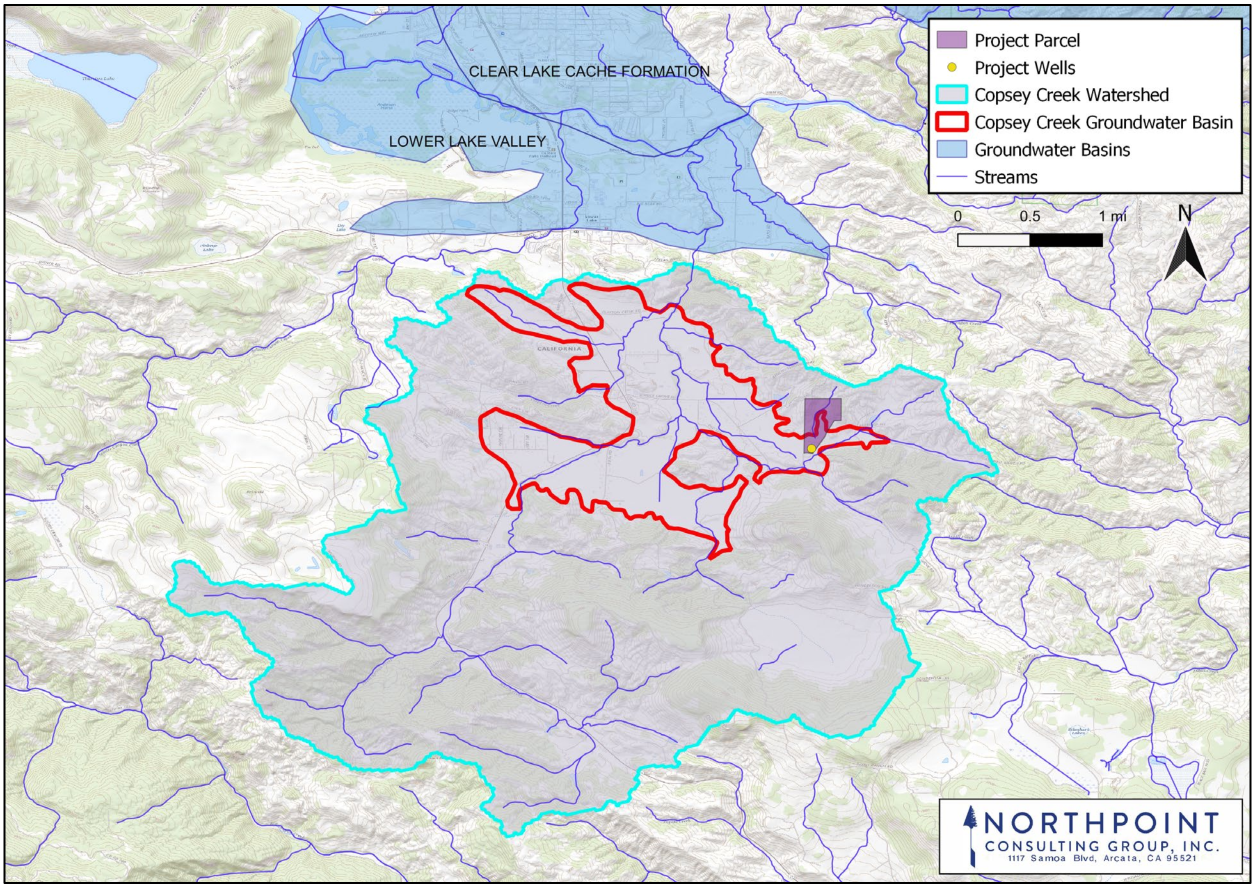

Figure 1: Project Parcel, Copsey Creek Watershed, Copsey Creek Groundwater Basin, and nearby groundwater basins.

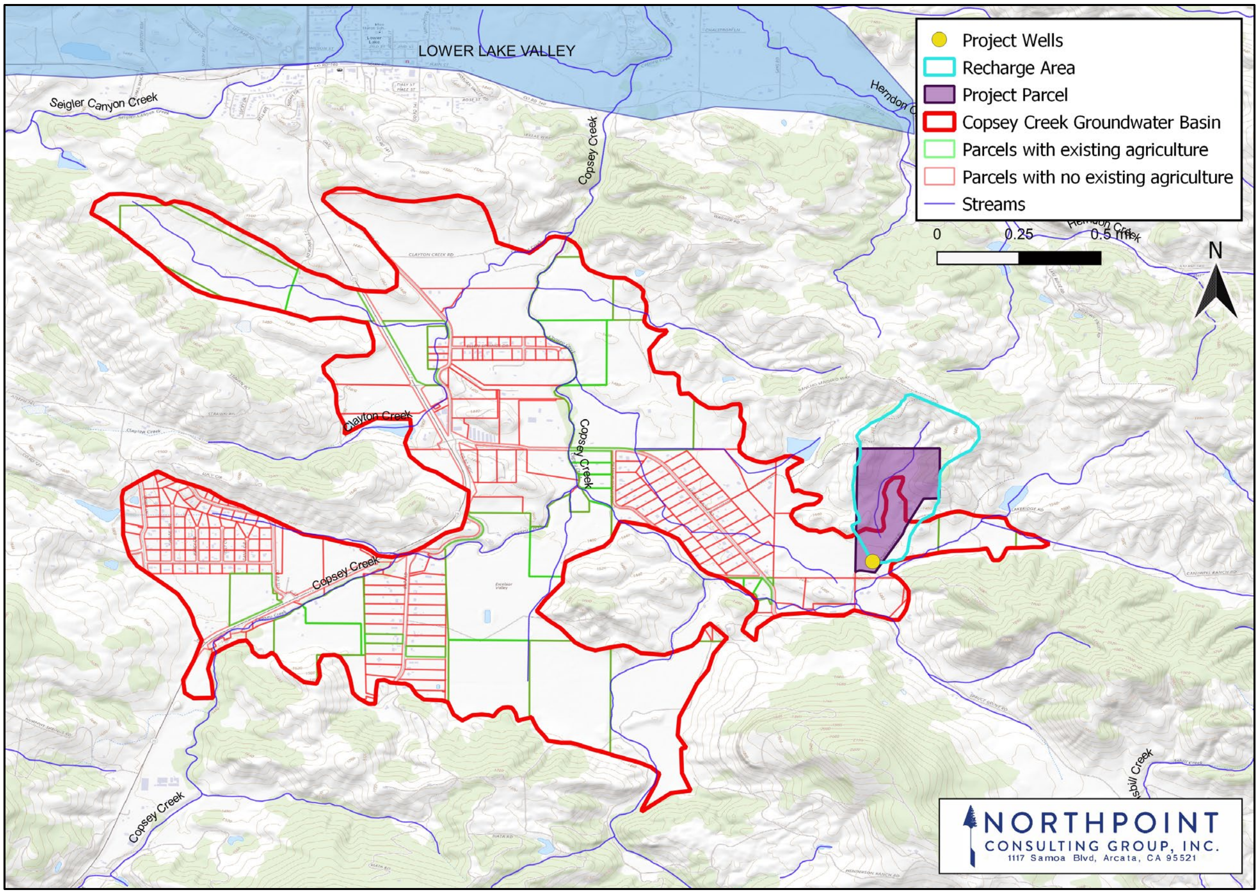

Figure 2: The Copsey Creek Groundwater Basin, the project parcel and well, project recharge area, and county parcels intersecting the Copsey Creek Groundwater Basin.

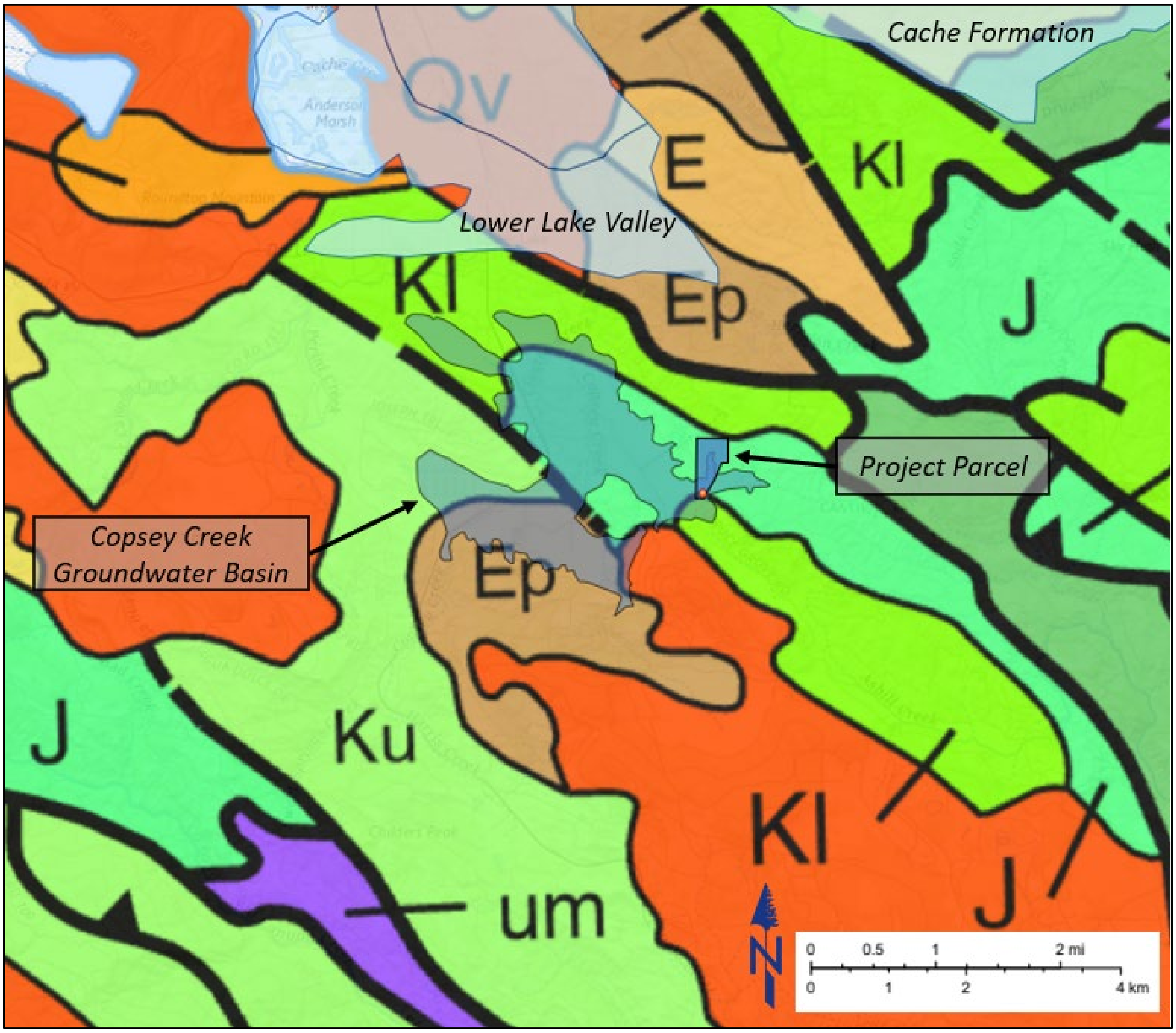

Figure 3: Geologic Map of California with the CCGB and location of the project irrigation well marked by the red point. 'J' = Jurassic shale, sandstone, conglomerate, chert, and slate with minor pyroclastic rocks and 'Kl' = Lower Cretaceous shale, sandstone, and conglomerate.

Water Demand in the CCGB

The existing water demand in the CCGB was estimated herein based on the distinct County parcels intersecting with the CCGB area. Since there is no existing water service district in the CCGB, it is assumed that water in the basin is sourced by groundwater wells. There are 276 parcels intersecting the CCGB area.

Domestic – There are about 250 households that potentially rely on groundwater for domestic use in the CCGB. Domestic water use is approximately 300 gallons per day (gpd) per household (How We Use Water | US EPA). The annual domestic groundwater demand in the CCGB is approximately 84 AF (3.2% of the total storage capacity of the CCGB).

Agriculture – Agricultural water demand was estimated using Lake County Crop type percentages and irrigation demands provided by the Lake County Water Demand Forecast (CDM, 2006, Table 3-1) and assuming that 50% of the agricultural land (50% of 977 acres) is in crop production. The estimated annual agriculture demand is provided in Table 1. The approximate current annual agriculture demand is 1,025 AF, which is 39% of the storage capacity.

Table 1. Estimated agriculture demand in the CCGB.

Crop	% of Farmland	Area (acres)	Demand (AF/acre)	Total Demand (AF/year)
Wine Grapes	50	244	0.6	147
Pasture	20	98	4.4	430
Truck Crops	1	5	1.9	9
Pears	17	83	2.9	241
Rice	5	24	4.5	110
Walnuts	6	29	3.0	88
Total	**99**	**483**	**17.3**	**1,025**

The potential annual water demand in the CCGB is 1,109 AF, which is 42.7% of the basin's storage capacity. These are likely conservative estimates that assume *maximum* water use due to the assumption of exclusive groundwater use to meet water demands.

Groundwater Source Recharge Rate

Annual groundwater recharge can be estimated using a water balance equation, where recharge is equal to precipitation (P) less runoff (Q) and abstractions that do not contribute to infiltration (e.g., evapotranspiration). A simple tool that can be used to estimate runoff and abstractions, that uses readily available data, is the Natural Resources Conservation Service (NRCS) Curve Number (CN) Method (NRCS, 1986). The CN is an empirical parameter used to predict runoff or infiltration from excess rainfall. Determination of the CN depends on the watershed's soil and cover conditions, cover type, treatment, and hydrologic condition. The CN Method runoff equation is

$$Q = \frac{(P - I_a)^2}{(P - I_a) + S}$$

Where,

Q = runoff (inches)
P = rainfall (inches)
S = potential maximum retention after runoff begins (inches) and
I_a = initial abstraction (inches)

The initial abstraction (I_a) represents all losses before runoff begins, including initial infiltration, surface depression storage, evapotranspiration, and other factors. The initial abstraction is estimated as $I_a = 0.2S$. S is related to soil and cover conditions of the watershed through the CN, determined as $S = 1000/CN - 10$. Using these relations, the runoff equation becomes:

$$Q = \frac{(P - 0.2S)^2}{(P + 0.8S)}$$

The CN is estimated based on hydrologic soil group (HSG), cover type, condition, and land use over the area of recharge, which is estimated as the area of the watershed contributing to the wells. To estimate the project's share of groundwater recharge, the recharge area was estimated as the contributing area to the wells, which is 84 acres (Attachment 5).

Soils are classified into four HSGs (A, B, C, and D) according to the soils ability to infiltrate water; where HSG A has the highest infiltration potential and HSG D has the lowest infiltration potential. HSGs are based on soil type and are determined from the NRCS Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm).

The recharge area is approximately 84 acres and is comprised of two HSGs: HSG C (18-acres or 21%), and HSG D (66-acres or 79%) (Attachment 5). The cover types are a combination of Douglas Fir forest alliance, disturbed annual grassland/range, and riparian forest. All land cover types were considered in 'fair condition' due to moderate to low land use intensity. The CNs and areas are summarized in Table 2. The weighted CN for the recharge area is 81.

Table 2. Land Use and Curve Numbers.

Land Cover Classification	Land Use Type	HSG	Condition	CN	Area (acres)	Weighted CN
Disturbed Grassland	Range/ Grassland	C	Fair	79	14.4	81
		D		84	6.6	
Douglas Fir Forest Alliance	Woods	C	Fair	70	3.6	
		D		82	59.4	

The PRISM Climate Group gathers climate observations from a wide range of monitoring networks and provides time series values of precipitation for individual locations (https://prism.oregonstate.edu/explorer/). Using the annual precipitation from 1895 to 2020, as predicted by PRISM, the annual average precipitation over this period is 30.2 inches and the minimum precipitation over this period is 6.0 inches (Attachment 6).

Using the above information, and assuming that 100% of the initial abstraction is evapotranspiration (0.47 inches or 3.3 AFY), the estimated annual recharge over the recharge area of 84 acres is 17 AFY during an average year and 13 AFY during a dry year (Table 3).

Table 3. Estimated annual recharge over the recharge area of the project's well.

Recharge Area (acres)	P (inches)	CN	S (inches)	I_a (inches)	Q (inches)	Recharge = $P - Q - {}^*I_a$ (inches)	Recharge (AF)
84	6.0	81	2.35	0.47	3.9	1.9	13
84	30.2	81	2.35	0.47	27.6	2.4	17

CUMULATIVE IMPACT TO SURROUNDING AREAS

The annual water demand of the proposed project is approximately 4.4 AFY. The project recharge area of 84 acres, is only 0.8% of the recharge area of the Copsey Creek Watershed, which is 10,500 acres (Figure 1) according to USGS StreamStats (https://streamstats.usgs.gov/ss/). The estimated recharge over the project parcels is 17 AFY and 13 AFY during an average and dry year, respectively – thus, there is sufficient recharge on an annual basis to meet the project's demand, even during dry years. Although determined for humid basins in the east, the USGS (USGS Fact Sheet 2007-3007) estimated long-term average recharge to be between 10 and 66 percent of precipitation. This would equate to 4.2 - 27.7 AF annual recharge during a dry year and 21.2 – 139.8 AF during an average year, over the 84-acre recharge area. The estimates in Table 3 fall within these ranges for a dry year and below the lower end for an average year. To be conservative, using a recharge value of 4.2 AFY to represent a drought year and 17 AFY to represent an average year, assuming a drought year occurs on average every 5-years, the 5-year average annual recharge would be 14.4 AFY over the 84-acre recharge area – which is sufficient to meet the project's demand.

Over the entire recharge area of 10,500 acres, using conservative recharge estimate of 10% would result in recharge of the CCGB of 525 AFY during a dry year and 17,441 AFY during an average year. Assuming multiple dry years (three dry years) over a 5-year period, the average annual recharge potential would be 7,291 AFY – which is sufficient to meet the CCGB's potential demand of 1,109 AFY.

The well pump test for the project irrigation well demonstrated a stable yield of 7 gpm for the duration of the 6-hour test. Without storage to temper the pump rate, the proposed project requires approximately 3.3 – 4.5 gpm to meet the project water demand. However, the project proposes 50,000 gallons or approximately 7-10 days of storage to meet irrigation demand. Thus, the project would not be required to pump consistently at 7 gpm to meet the projects demand, minimizing the potential impact to the surrounding area and surrounding wells, which are over 175-feet away from the project well.

The estimated storage capacity of the basin is approximately 2,600 AF. The proposed project would utilize about 0.1% of the available storage capacity. Existing annual groundwater demand in the CCGB is approximately 1,109 AFY. Cumulatively, the estimated demand plus the proposed project's demand represents approximately 42.7% of the usable storage capacity of the CCGB. Thus, there is sufficient storage capacity to meet the proposed project's demand.

Even though it appears there is sufficient groundwater recharge and supply to meet the project's demand, 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 water levels in the wells. 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. Ordinance Article 27 Section 27.11(at) 3.v.e. requires the well to have a water level monitor. Recommendations for well water level monitoring are provided below.

<u>Seasonal Static Water Level Monitoring</u>: The purpose of seasonal monitoring of the water level in the well is to provide information regarding long-term groundwater elevation trends. It is recommended that the water level in the well be measured and recorded once in the Spring (March/April), before cultivation activities begin, and once in the fall (October) after cultivation is complete. (note: The California Statewide Groundwater Monitoring Program (CASGEM) monitors semi-annually around April 15 and October 15). Records shall be kept, and elevations reported to the County as part of the project's annual reporting requirements. Reporting shall include a hydrograph plot of all seasonal water level measurements to-date, beginning with the initial measurement. Seasonal water level trends will aid in the evaluation of the recharge rate of the well. For example, if the water level measured during the Spring remains relatively

constant from year to year, then the water source is recharging each year.

Water Level Monitoring During Extraction: The purpose of monitoring the water level in the well during extraction is to evaluate the performance of the well to determine the effect of the pumping rate on the water source during each cultivation season. This information shall be used to determine the capacity and yield of the well to aid the cultivators in determining pump rates and the need for water storage. The frequency of water level monitoring will depend on the source, the source's capacity, and the pumping rate. It is recommended that initially the water level be monitored twice per week or more, and that the frequency be adjusted as needed depending on the impact the pumping rate has on the well water level. Records shall be kept, and elevations reported to the 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 will 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 the 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 the County, for review and approval, demonstrating how the project will mitigate the impacts in the future, including, for example, additional water sources and possibly a reduction in cultivation, if a reduction in water availability has occurred.

Since there is sufficient estimated recharge to meet the project's demand during average and dry years; with the inclusion of 50,000 gallons of water storage, implementation of water conservation measures (refer to the project's PMP and DMP), with required monitoring and reporting, and the requirement of a revised Water Management Plan for review and approval, the proposed project water use would not have a cumulative impact on the surrounding area.

Qualifications of Author

I have a PhD in Water Resources Engineering. In addition, I am a registered Professional Engineer with the State of California with 30-years of experience practicing and teaching Water Resources Engineering, including over 15 years of teaching, practicing, and modeling surface and groundwater hydrology.

Limitations

The study of groundwater hydrology is very complex and often relies on limited data, especially in rural areas. Recommendations and conclusions provided herein are based on professional judgment made using information of the groundwater systems and geology in Lake County, which is limited and allows only for a general assessment of groundwater aquifer conditions and recharge. NorthPoint Consulting Group, Inc. is making analyses, recommendations, and conclusions based on readily available data, including studies and reports conducted by other professionals, Lake County, the State of California, and other consultants hired by the project proponent to prepare technical studies for the proposed project. If additional information or data becomes available for the project area, the recommendations and conclusions presented herein may be subject to change.

ATTACHMENTS:

1. Site Map
2. Well Completion Report
3. Well Pump Test
4. WCR Review Data Summary
5. NRCS Soil Survey Results
6. PRISM Climate Precipitation 1895 to 2020

REFERENCES

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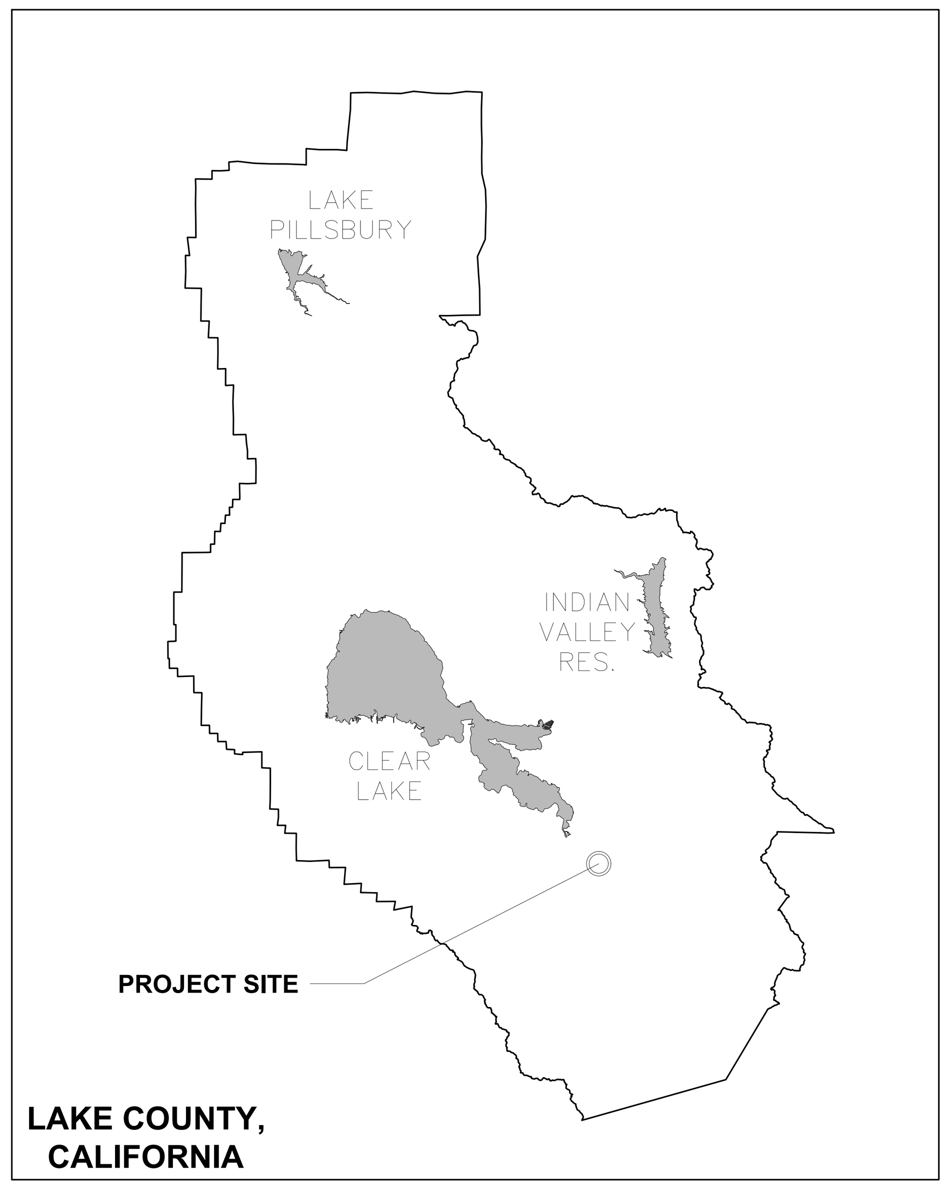
NORTHPOINT
CONSULTING GROUP, INC.

Attachment 1:
Site Map

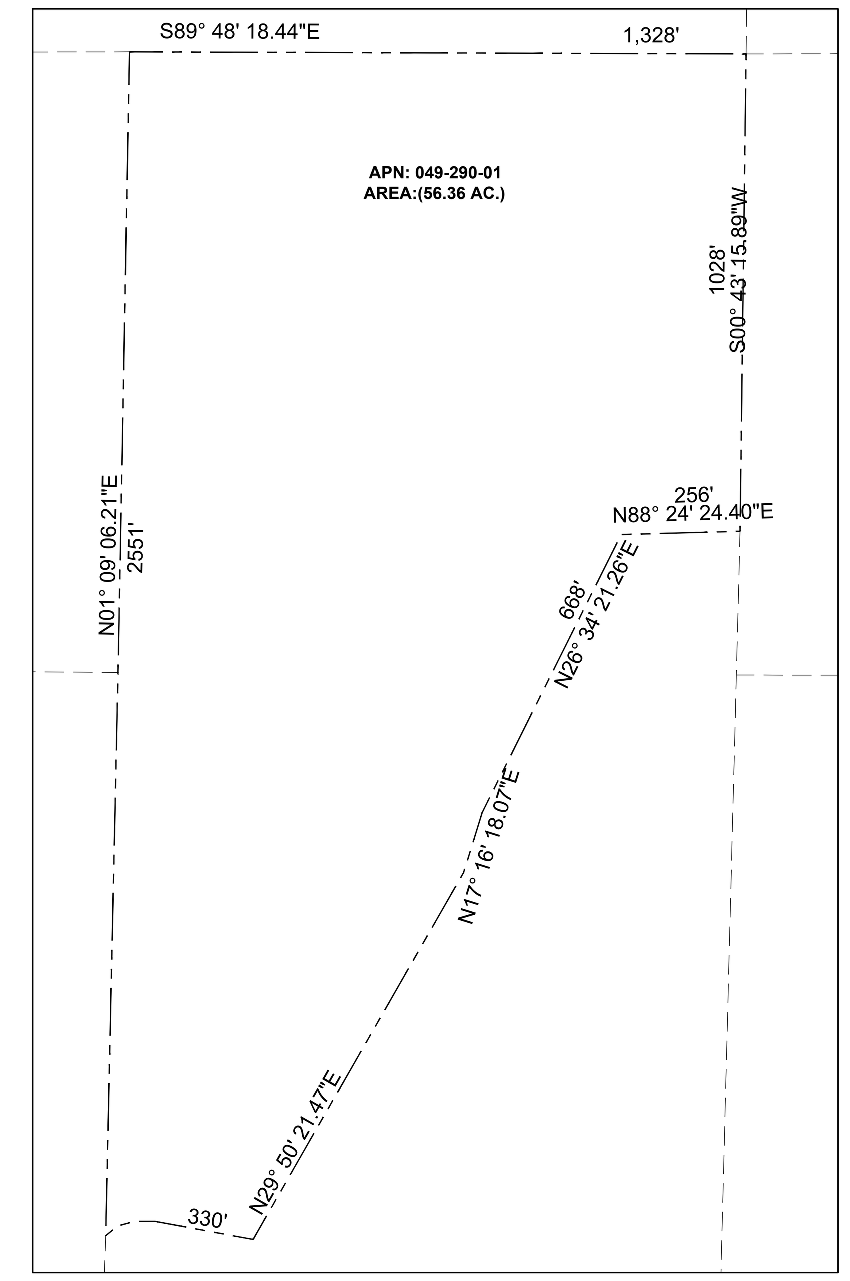
CANNA FACTORY
MAJOR USE PERMIT
FOR
MIXED LIGHT CANNABIS CULTIVATION

17900 CANTWELL RANCH RD.
LOWER LAKE, 95457



LOCATION MAP
NO SCALE

VICINITY MAP
NO SCALE



PARCEL INFORMATION
NO SCALE

PROJECT INFORMATION

APN:	049-290-01
PROPERTY OWNER:	MAVZ GROUP, LLC
ADDRESS:	6651 BLACK OAK DR. UKIAH, CA 95482
PHONE:	(213)-332-3245
EMAIL:	AMERICANNFARMS@GMAIL.COM
APPLICANT:	TONY MANJIKIAN
APPLICANT ADDRESS:	17900 CANTWELL RANCH RD., LOWER LAKE, CA 95497
AGENT:	SEAN CONNELL
COMPANY:	RHYZL
CONTACT:	(P) 707-790-7112 (EMAIL) SEAN@RHYZL.COM

SHEET INDEX

REVISION	DESCRIPTION	BY	DATE

RHYZL
RESEARCH:DESIGN · CONSTRUCT:COMPUTE

118 SOUTH
STATE STREET
UKIAH, CA 95482

APN:
049-290-01
PARCEL AREA
56.36 ACRES
ZONE
A & RL

PARCEL AREA:
2,455,041.6 SQ.FT.
TOTAL STRUCTURAL CULTIVATION:
45,000 SQ.FT.
TOTAL 30'X100' HOOP HOUSE AREA:
36,000 SQ.FT.
TOTAL 30'X100' HARVEST STORAGE
/ADMIN. HOLD AREA
9,000 SQ.FT.

CANNA FACTORY
MIXED LIGHT CANNABIS CULTIVATION
17900 CANTWELL RANCH RD.
LOWER LAKE, CA

COVER

Date: 1/23/22
Scale: NONE
Drawn: DONALD F.
Sheet: 1 of 12

N

0 60 120 240

SCALE: 1" = 120'

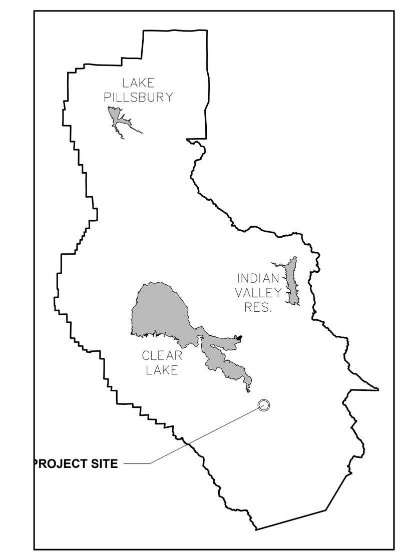
NOTE
NO PUBLIC OR PRIVATE SCHOOLS, DEVELOPED PARKS, DRUG OR ALCOHOL REHABILITATION FACILITIES, LICENSED CHILD CARE FACILITIES, NURSERY SCHOOLS, CHURCHES OR YOUTH ORIENTED FACILITIES ARE LOCATED WITHIN 1,250 FEET OF THE PROPERTY.

LEGEND

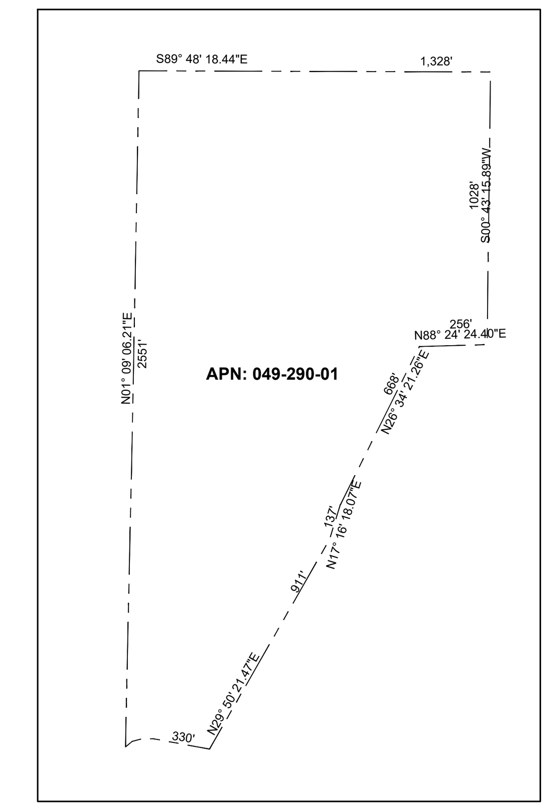
COUNTY BOUNDARY

PARCEL BOUNDARY

CREEK, WASH, SEASONAL CREEK



COUNTY
SITE LOCATION



PARCEL
INFORMATION

REVISION	DESCRIPTION	BY	DATE

RHYZL

RESEARCH:DESIGN · CONSTRUCT:COMPUTE

118 SOUTH
STATE STREET
UKIAH, CA 95482

APN:
049-290-01
PARCEL AREA
56.36 ACRES
ZONE
A & RL

PARCEL AREA:
2,455,041.6 SQ.FT.
TOTAL STRUCTURAL CULTIVATION:
45,000 SQ.FT.
TOTAL 30'X100' HOOP HOUSE AREA:
36,000 SQ.FT.
TOTAL 30'X100' HARVEST STORAGE
/ADMIN. HOLD AREA
9,000 SQ.FT.

CANNA FACTORY
MIXED LIGHT CANNABIS CULTIVATION PLAN
17900 CANTWELL RANCH RD.
LOWER LAKE, CA

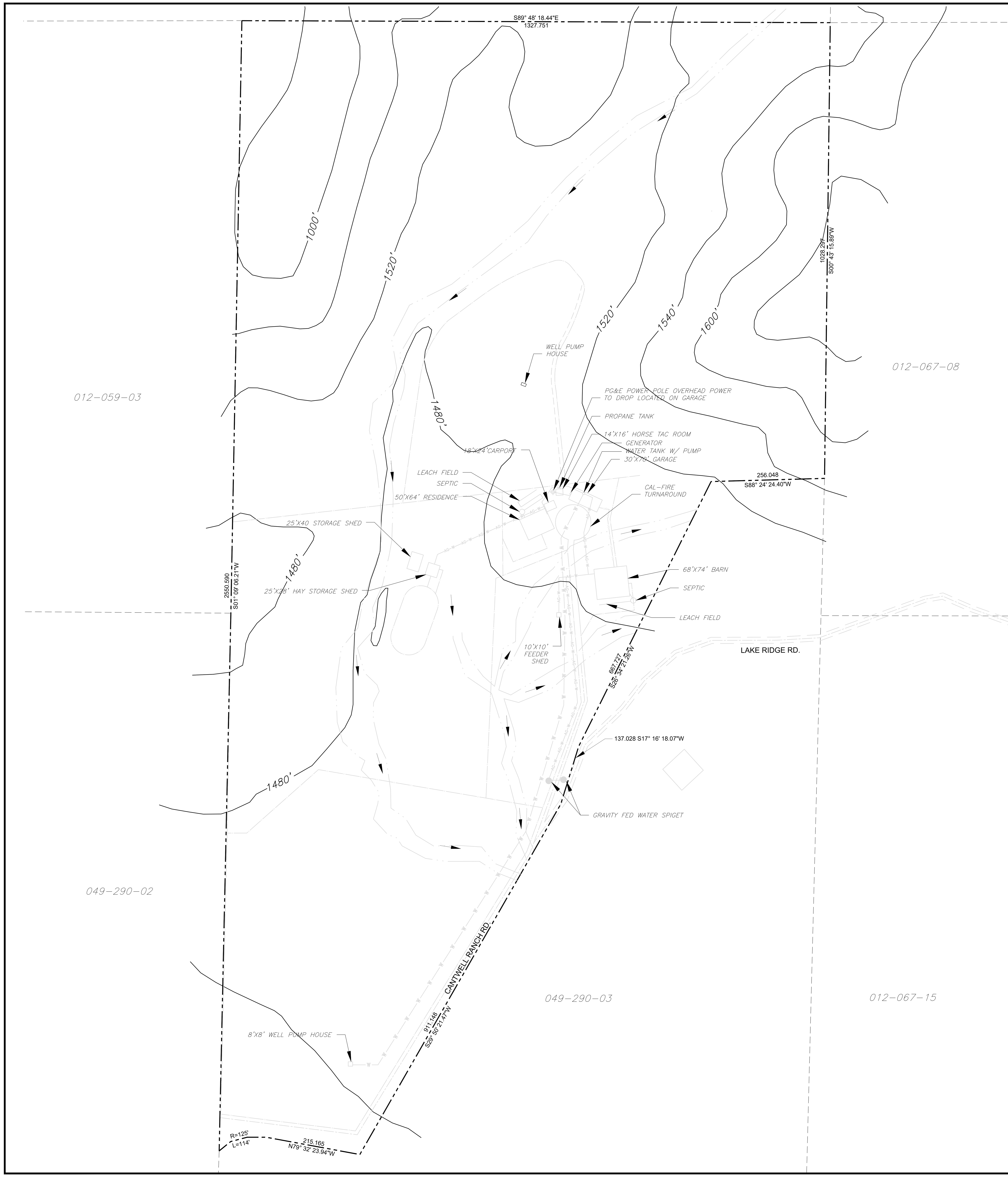
AERIAL PLAN

Date: 1/23/22

Scale: 1:120

Drawn: DONALD F.

Sheet:
2 of 12



N

0 60 120 240

SCALE: 1" = 120'

NOTE
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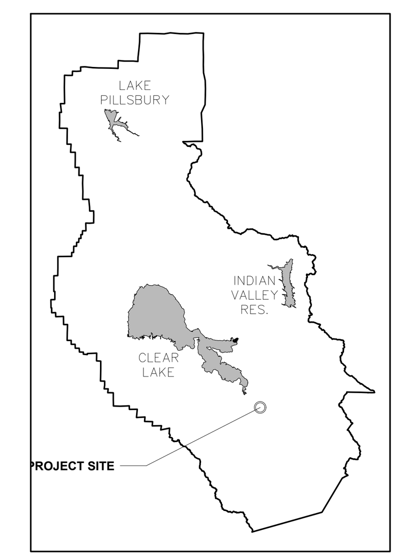
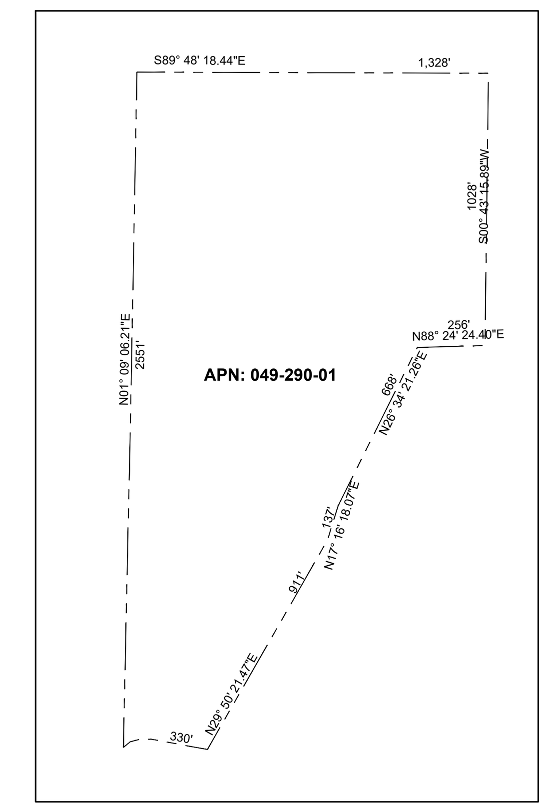
FENCE ARE 4' HIGH

LEGEND

COUNTY BOUNDARY
PARCEL BOUNDARY
CREEK OR DRAINAGE
AG—W GRAVITY FED WATER
HW PRESSURED WATER



COUNTY
SITE LOCATION



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17900 CANTWELL RANCH RD.
LOWER LAKE, CA

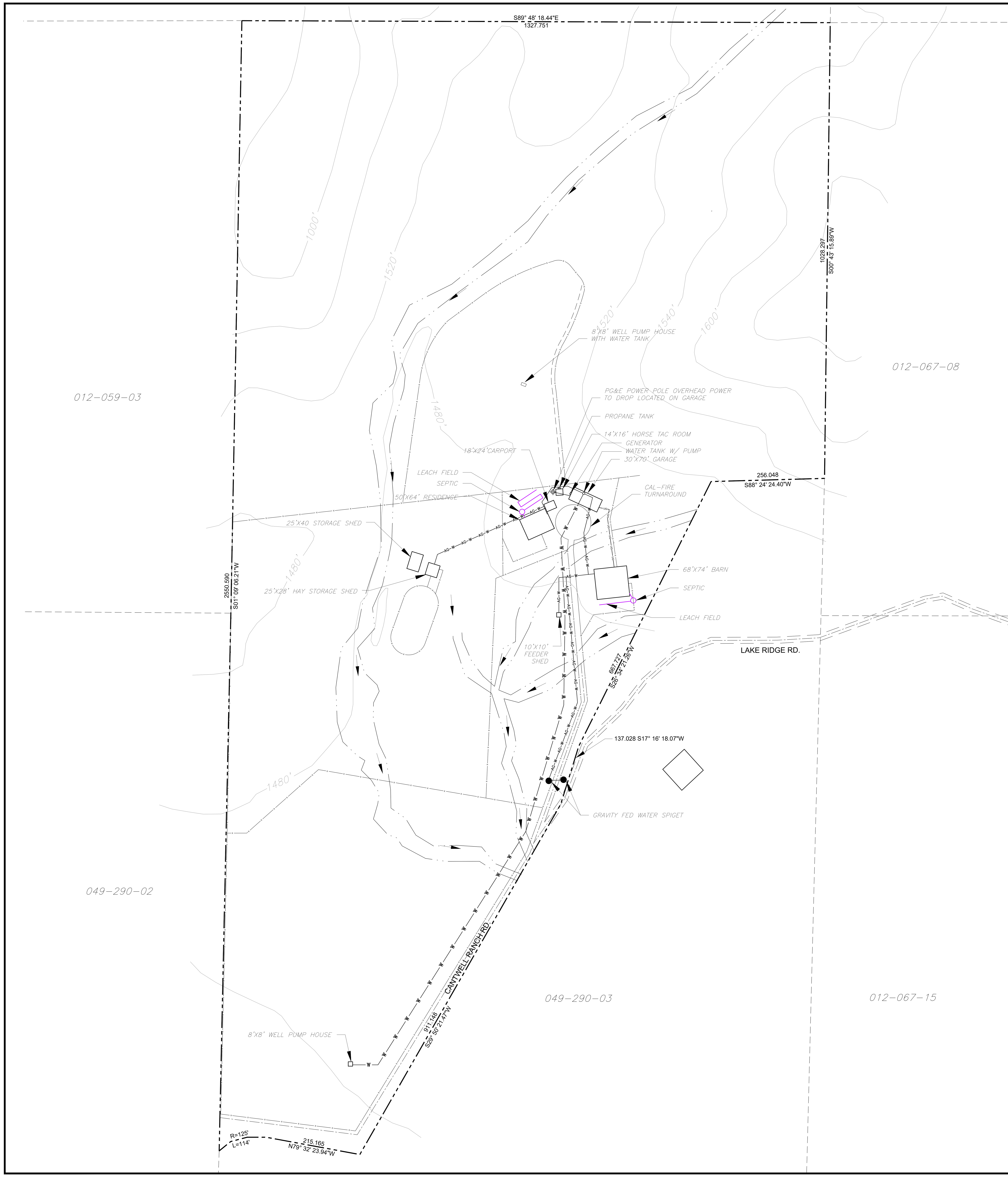
TOPOGRAPHIC PLAN

Date: 1/23/22

Scale: 1:120

Drawn: DONALD F.

Sheet:
3 of 12



N

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LEGEND

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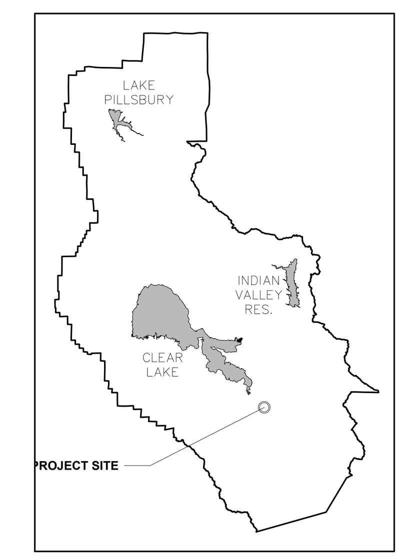
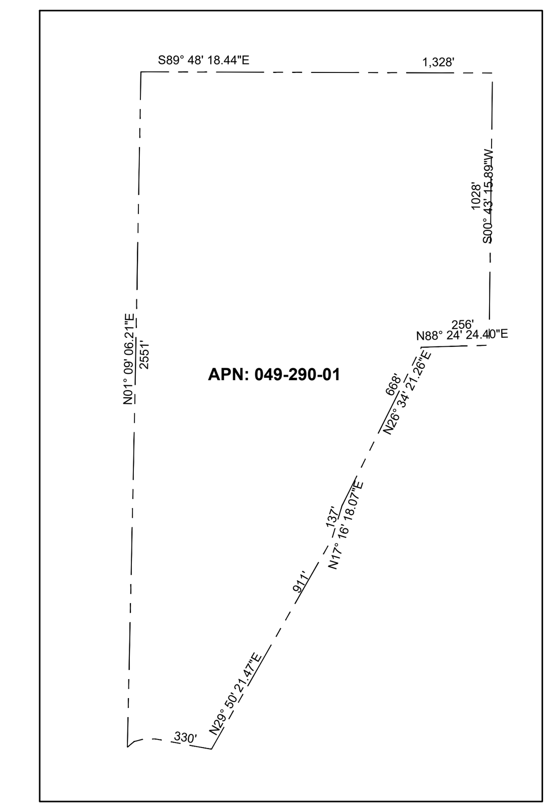
- PARCEL BOUNDARY
- CREEK OR DRAINAGE
- AG—W— GRAVITY FED WATER
- HW— PRESSURED WATER



COUNTY
SITE LOCATION



PARCEL
INFORMATION

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CANNA FACTORY
MIXED LIGHT CANNABIS CULTIVATION PLAN
17900 CANTWELL RANCH RD.
LOWER LAKE, CA

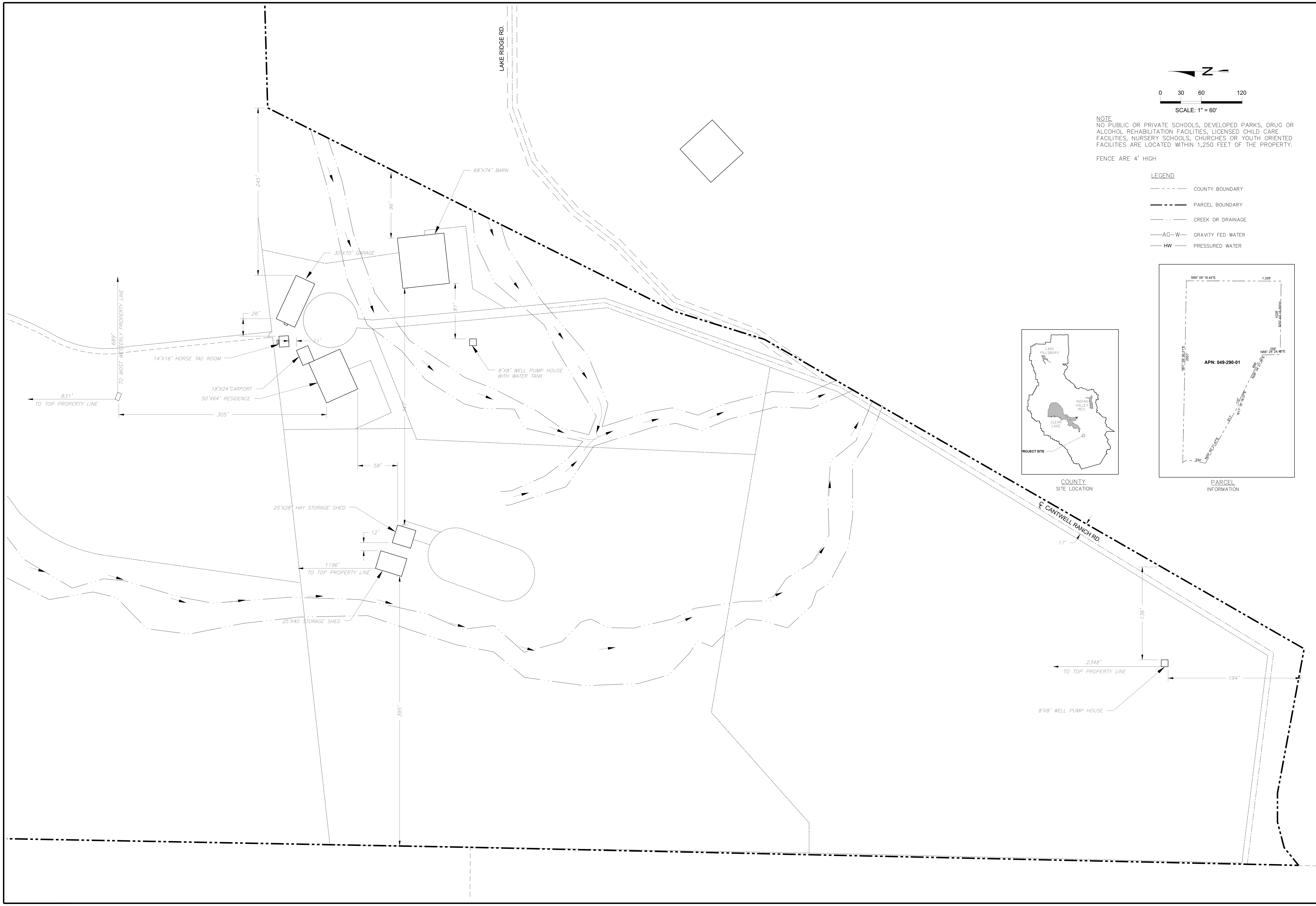
EXISTING CONDITIONS

Date: 1/23/22

Scale: 1:120

Drawn: DONALD F.

Sheet: 4 of 12



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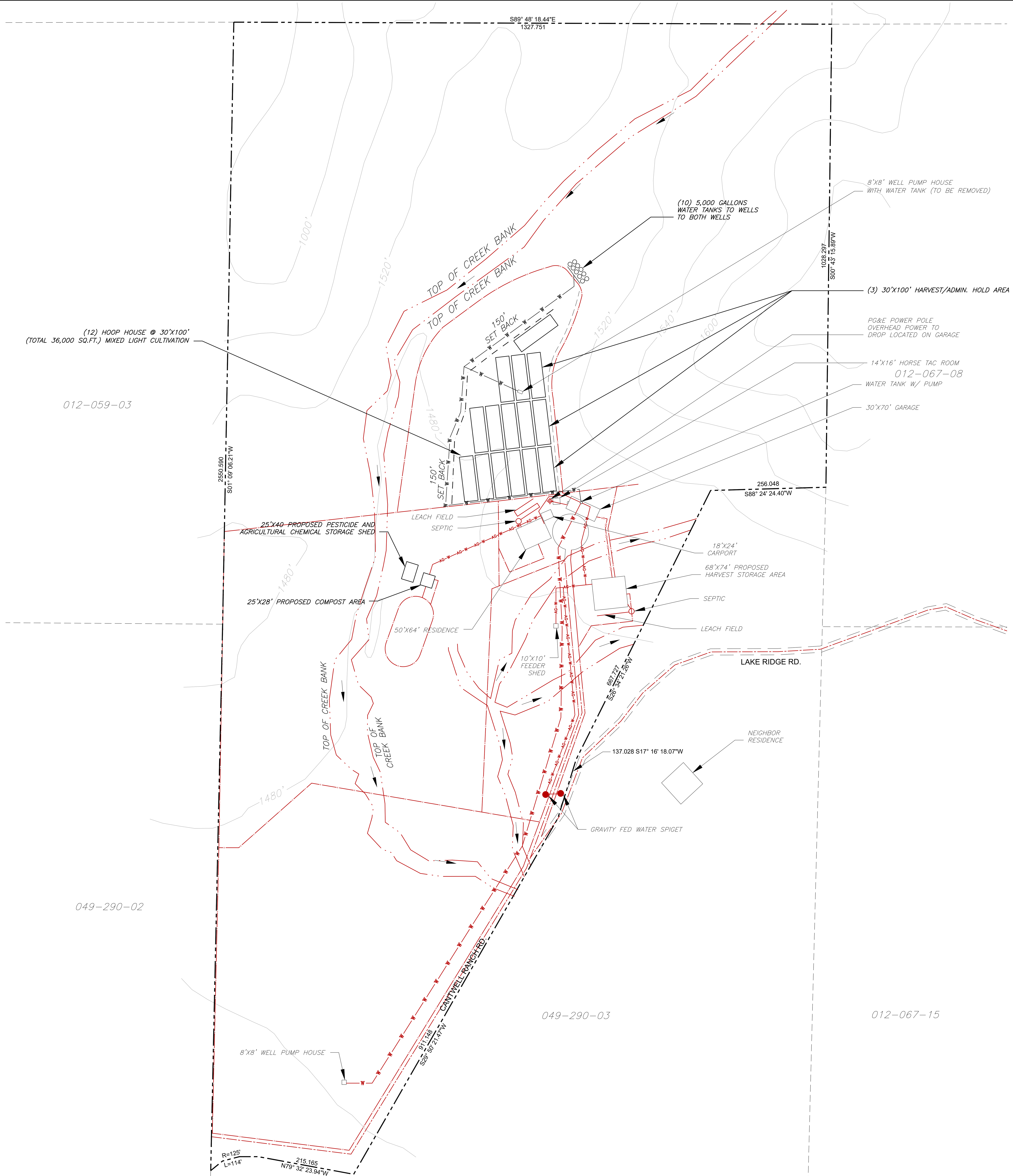
CANNA FACTORY
MIXED LIGHT CANNABIS CULTIVATION PLAN
17900 CANTWELL RANCH RD.
LOWER LAKE, CA

EXISTING CONDITIONS SETBACKS

Date: 1/23/22
Scale: 1:60
Drawn: DONALD F.
Sheet:
5 of 12



N

0 60 120 240

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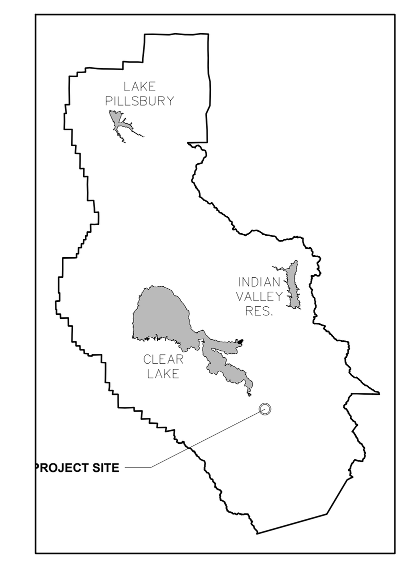
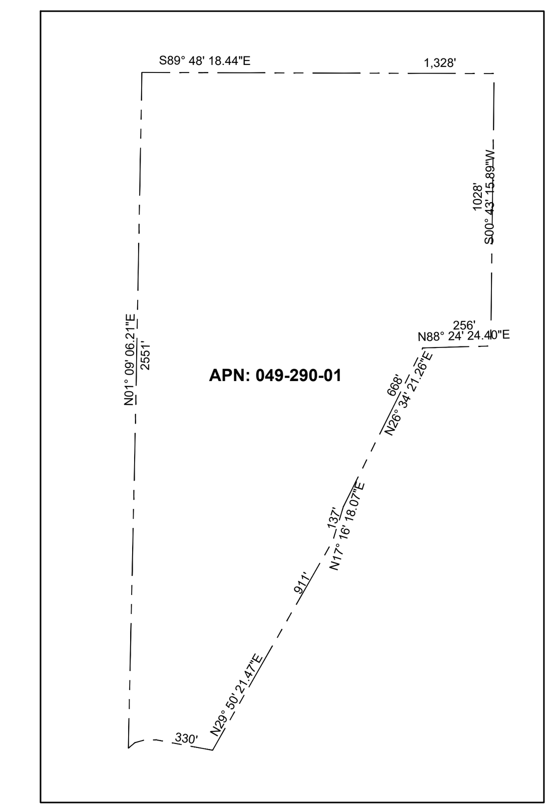


COUNTY
SITE LOCATION



PARCEL
INFORMATION

LEGEND

— - —	COUNTY BOUNDARY
— · —	PARCEL BOUNDARY
— · · —	CREEK, WASH, SEASONAL CREEK
—AG—W—	GRAVITY FED WATER
— HW —	PRESSURED WATER
1	30'X100' HOOP HOUSE
2	30'X100' HOOP HOUSE
3	30'X100' HOOP HOUSE
4	30'X100' HOOP HOUSE
5	30'X100' HOOP HOUSE
6	30'X100' HOOP HOUSE
7	30'X100' HOOP HOUSE
8	30'X100' HOOP HOUSE
9	30'X100' HOOP HOUSE
10	30'X100' HOOP HOUSE
11	30'X100' HOOP HOUSE
12	30'X100' HOOP HOUSE
13	30'X100' ADMIN. HOLD/ HARVEST STORAGE AREA
14	30'X100' ADMIN. HOLD/ HARVEST STORAGE AREA
15	30'X100' ADMIN. HOLD/ HARVEST STORAGE AREA

REVISION	DESCRIPTION	BY	DATE

RHYZL
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UKIAH, CA 95482

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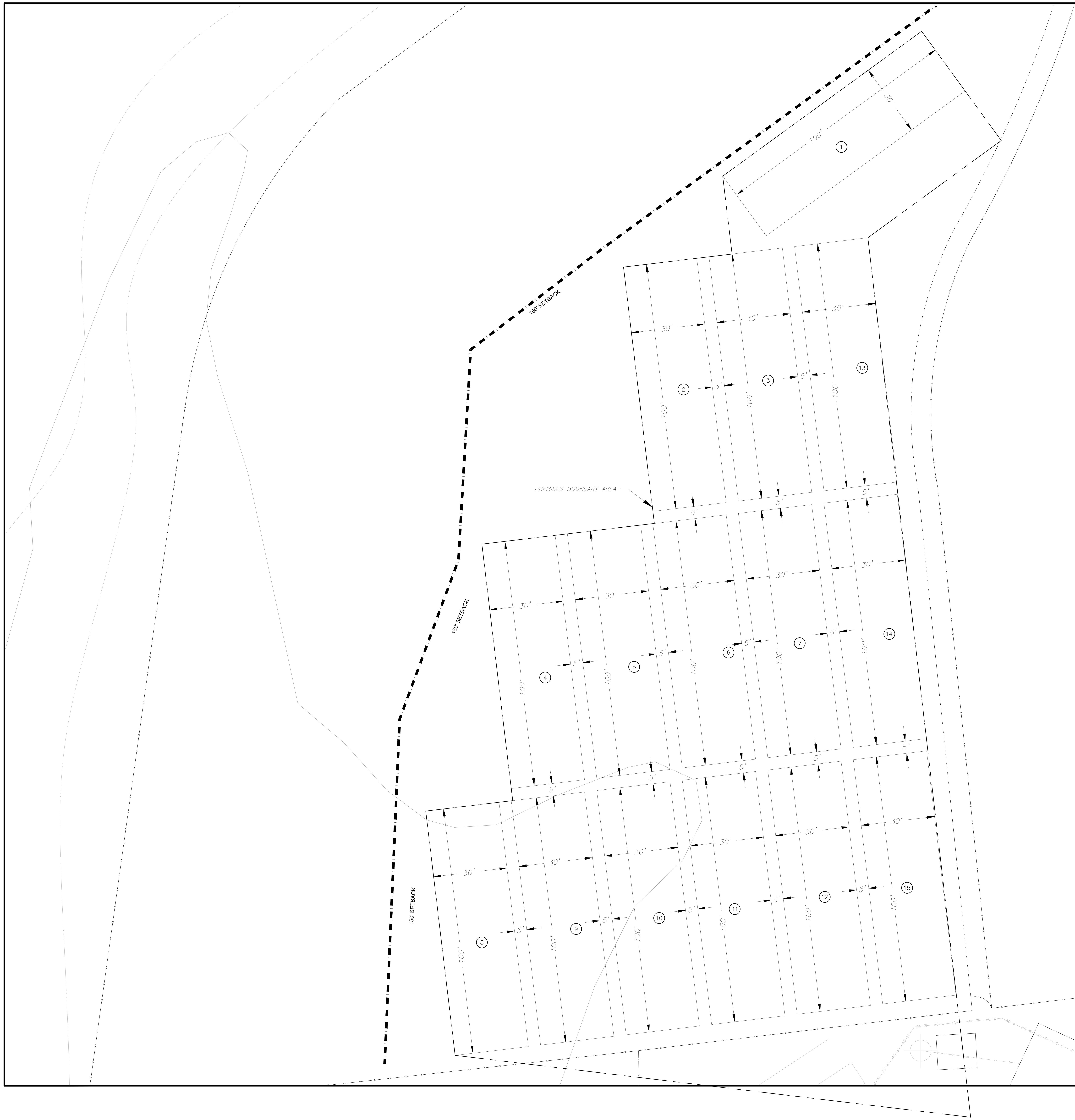
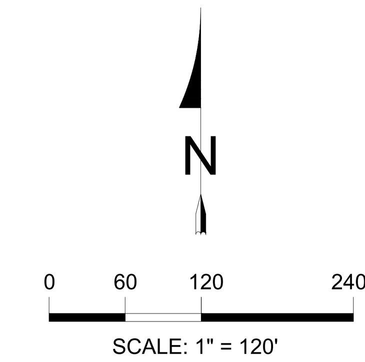
CANNA FACTORY
MIXED LIGHT CANNABIS CULTIVATION PLAN
17900 CANTWELL RANCH RD.
LOWER LAKE, CA

PROPOSED CONDITIONS

Date: 1/23/22
Scale: 1:120
Drawn: DONALD F.





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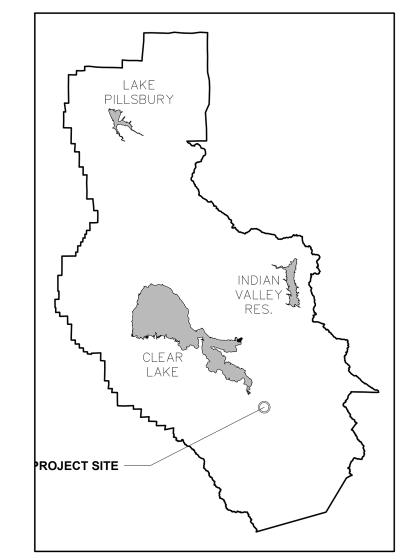
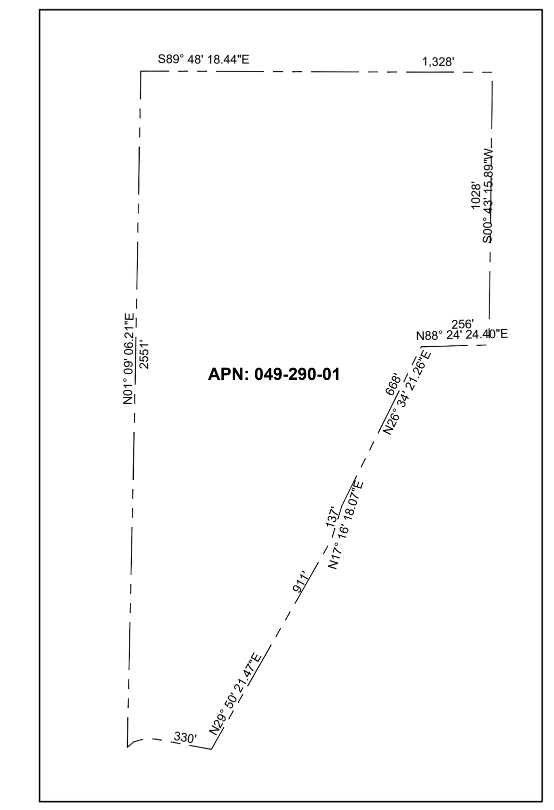
NO PROCESSING ON PREMISES
NO PACKAGING ON PREMISES



COUNTY
SITE LOCATION



PARCEL
INFORMATION

LEGEND

COUNTY BOUNDARY
PARCEL BOUNDARY
CREEK, WASH, SEASONAL CREEK
AG—W— GRAVITY FED WATER
HW PRESSURED WATER
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3 30'X100' HOOP HOUSE
4 30'X100' HOOP HOUSE
5 30'X100' HOOP HOUSE
6 30'X100' HOOP HOUSE
7 30'X100' HOOP HOUSE
8 30'X100' HOOP HOUSE
9 30'X100' HOOP HOUSE
10 30'X100' HOOP HOUSE
11 30'X100' HOOP HOUSE
12 30'X100' HOOP HOUSE
13 30'X100' ADMIN. HOLD/ HARVEST STORAGE AREA
14 30'X100' ADMIN. HOLD/ HARVEST STORAGE AREA
15 30'X100' ADMIN. HOLD/ HARVEST STORAGE AREA

REVISION	DESCRIPTION	BY	DATE

RHYZL
RESEARCH:DESIGN · CONSTRUCT:COMPUTE

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UKIAH, CA 95482

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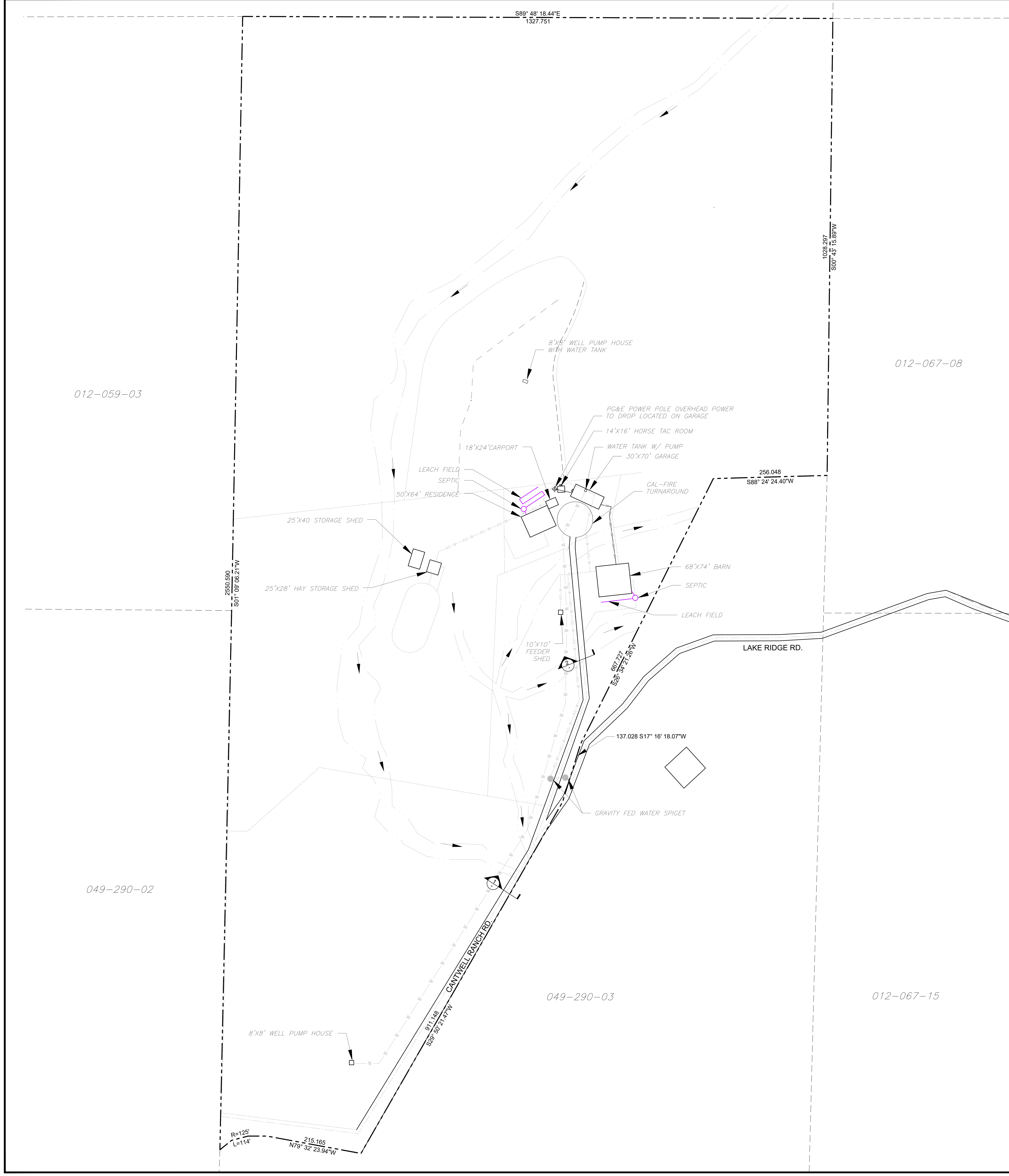
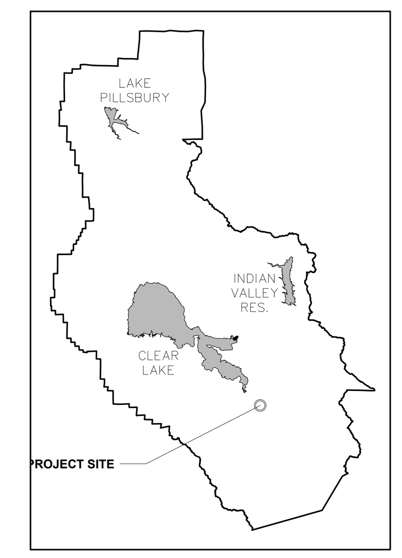
CANNA FACTORY
MIXED LIGHT CANNABIS CULTIVATION PLAN
17900 CANTWELL RANCH RD.
LOWER LAKE, CA

CULTIVATION AND RELATED BUILDINGS

Date: 1/23/22
Scale: 1:50
Drawn: DONALD F.





COUNTY
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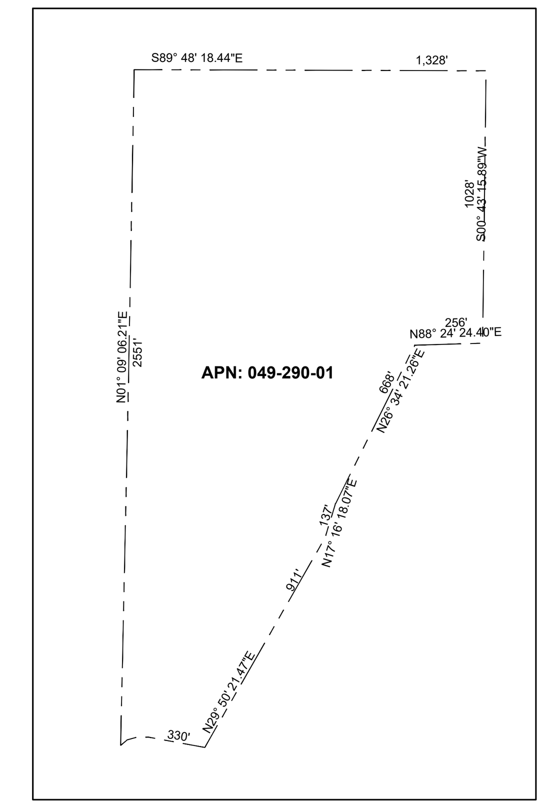
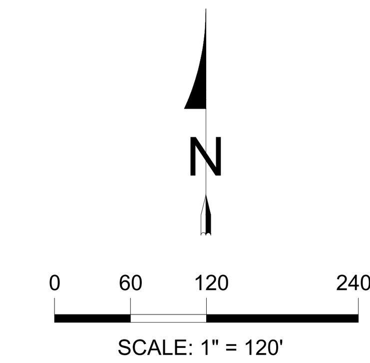


PARCEL
INFORMATION



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LEGEND

COUNTY BOUNDARY
PARCEL BOUNDARY
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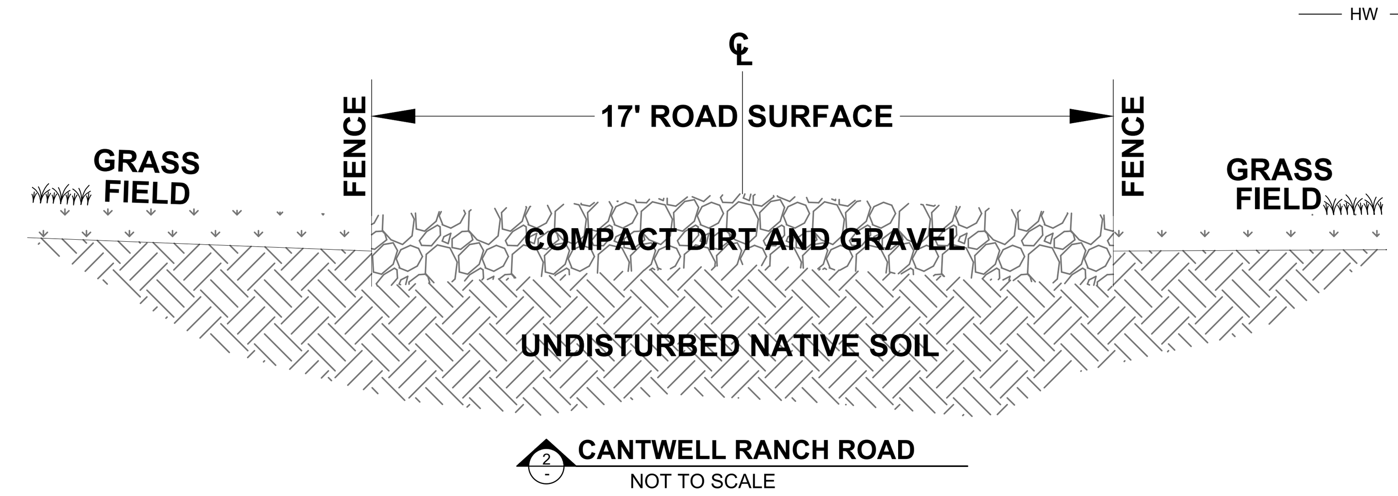
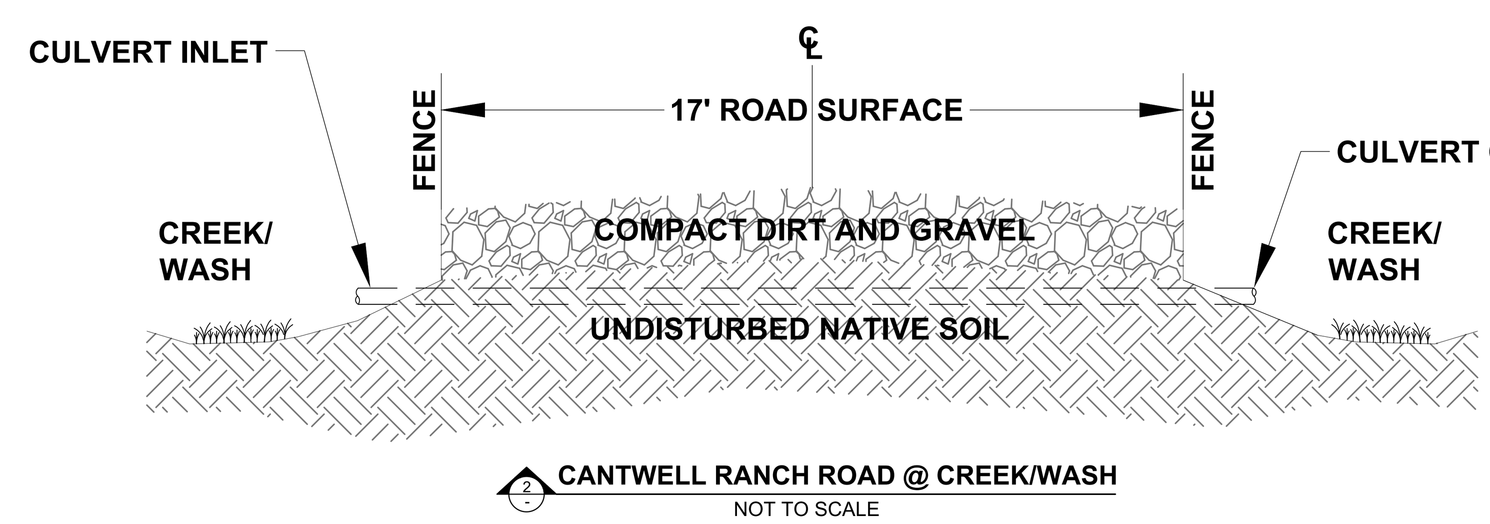


CANTWELL RANCH ROAD
NOT TO SCALE



CANTWELL RANCH ROAD @ CREEK/WASH
NOT TO SCALE

REVISION	DESCRIPTION	BY	DATE

RHYZL
RESEARCH:DESIGN · CONSTRUCT:COMPUTE

118 SOUTH
STATE STREET
UKIAH, CA 95482

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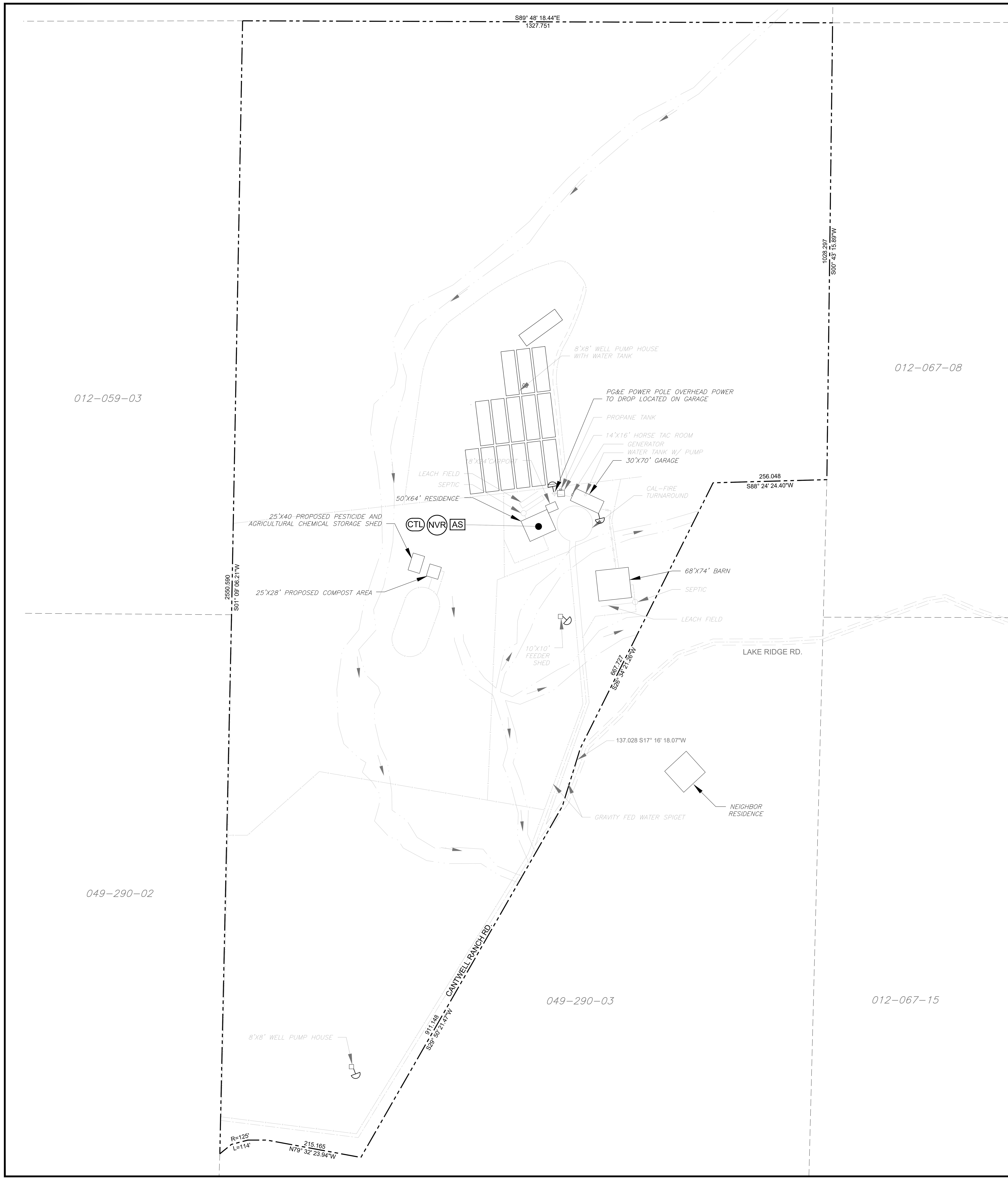
CANNA FACTORY
MIXED LIGHT CANNABIS CULTIVATION PLAN
17900 CANTWELL RANCH RD.
LOWER LAKE, CA

EXISTING ROAD CONDITIONS

Date: 1/23/22
Scale: 1:120
Drawn: DONALD F.
Sheet: 8 of 12



N

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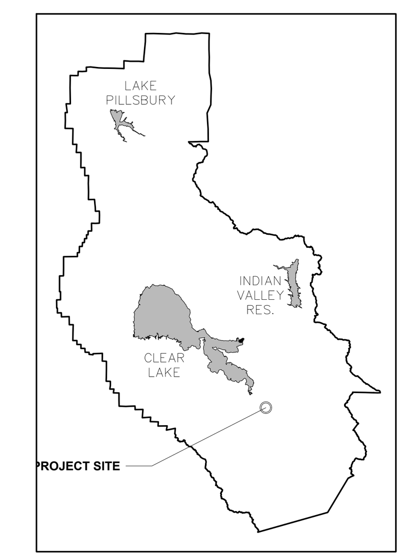
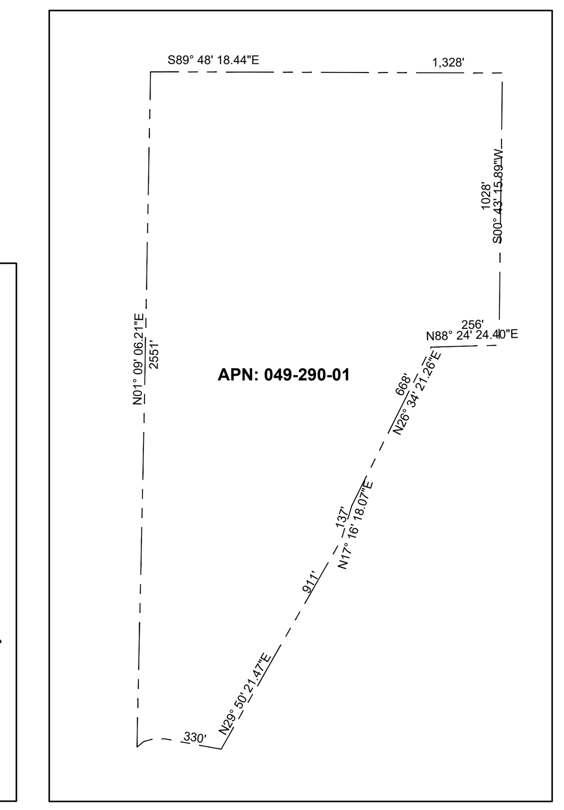


COUNTY
SITE LOCATION



PARCEL
INFORMATION

LEGEND

	180° SECURITY CAM
AS	ALARM SENSOR
CTL	ALARM CONTROLLER
NVR	NVR SECURE ACCESS NVR MAINFRAME

REVISION	DESCRIPTION	BY	DATE

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17900 CANTWELL RANCH RD.
LOWER LAKE, CA

SECURITY PLAN

Date: 1/23/22

Scale: 1:120

Drawn: DONALD F.

Sheet:
9 of 12

Attachment 2:
Well Completion Report

State of California

Well Completion Report

Form DWR 188 Submitted 2/4/2022

WCR2022-001758

Owner's Well Number	Ag Well 1	Date Work Began	01/31/2022	Date Work Ended	02/02/2022
Local Permit Agency	Lake County Health Services Department - Environmental Health Division				
Secondary Permit Agency		Permit Number	WP0003912	Permit Date	01/24/2022

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: Marat Kapukchyan

Mailing Address: 705 N. State Street
Suite 264

City: Ukiah State: CA Zip: 95482

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Irrigation - Agriculture

Well Location

Address: 17900 Cantwell Ranch RD

City: Lower Lake Zip: 95457 County: Lake

Latitude: 38 Deg. 52 Min. 56.3232 Sec. N Longitude: -122 Deg. 34 Min. 49.0403 Sec. W

Dec. Lat.: 38.882312 Dec. Long.: -122.580289

Vertical Datum: Horizontal Datum: WGS84

Location Accuracy: Unknown Location Determination Method: GPS

APN: 049-290-01

Township: 12 N

Range: 07 W

Section: 13

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical Specify:

Drilling Method: Downhole Rotary Hammer Drilling Fluid: Foam

Total Depth of Boring: 214 Feet

Total Depth of Completed Well: 194 Feet

Water Level and Yield of Completed Well

Depth to first water: 84 (Feet below surface)

Depth to Static Water Level: 16 (Feet) Date Measured: 02/03/2022

Estimated Yield*: 7 (GPM) Test Type: Pump

Test Length: 6 (Hours) Total Drawdown: 111 (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet	to Feet	Description
0	40	soft top soil with loose brown clay
40	43	Dry green clay with rock
43	94	shale with quartz and basalt mixed, first water at 84-feet
94	150	dark grey shale with clay
150	160	fractured basalt
160	180	transitions into brown tan clay and rock with chunks of quartz, picking up more water at 168-feet
180	205	soft loose green grey clay
205	214	hard basalt with quartz

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	24	Blank	PVC	N/A	0.265	5.563			Solid
1	24	64	Screen	PVC	N/A	0.265	5.563	Milled Slots	0.032	Screen
1	64	84	Blank	PVC	N/A	0.265	5.563			solid
1	84	104	Screen	PVC	N/A	0.265	5.563	Milled Slots	0.032	screen
1	104	124	Blank	Other	N/A	0.265	5.563			solid
1	124	144	Screen	PVC	N/A	0.265	5.563	Milled Slots	0.032	screen
1	144	164	Blank	PVC	N/A	0.265	5.563			solid
1	164	184	Screen	PVC	N/A	0.265	5.563	Milled Slots	0.032	screen
1	184	194	Blank	PVC	N/A	0.265	5.563			solid with cap

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	22	Bentonite	Other Bentonite		hydrated bentonite sanitary seal
22	214	Filter Pack	Other Gravel Pack	pea gravel	double washed

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	25	10
25	214	7.875

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name JAK DRILLING AND PUMP, Kharom Hellwege
Person, Firm or Corporation

PO Box 250 — Address
Middletown — City
CA — State
95461 — Zip

Signed *electronic signature received* — C-57 Licensed Water Well Contractor
02/04/2022 — Date Signed
1013957 — C-57 License Number

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

Attachment 3:
Well Pump Test

Date:	**2/3/2022**	Technician:	**Jim Jackson**
Client Name:	**Marat Kapukchyan**	Ag Well 1	
Site Address:	**17900 Cantwell Ranch Road**	APN:	**049-290-01**

Well Pump Info (size, type, brand, etc.): 3 **horse Series 40 Test Pump**

Power Source (hardwired, generator, solar only, solar with generator back up): **Hardwire**

Total Depth of Well? 194-**Feet** Static Water Level? **16.0**-Feet

Diameter of Well? 5-**inches** Casing Type? **PVC**

Last time the water was pumped from the well? New construction, air-lifting occurred 2/2/2022

Was the pumping level measured from ground surface or top of casing? **Top of Casing**

Interval	Time	Flow Rate*	Pumping Level
5	8:15	25	34.00
5	8:20	25	36.00
5	8:25	25	38.00
5	8:30	25	54.00
5	8:35	21	83.00
5	8:40	21	97.00
10	8:50	15	167.00
10	9:00	10	180*
10	9:10	10	179.67
10	9:20	10	179.50
10	9:30	10	177.83
10	9:40	10	177.67
30	10:10	10	177.50
30	10:40	8	177.67
30	11:10	8	177.50
30	11:40	8	177.67
30	12:10	8	177.67
30	12:40	7	177.33
30	13:10	7	177.67
30	13:40	7	177.83
30	14:10	7	177.67
STOP			
10	14:20	RECHARGE	119.0
30	14:50	RECHARGE	29.0

*Flow Rate Measured via ~~Bucket~~ or **Meter**

Meter Start:	71309
Meter Stop:	74598
Total Gallons Produced:	3289
Average GPM:	**9.14**

*NOTE: Average GPM is total gallons produced divided by 360. The pump broke suction within 40-mins of the test starting. The flow rate was then restricted until the pumping level began to stabilize. In this case the pumping level began to stabilize when the flow rate was reduced to **7-gpm**

Recharge Rate: **92.70%**

Well should be fully recharged <1hour of pumping.

Field Quality Test Completed:

pH:	**7.8**
TDS:	**648 ppm**
Hardness:	**10 grains per gallon**
Iron:	**1 ppm**
GPS:	**38.882312°, -122.580289°**

DISCLAIMER

Observations made of the well(s) are strictly limited to the date and time that the test(s) was conducted and are in no way a guarantee of future conditions, including but not limited to the quantity and/or quality of the water produced by this well.

Attachment 4:
WCR Review and Data Summary

Description	
Area of alluvium (sq meters)	6589217.8
Count of WCRs in alluvium	40
Area (Acres)	**1628.2**
Average depth of alluvium (ft bgs)	**37**
Average depth to static water level (ft bgs)	**17**
Aquifer thickness (ft)	**20**
Specific Yield	**0.08**
Estimated usable storage capacity (AF)	**2612**
Parcel count	**250**
Alluvial basin well demand (gpy)	27375000
Alluvial basin residential well demand (AF)	**84**
Percentage of estimated usable capacity	**3.2**
Agricultural estimated water demand	
Alluvial basin estimated ag water demand (AF)	**1025**
Percentage of estimated usable capacity	**39.24**
Cumulative annual water demand in alluvial basin (AF)	**1109**
Percentage of storage capacity	**42.7**

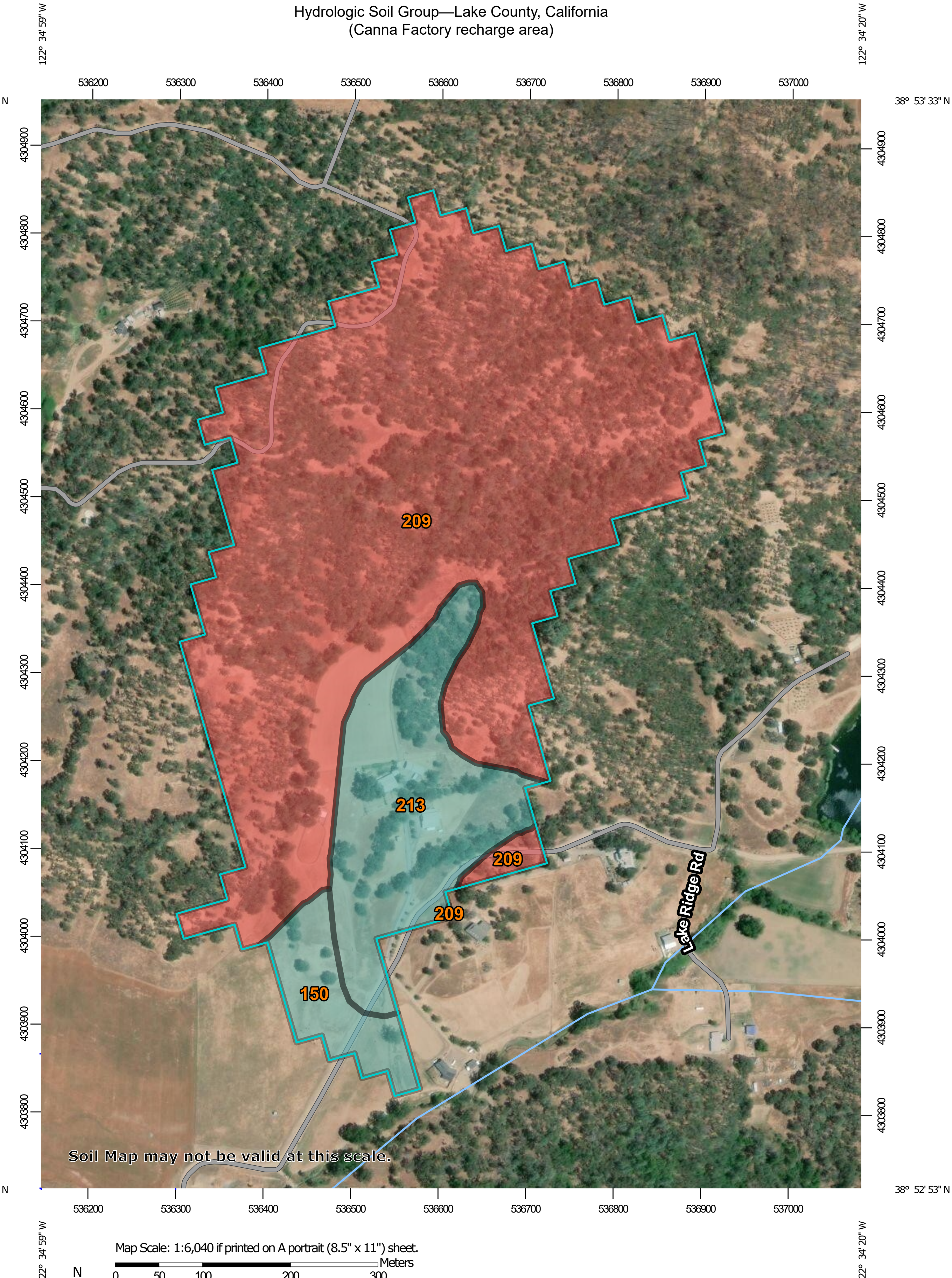
Well number	Depth of alluvium (ft bgs)	Depth to static water table (ft bgs)
210830	34	24
177905	33	18
236825	30	15
57818	45	80/Na
56311	57	8
66468	66	8
66456	33	25
87402	38	17
83640	58	32
83628	60	10
105678	30	21
105616	30	15

105186	30	18
105171	40	18
110378	45	20
11926	34	12
11922	39	14
141407A	57	18
116056	32	12
56703	40	22
94154	43	10
94152	39	10
56830	34	25
58776	20	17
58767	20	18
58687	59	15
12583	15	12
12582	35	20
12581	25	12
12539	36	20
12534	30	20
15829	31	18
12060	30	6
2457	38	22
2454	38	22
2453	38	22
2451	38	22
18626	27	22
451163	25	10
784178	20	5
950526	40	18
min	15	
min	66	

NORTHPOINT
CONSULTING GROUP, INC.

Attachment 5:
NRCS Soil Survey Results

Hydrologic Soil Group—Lake County, California
(Canna Factory recharge area)



Map Scale: 1:6,040 if printed on A portrait (8.5" x 11") sheet.

N

0 50 100 200 300 Meters

0 250 500 1000 1500 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County, California
Survey Area Data: Version 18, Sep 6, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 18, 2016—Nov 4, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
150	Kilaga variant loam, 0 to 5 percent slopes	C	4.0	4.8%
209	Skyhigh-Millsholm loams, 15 to 50 percent slopes	D	66.0	78.5%
213	Sleeper variant-Sleeper loams, 5 to 15 percent slopes	C	14.0	16.7%
Totals for Area of Interest			**84.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Attachment 6:
PRISM Climate Precipitation
1895-2020

	A	B	C	D	E	F	G
1	PRISM Time Series Data						
2	Location: Lat: 38.8880 Lon: -122.5781 Elev: 1604ft						
3	Climate variables: ppt,tmean						
4	Spatial resolution: 4km						
5	Period: 1895 - 2020						
6	Dataset: AN81m						
7	PRISM day definition: 24 hours ending at 1200 UTC on the day shown						
8	Grid Cell Interpolation: On						
9	Time series generated: 2022-May-04						
10	Details: http://www.prism.oregonstate.edu/documents/PRISM_datasets.pdf						
11	Date	ppt (inches	tmean (degrees F)				
12	1895	37.7	57	**Average**	**30.2**		
13	1896	42.02	57.6	**Minimum**	**6.0**		
14	1897	27.27	57				
15	1898	16.1	57.1				
16	1899	38.64	57.2				
17	1900	26.27	57.7				
18	1901	28.18	57.7				
19	1902	37.66	56.8				
20	1903	28.61	57				
21	1904	47.21	58.5				
22	1905	24.66	58.5				
23	1906	46.05	58.5				
24	1907	38.92	57.2				
25	1908	19.81	57.5				
26	1909	50.62	57.1				
27	1910	18.68	57.9				
28	1911	35.62	56.7				
29	1912	22.46	57.1				
30	1913	28.61	57.9				
31	1914	33.8	58				
32	1915	39.46	58				
33	1916	32.93	56.6				
34	1917	15.24	58.8				
35	1918	22.99	57.9				
36	1919	25.32	57.3				
37	1920	31.93	57.3				
38	1921	26.07	58				
39	1922	30.71	56.6				
40	1923	15.42	57.2				
41	1924	22.12	58.1				
42	1925	27.92	57.7				
43	1926	36.61	59.7				
44	1927	31.33	58				
45	1928	22.71	58.3				
46	1929	17.36	58.2				

	A	B	C	D	E	F	G
47	1930	18.57	57.8				
48	1931	27.27	58.9				
49	1932	13.99	57.8				
50	1933	23.34	57.6				
51	1934	20.17	60				
52	1935	27.17	57.6				
53	1936	27.8	59.4				
54	1937	37.01	57.5				
55	1938	33.92	58.2				
56	1939	14.49	59.2				
57	1940	51.64	59.2				
58	1941	49.1	58.4				
59	1942	36.17	57.5				
60	1943	23.44	58.7				
61	1944	29.68	58.1				
62	1945	33.39	58.9				
63	1946	16.25	57.3				
64	1947	18.83	58.3				
65	1948	26.21	56.2				
66	1949	19	57.6				
67	1950	37.98	58.9				
68	1951	32.86	58.6				
69	1952	38.62	58				
70	1953	23.98	58.1				
71	1954	32.77	57.7				
72	1955	31.13	56.8				
73	1956	24.45	57.3				
74	1957	34.53	57.6				
75	1958	38.54	59.6				
76	1959	22.6	59.8				
77	1960	31.25	58.7				
78	1961	22.9	58.2				
79	1962	31.17	57.7				
80	1963	32.91	57.1				
81	1964	29.99	57.2				
82	1965	28.09	57				
83	1966	26.67	58.1				
84	1967	33.01	58				
85	1968	34.29	57.7				
86	1969	40.72	57.8				
87	1970	43.2	58.3				
88	1971	20.95	56.5				
89	1972	22.94	57.4				
90	1973	46.08	58.3				
91	1974	27.42	57.6				
92	1975	27.6	56.5				

	A	B	C	D	E	F	G
93	1976	9.75	57.7				
94	1977	22.01	58.3				
95	1978	33.14	58.1				
96	1979	38.02	57.8				
97	1980	27.91	57.9				
98	1981	35.47	59.2				
99	1982	40.97	56.1				
100	1983	66.59	56.3				
101	1984	21.98	58				
102	1985	19.06	57.3				
103	1986	39.99	58.7				
104	1987	29.28	58.3				
105	1988	18.63	58.9				
106	1989	21.59	57.3				
107	1990	17.37	57.5				
108	1991	25.57	58.1				
109	1992	31.7	59.1				
110	1993	37.89	56.9				
111	1994	22.15	57.2				
112	1995	58.12	59.3				
113	1996	42.9	59.5				
114	1997	31.01	59				
115	1998	52.89	56.4				
116	1999	25.12	57.4				
117	2000	28.93	58				
118	2001	37.58	59.7				
119	2002	31.2	59.5				
120	2003	34.05	58.7				
121	2004	34.57	59.2				
122	2005	41.85	58.1				
123	2006	36.4	57.9				
124	2007	14.77	58.2				
125	2008	21.23	59.1				
126	2009	20.11	59				
127	2010	38.01	57.5				
128	2011	26.97	57.5				
129	2012	36.88	59				
130	2013	5.99	59.9				
131	2014	31.36	61.8				
132	2015	16.93	61.4				
133	2016	37.31	59.9				
134	2017	49.68	60.2				
135	2018	25.46	60.2				
136	2019	47.29	59				
137	2020	10.73	61.3				