

**Mono County
Community Development Department**

PO Box 347
Mammoth Lakes, CA 93546
(760) 924-1800, fax 924-1801
commdev@mono.ca.gov

Planning Division

PO Box 8
Bridgeport, CA 93517
(760) 932-5420, fax 932-5431
www.monocounty.ca.gov

**COMMERCIAL CANNABIS ACTIVITY
USE PERMIT
APPLICATION**

APPLICATION # _____ FEE \$ _____

DATE RECEIVED _____

RECEIPT # _____ CHECK # _____ or CASH

RECEIVED BY _____

APPLICANT/AGENT Chichewa, LLC

ADDRESS 106834 US 395 CITY/STATE/ZIP Coleville, CA 96107

TELEPHONE (530) 208-6795 E-MAIL SierraHighFarms@gmail.com

PROPERTY OWNER, if other than applicant Jeff Hinds & Walter Hinds

ADDRESS 106834 US 395 CITY/STATE/ZIP Coleville, CA 96107

TELEPHONE (530) 208-6795 E-MAIL SierraHighFarms@gmail.com

Copy of Title or Deed

OR

Signed statement of consent and a copy of the rental agreement

PROPERTY DESCRIPTION:

Assessor's Parcel # 001-150-004-000 General Plan Land Use Designation AG 10

TYPE OF ACTIVITY (check all intended use on the property):

- Nursery Cultivation Processing Distribution
 Manufacturing Type N or P Manufacturing Type 6 Manufacturing Type 7
 Testing Retail Microbusiness (check all activities that apply)
 Other _____

PROPOSED USE: Describe the proposed project in detail, attaching additional sheets if necessary. NOTE: An incomplete or inadequate project description may delay project processing and/or require additional staff time to write or refine the description.

See attachment.

Will the activity take place in an existing structure? YES NO N/A
If NO, have you applied for a Building Permit? YES NO

WATER CONSERVATION MEASURES: Describe water conservation measures, water capture systems, grey water systems or other measures to be incorporated to minimize use of water where feasible.

See attachment.

ATTACHMENTS: The following documents are **required** for this application to be deemed complete:

- Vicinity Map
- Site Plan
- Floor Plan
- Odor Mitigation Plan
- Sign Plan
- Visual Screening Plan
- Lighting Plan
- Parking Plan
- Fire Prevention Plan
- Documentation for any "fixed noise sources"

DISTRIBUTION

- Storage and handling plans

TESTING FACILITY

- Certificate of accreditation from approved accrediting body

I CERTIFY UNDER PENALTY OF PERJURY THAT I am: legal owner(s) of the subject property (any person having an ownership interest in the property must sign, corporate officer(s) empowered to sign for the corporation, or owner's legal agent having Power of Attorney for this action (a notarized "Power of Attorney" document must accompany the application form), AND THAT THE FOREGOING IS TRUE AND CORRECT.

Signature Date

Signature Date

Signature Date

Signature Date

Signature Date

Signature Date

**Mono County
Community Development Department**

PO Box 347
Mammoth Lakes, CA 93546
(760) 924-1800, fax 924-1801
commdev@mono.ca.gov

Planning Division

PO Box 8
Bridgeport, CA 93517
(760) 932-5420, fax 932-5431
www.monocounty.ca.gov

USE PERMIT PROJECT INFORMATION

(To be completed by applicant or representative)

NOTE: Please answer all questions as accurately and completely as possible to avoid potential delays in processing. Attach additional sheets if necessary.

I. TYPE OF PROJECT (check any permit(s) requested):

- Director Review Use Permit Lot Line Adjustment Land Division (4 or fewer)
 Subdivision Specific Plan Variance General Plan Amendment
 Commercial Cannabis Other _____

APPLICANT Chichewa, LLC

PROJECT TITLE Sierra High Farms

LOT SIZE (sq. ft./acre) 123 acres ASSESSOR'S PARCEL # 001-150-004-000

PROJECT LOCATION Eastside Lane and Nevada border

Has your project been described in detail in the project application? Yes No

Please Specify:

- EXISTING PROPOSED
Number of Units _____ Building Height/# of floors 1
Number of Buildings 7 Density (units/acre) _____

Total lot coverage/impervious surface (sq. ft. & %) 50,000sf: ~1%
a. Buildings (first-floor lot coverage /sq. ft. & %) 40,000sf : <1%
b. Paved parking & access (sq. ft. & %) 0

Landscaping/screening and fencing:
a. Landscaping (sq. ft. & %) 25,000sf : <1%
b. Undisturbed (sq. ft. & %) 113 of 123 acres

Total parking spaces provided:
a. Uncovered 12
b. Covered 0
c. Guest/Handicapped 6

II. SITE PLAN

Are all existing and proposed improvements shown on the Plot Plan (see attached Plot Plan Requirements)? Yes No

III. ENVIRONMENTAL SETTING

Use one copy of the Tentative Map or Plot Plan as needed to show any necessary information. Attach photographs of the site, if available.

1. VICINITY MAP:

Attach a copy of assessor's parcel pages or a vicinity map showing the subject property in relation to nearby streets and lots or other significant features.

2. EXISTING DEVELOPMENT:

Vacant If the site is developed, describe all existing uses/improvements such as structures, roads, etc.
Does the Plot Plan show these uses? Yes No

3. ACCESS/CIRCULATION:

Name of Street Frontage(s) Eastside Lane

Paved Dirt No existing access

Are there any private roads, drives or road easements on/through the property?

Yes No

Has an encroachment permit been submitted to Public Works or Caltrans? Yes No

Does the property have any existing driveways or access points? Yes No

Are any new access points proposed? Yes No

Does the Plot Plan show the driveways or access points? Yes No

Describe the number and type of vehicles associated with the project See attachment.

4. ADJACENT LAND USES:

A. Describe the existing land use(s) on adjacent properties. Also note any major man-made or natural features (i.e., highways, stream channels, number and type of structures, etc.).

LAND USE

LAND USE

See attached.

North Nevada AG, AG, FR

South BLM, RM

East AG 10

West AG 10

B. Will the proposed project result in substantial changes in pattern, scale or character of use in the general area? Yes No If YES, how does the project propose to lessen potential adverse impacts to surrounding uses? _____

5. SITE TOPOGRAPHY:

Is the site on filled land? Yes No Describe the site's topography (i.e., landforms, slopes, etc.) _____

See attached.

6. DRAINAGES:

A. Describe existing drainage ways or wetlands on or near the project site (i.e., rivers, creeks and drainage ditches 12" or deeper and/or within 30' of the property) See attached.

B. Are there any drainage easements on the parcel? Yes No

C. Will the project require altering any streams or drainage channels? Yes No If YES, contact the Department of Fish and Game for a stream alteration permit. IF YES TO ANY OF THE ABOVE, show location on plot plan and note any alteration or work to be done within 30 feet of the stream or drainage.

7. VEGETATION:

A. Describe the site's vegetation and the percentage of the site it covers (map major areas of vegetation on the Plot Plan) See attachment.

B. How many trees will need to be removed? 0

C. Are there any unique, rare or endangered plant species on site? Yes No

D. Has the site been used for the production of agricultural crops/trees or grazing/pasture land in the past or at the present time? Yes No

E. Is landscaping/planting of new vegetation proposed? Yes No

8. WILDLIFE:

A. Will the project impact existing fish and wildlife? Yes No

Describe existing fish and wildlife on site and note any proposed measures (if any) to avoid or mitigate impacts to fish and wildlife _____

B. Are there any unique, rare or endangered animal species on site? Yes No

9. CULTURAL RESOURCES:

A. Are there any cemeteries, structures or other items of historical or archaeological interest on the property? Yes No Specify _____

10. SITE GRADING:

A. Will more than 10,000 square feet of site area be cleared and/or graded?

Yes No If YES, how much? 10 acres

B. Will the project require any cuts greater than 4' or fills greater than 3'? Yes No

C. Will the project require more than 200 cubic yards of cut or fill? Yes No If YES, how much? 1,000
If YES to A, B or C, contact the Department of Public Works for a grading permit.

D. Will site grading of 10% or more occur on slopes? Yes No

E. Note any measures to be taken to reduce dust, prevent soil erosion, or the discharge of earthen material off site or into surface waters See attachment.

11. AIR QUALITY:

A. Will the project have wood-burning devices? Yes No If YES, how many? _____

B. What fuel sources will the proposed project use? Wood Electric Propane/Gas

C. Will the proposal cause dust, ash, smoke, fumes or odors in the vicinity? Yes No

12. VISUAL/AESTHETICS:

A. How does the proposed project blend with the existing surrounding land uses?

See attached.

B. How does the proposed project affect views from existing residential/commercial developments, public lands or roads? See attached.

C. If outdoor lighting is proposed, describe the number, type and location See attached.

13. NATURAL HAZARDS:

A. Is the site known to be subject to geologic hazards such as earthquakes, landslides, mudslides, ground failure, flooding, avalanche or similar hazards? Yes No (Circle applicable hazard[s]).

B. Will any hazardous waste materials such as toxic substances, flammables or explosives be used or generated? Yes No

C. Does the project require the disposal or release of hazardous substances? Yes No

D. Will the project generate significant amounts of solid waste or litter? Yes No

E. Will there be a substantial change in existing noise or vibration levels? Yes No
If YES to any of the above, please describe _____

14. OTHER PERMITS REQUIRED:

List any other related permits and other public approvals required for this project, including those required by county, regional, state and federal agencies:

Commercial Cannabis Operation Permit *County Planning Division*

- Encroachment Permits from *Public Works or Caltrans*.
- Stream Alteration Permit from *Department of Fish and Game*
- 404 Wetland Permit from *Army Corps of Engineers*
- Grading Permit from *Public Works*
- Building Permit from *County Building Division*
- Well/Septic from *County Health Department*
- Timber Land Conversion from *California Department of Forestry*
- Waste Discharge Permit from *Lahontan Regional Water Quality Control Board*
- Other _____

IV. SERVICES

1. Indicate how the following services will be provided for your project and the availability of service.
 - Electricity _____
 Underground Overhead (Show location of existing utility lines on Plot Plan)
 - Road/Access _____
 - Water Supply _____
 - Sewage Disposal _____ See attached for all services.
 - Fire Protection _____
 - School District _____
2. If an extension of any of the above is necessary, indicate which service(s), the length of extension(s), and the infrastructure proposed _____

CERTIFICATION: I hereby certify that I have furnished in the attached exhibits the data and information required for this initial evaluation to the best of my ability, and that the information presented is true and correct to the best of my knowledge and belief. I understand that this information, together with additional information that I may need to provide, will be used by Mono County to review the proposed project in compliance with state and local law.

Signature _____ Date _____

For _____

NOTE: Failure to provide any of the requested information will result in an incomplete application and thereby delay processing.

Mono County
Community Development Department
Planning Division
Commercial Cannabis Activity
Use Permit Application Attachments

Chichewa, LLC
Sierra High Farms
106834 US 395
Coleville, CA 96107

Jeff Hinds
530-208-6795
SierraHighFarms@gmail.com

Proposed Use:

Sierra High Farms is an adult/medical cannabis production and distribution facility. Product will be grown both indoor and outdoor.

The indoor cultivation portion of the project will operate under a California Micro-business license issued by the DCC and will consist of cultivation, distribution, and non-storefront retail. The outdoor portion will operate on a cultivators license issued by the DCC.

The property has the land use designation AG10 on which cannabis activities are allowed subject to Land Use and Operations permits.

The facility will consist of no more than 10 acres of outdoor cultivation canopy area and no more than 10,500sf of indoor mature plant canopy.

Initially, an ~4,000 sf building will be constructed which will contain ~400sf of mature canopy area along with areas for immature plants and plant processing. This building will serve as a lab while further construction is being completed. We will be testing our environmental control and lighting systems, and sorting out plant genetics.

Subsequently, four primary cultivation buildings will be constructed for indoor operation. Each building is approximately 8,000sf in size and designed to produce 2,500sf of mature plant canopy. Work areas include space for immature plants, processing/packaging/labeling, and other plant related activities. Each of these buildings will also include two employee restrooms (one ADA compliant), lockers, break room, and security office entrance. These buildings will be secured at all times with no public access.

One maintenance shop of approximately 2,500sf will be constructed.

The outdoor cultivation area may, during early and late season, use hoop houses to protect the plants from frost/freeze. It may also use industry standard light deprivation techniques over the hoops to trigger plants to flower earlier than they would naturally. All lighting will comply with Mono County night sky requirements.

Four storage containers will support the outdoor grow operation for tool storage, farm equipment storage, fertilizer storage, etc. One 2,100sf drying shed will also be included.

The nursery and processing licenses will serve the outdoor cultivation areas and will be housed in a 5,000sf building shown on the plot map.

Our retail license is non-storefront. This license, combined with our distribution license, will serve both the indoor and outdoor operations and will be located in the first indoor cultivation building. Distribution activities will include transporting cannabis and cannabis products from the operation to retail and wholesale outlets, as well as, quality-assurance review and storage.

Sierra High Farms intends to rely greatly on solar power produced on site and as such will need to permit an area for ground mount solar panels.

This project is consistent with the surrounding land uses and is situated remotely from receptors. The closest residence in Mono County is more than a mile away. The closest residence in Douglas County, Nevada is almost a half mile away. There are only three houses within a 2 mile circle of the project. Odor nuisances are abated through these large buffers.

Public consumption will be prohibited on-site, and no public sales will take place at the premises.

The indoor cultivation project, when fully built out, is expected to employ 12-15 people, 8 of those full time and the rest part time. The outdoor project will employ people seasonally with an expectation of 4-8 employees. Within the first couple years, Sierra High Farms intends to work with the county to get agriculture employee housing approved on the property.

The majority of cannabis waste will be handled on-site and recycled on the property for beneficial purposes. The state allows the reintroduction of cannabis waste back into agricultural operation through on-premises organic waste recycling methods including, but not limited to, tilling directly into agricultural land and no-till farming.

Due to the environmental setting and resources available, this project will use less energy than other comparable cultivation operations. Water will be provided by a well capable of meeting the demand.

Water Conservation Measures:

Our water conservation and usage plan includes drilling a new solar-equipped well connected to tank storage. Our indoor cultivation operation achieves maximum conservation efficiency with computerized monitoring. Runoff is kept to an absolute minimum. Year-round indoor cultivation will draw less than 2,600 gallons per day at maximum operation.

Our outdoor cultivation avoids evaporation by utilizing raised beds with mulch-covered underground drip tapes. This keeps the outdoor seasonal demand to 4,000 gallons per acre per day. These volumes of water will only occur during the months of July-September. Amounts should average half that in the months of May and June.

For comparison, there is an existing well/pump on our property that serves existing agricultural demand. This pump yields around 3,500 gallons per minute, 24/7, during the driest summer months. Water usage from our new well will be less than 1% of that amount during peak demand for our entire operation.

III. Environmental Setting

3: Describe the number and type of vehicles associated with the project.

The expected employee vehicle traffic is 4-6 vehicles per shift (max 12-15 per day). Package delivery (FedEx/UPS) vehicle traffic is expected, likely on a daily basis. Occasional commercial trucks for heavier deliveries are expected 1-2 times per week. Trips to export products from the facility will likely be less than once per week.

4: Describe the existing land use(s) on adjacent properties. Also note any major man-made or natural features (i.e., highways, stream channels, number and type of structures, etc.).

The Mono County parcel directly to the west is an ~650 acre AG10 parcel owned by the David Parks Cattle company and is used for cattle grazing and hay production. This parcel has no buildings of any kind.

The Mono County parcel directly to the south is an ~500 acre RM parcel owned by the BLM. The parcel has no buildings of any kind.

The Mono County parcel directly to the east of our parcel is an ~50 acre AG10 parcel owned by the David Parks Cattle Company, historically used for cattle grazing. This parcel has no buildings of any kind.

The parcel directly north of the project is an ~2,700 acre Douglas County, Nevada AG19/FR19 parcel owned by the David Parks Cattle Company and is used for cattle grazing and hay production. There are several large agricultural buildings on this parcel - the closest of which is ~3,500ft from the project center.

The west side property border is the Highline irrigation ditch.

Though not adjacent to our project itself, the closest residence adjacent to our parcel lies to the northeast ~1,700ft. This residence, used part-time, is located on a Douglas County, Nevada 40 acre FR19 parcel.

The closest highway is US 395, approximately 5 miles away. The closest paved county road (intersection of Topaz and Eastside Lanes) is approximately 1.5 miles away. The gravel portion of Eastside Lane lies almost a half mile to the southeast of the project, however, a portion of the gravel-surfaced Eastside Lane does at one point cross the far SE corner of our property. Access to our project will be via what the locals call "State Line Road" which intersects Eastside Lane at the "State Line" signpost on the Nevada border.

5: Describe the site's topography (i.e., landforms, slopes, etc.).

The entire parcel lies within a large alluvial fan and is very gently and consistently sloped towards the west.

6: Describe existing drainage ways or wetlands on or near the project site (i.e., rivers, creeks and drainage ditches 12" or deeper and/or within 30' of the property).

While not on the project site proper, there are two minor dry washes on the east side of the property which join together near the center of the property, but quickly die out. To the best of our investigation, these washes have been dry since the great flood of 1997.

The west side property border is the Highline irrigation ditch.

The closest portion of the USFW wetland overlay lies ~1 mile to the west.

7: Describe the site's vegetation and the percentage of the site it covers (map major areas of vegetation on the Plot Plan).

The entire 123 acre parcel has been most recently used for cattle grazing and is dominantly covered by sage.

10: Note any measures to be taken to reduce dust, prevent soil erosion, or the discharge of earthen material off site or into surface waters.

An irrigation sprinkler will be used for dust control. Downhill of grading and uphill of the Highline irrigation ditch, silt fencing/wattles will be installed to prevent any erosion into the Highline.

12: How does the proposed project blend with the existing surrounding land uses?

The land use designations for the surrounding parcels are almost exclusively agriculture in nature. The architectural design of our cultivation buildings has been carefully selected to invoke an agricultural feel rather than industrial. What are architecturally called "raised center aisle" buildings will be constructed. This is a style typically seen in horse barns.

Colors which will compliment the landscape will be used throughout.

How does the proposed project affect views from existing residential/commercial developments, public lands or roads?

These agriculture buildings are of typical height, well off any public lands/roads, and are distant from any residences. No part of the project is on a ridge and thus will not impact viewsheds.

If outdoor lighting is proposed, describe the number, type and location

Other than security/emergency lighting, no outdoor lighting is proposed. All outdoor lighting will comply with Mono County night sky requirements.

IV: Indicate how the following services will be provided for your project and the availability of service.

Electricity: We plan to use a variety of power sources, including grid power, propane CHP (cogen/trigen) generation, and solar.

The Liberty power grid has limited capacity issues. The 4 megawatt Topaz Lake substation, which supplies power to Antelope Valley, has 3.8 megawatt already assigned. Any cannabis business plan of substance must include other supplemental options for power production. Sierra High's long term plan includes migrating from CHP during the startup phase to solar for primary power. This will take time. Additionally, given the distance to the existing grid (over 3,000ft), the time needed for Liberty Power to add the necessary line extension is significant.

These issues will necessitate a startup power scenario that is unlike the long term power supply scenario. Initially, propane CHP (cogen) generators will supply the electricity. Grid power and solar will be mixed in as available.

Road access: Access to our project will be via what the locals call “State Line Road” which intersects Eastside Lane at the “State Line” signpost on the Nevada border.

Water Supply: There is a large existing irrigation well on the property that serves existing agricultural demand. We will be drilling a 2nd (smaller) well nearer the project itself, equipping that with a solar well pump and utilizing the new well for the Sierra High Farms project.

Sewage Disposal: Sewers will be through a permitted septic system. This system will be for restrooms/grey water only. No cultivation runoff water will be introduced into this system.

The site was analyzed by Sierra Geotechnical Services, Inc. for soil suitability for sewage disposal and was found to be suitable for the construction of a conventional sewage disposal system. The certified results are included in this packet.

Fire protection: The Antelope Valley Fire Department will provide us with a service agreement.

School District: We are located in the Eastern Sierra Unified School District.

If an extension of any of the above is necessary, indicate which service(s), the length of extension(s), and the infrastructure proposed.

The nearest Liberty Power grid connection is at Ricky Canyon - over 3,000ft away from the project property line. We would intend to exercise the agriculture overhead exemption for any line extensions.



ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGY • MINING • TESTING AND INSPECTION

June 28, 2021

Project No. 3.31779

Chichewa LLC
106834 US 395
Coleville, CA 96107

Subject: **GEOTECHNICAL INVESTIGATION AND SOILS SUITABILITY
FOR SEWAGE DISPOSAL**
Round Mountain Farms
123.6-Acre Parcel, Eastside Lane (APN 001-150-004)
Topaz, Mono County, California

Sierra Geotechnical Services Inc (SGSI) is pleased to submit the results of our geotechnical investigation and soil suitability report for sewage disposal, for the proposed five metal building development project to be constructed on the subject property. The purpose of this study was to assess the geologic and geotechnical constraints to development and provide geotechnical recommendations relative to the future development of the proposed project.

Based upon our field and laboratory investigation, engineering analyses and professional judgment, it is our opinion that the site is suitable for construction of the proposed improvements provided the recommendations included within this report are incorporated into the design and construction. The primary geologic and geotechnical constraint to development of the subject property is the potential seismic hazard associated with ground shaking from nearby regional faults.

The site was also analyzed for soil suitability for sewage disposal and was found to be suitable for the construction of a conventional sewage disposal system.

Foundation plans are presently unavailable. SGSI should review foundation plans prior to construction in order to verify that they are in conformance with this report; some of the geotechnical recommendations contained herein may need to be revised after reviewing.

The conclusions and recommendations presented herein are considered site specific and should not be extrapolated to other areas or used for other projects.

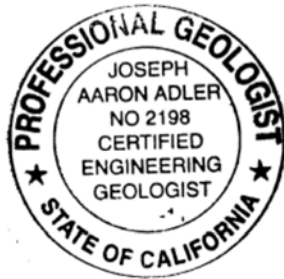
We appreciate the opportunity to be of service to you. Should you have any questions regarding this report, please do not hesitate to contact us.

Respectfully,

SIERRA GEOTECHNICAL SERVICES, INC.



Joseph A. Adler
President
CEG 2198 (exp 3/31/2023)



Thomas A. Platz
Principal Engineer
PE C41039 (exp 3/31/2023)





GEOTECHNICAL INVESTIGATION

AND

SOILS SUITABILITY FOR SEWAGE DISPOSAL

FOR

ROUND MOUNTAIN FARMS (APN 001-150-004)

TOPAZ MONO COUNTY, CALIFORNIA

JUNE 28, 2021
PROJECT NO. 3.31779

Prepared By:

SIERRA GEOTECHNICAL SERVICES, INC.
P.O. Box 5024
Mammoth Lakes, California 93546

www.sgsi.us

TABLE OF CONTENTS

	<u>PAGE</u>
1. PURPOSE AND SCOPE	1
2. SITE DESCRIPTION	1
3. PROPOSED DEVELOPMENT.....	2
4. GEOLOGIC AND GEOTECHNICAL SITE CONSTRAINTS.....	2
5. SUBSURFACE CONDITIONS	2
5.1 Groundwater.....	2
6. FAULTING	3
6.1 Antelope Valley Fault Zone.....	3
7. CBC SEISMIC DESIGN PARAMETERS.....	3
8. SECONDARY EARTHQUAKE EFFECTS	4
8.1 Shallow Ground Rupture	4
8.2 Soil Lurching	4
8.3 Liquefaction.....	4
8.4 Dynamic Settlement	5
8.5 Seiches.....	5
8.6 Lateral Spreading.....	5
9. LANDSLIDES	5
10. SUBSIDENCE	5
11. FLOOD HAZARDS.....	6
12. EXPANSIVE SOILS.....	6
12. PERCOLATION TEST STUDY.....	6
14. CONCLUSIONS.....	6
15. RECOMMENDATIONS	7
15.1 Geotechnical Review	8
15.2 Site Preparation	8
15.3 Excavations.....	8
15.4 Foundation Preparation and Design.....	9
15.5 Foundation Construction.....	10
15.6 Foundation Setback	11

16. CONCRETE SLAB-ON-GRADE11
17. PAVEMENT RECOMMENDATIONS12
18. DRAINAGE.....12
19. QUALITY CONTROL12
20. LIMITATIONS.....13
21. REFERENCES14

LIST OF ATTACHMENTS

FIGURE 1	REGIONAL MAP
FIGURE 2	SUBSURFACE GEOTECHNICAL MAP
APPENDIX A	EXPLORATORY TEST PIT LOGS
APPENDIX B	RESULTS OF LABORATORY TESTING
APPENDIX C	PERCOLATION TEST RESULTS
APPENDIX D	EARTHWORK AND GRADING RECOMMENDATIONS

1. PURPOSE AND SCOPE

Presented herein are the results of our geotechnical investigation and soils suitability study for sewage disposal, for the proposed five metal buildings and appurtenances agricultural facility project to be located near the northwest end of the approximate 123.6-acre parcel, located north of Eastside Lane, and east of Topaz, Mono County, California (Figure 1) (38.6254, -119.4633).

The purpose of this study was to obtain information on the subsurface conditions within the project area; to evaluate the competency of the soils to support the proposed structures; evaluate data relative to site geologic and seismic hazards; evaluate data relative to foundation design; and provide conclusions and recommendations for grading, foundation design, and construction of the proposed structures as influenced by subsurface conditions.

Specifically, our scope of work consisted of:

- A review of readily available published and unpublished geotechnical literature, topographic maps, geologic maps, fault maps, and aerial photographs.
- Performance of a subsurface exploration consisting of logging and sampling of two backhoe excavated exploratory test pits and performance of two percolation tests for sewage disposal.
- Laboratory testing of representative soil samples obtained during our field investigation to evaluate soil properties for design purposes.
- Geologic and geotechnical evaluation and analysis of the collected field and laboratory data.
- Preparation of this written report presenting the results of our findings, conclusions, geotechnical recommendations, and construction considerations for the proposed development.

2. SITE DESCRIPTION

The subject undeveloped property is located approximately 3.15-miles east of the Town of Topaz in Mono County, California (Figure 1). More specifically the site is located near the just northwest of the intersection of Old Smith Valley Road, and Eastside Lane. The property is 123.6-acres and is relatively flat to slightly west sloping. Vegetation is desert-type brush.

3. PROPOSED DEVELOPMENT

We anticipate that the proposed construction will include five 36' x 80' metal buildings, generator enclosures, parking areas, associated utilities, and other appurtenances. Grading will be minor with the structures sitting at near or existing grades.

Foundation systems are not yet designed but will likely include shallow concrete perimeter footing, interior piers, and slab-on-grade. Neither basement nor retaining walls are planned. Detailed plans for construction are currently not available. SGSI should review foundation plans prior to construction to assure that they will be in conformance with the recommendations herein.

4. GEOTECHNICAL AND GEOLOGIC SITE CONSTRAINTS

The primary geologic and geotechnical constraints to development of the subject site is the potential for strong ground shaking from the Antelope Valley fault zone, located approximately 3.43-miles west of the site.

5. SUBSURFACE CONDITIONS

As observed during this investigation, the site is underlain by granular relatively dense alluvial deposits. Logs of the subsurface conditions encountered are provided in Appendix A. Approximate locations of the exploratory test pits are shown on the Subsurface Geotechnical Map (Figure 2).

The alluvial deposits are considered suitable for additional fill and/or structural support provided the earthwork and grading recommendations included herein are adhered to during construction.

5.1 Groundwater

Neither a groundwater table nor groundwater seepage were encountered during the field investigation nor is expected during construction. Based upon correspondence, the ground water table is approximately 80-feet below the ground surface in the building locations. Locally perched groundwater could develop with increased irrigation and/or runoff infiltration. Since the prediction of the location of such conditions is difficult to determine, they are typically mitigated if or when they occur.

6. FAULTING

Based on our review, the site is **not** located within any “Earthquake Fault Zones” or Alquist-Priolo Hazard Zones. The closest active fault to the site is the Antelope Valley fault zone (AVFZ), located approximately 3.43-miles west of the site. A brief description of this fault zone is included herein.

6.1 Antelope Valley Fault Zone

The Antelope Valley fault zone (AVFZ) is a predominately northwest-striking, east-dipping fault. The fault extends from California into Nevada and is approximately 58-miles long. Timing of the most recent paleo-event is not well constrained. Latest Quaternary movement is indicated based on mapping by Bryant (1984), Hayes (1985), John and others (1981), and Jennings (1994). Bryant (1984) estimated that the most recent event probably occurred during the past 3,000 years (late Holocene), based on fault scarp morphology and soil profile development on alluvial-fan surfaces. A slip-rate of approximately 0.2 to 1-mm/year is calculated for the AVFZ based on an offset alluvial fan deposits.

7. CBC SEISMIC DESIGN PARAMETERS

Site coordinates in the improvement area are 38.6254, -119.4633. Table I presents the Seismic Parameters for use in preparing a Design Response Spectra for the site.

TABLE I

SEISMIC PARAMETER (ASCE 7-16)	RECOMMENDED VALUE
Site Class	D – Default
Risk Category	II
F _a	1.2 g
S _s	1.759 g
S ₁	0.573 g
S _{MS}	2.111 g
S _{DS}	1.407 g
PGA/ PGA _M	0.762/0.914 g

Conformance to the above criteria for strong ground shaking does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur during a large magnitude earthquake. Design of structures should comply with the requirements of the governing jurisdictions, building codes, and standard practices of the Association of Structural Engineers of California.

8. SECONDARY EARTHQUAKE EFFECTS

Secondary effects that can be associated with an earthquake include shallow ground rupture, lurching, liquefaction, dynamic settlement, seiches, and lateral spreading. These secondary effects of seismic shaking are discussed in the following sections.

8.1 Shallow Ground Rupture

Ground surface rupture results when the movement along a fault is sufficient to cause a gap or break along the upper edge of the fault zone on the surface. Our review of available geologic literature indicated that there are no known active, potentially active, or inactive faults that transect the subject site. The nearest known active regional fault is the Antelope Valley fault splay located approximately 3.43-miles to the west.

8.2 Lurching

Soil lurching refers to the rolling motion on the ground surface by the passage of seismic surface waves. Effects of this nature are likely to be most severe where the thickness of soft sediments varies appreciably under structures. In its present condition, the potential for lurching below the future proposed structure is considered low due to the limited amount of potentially compressible soils in the proposed building area.

8.3 Liquefaction

The potential for liquefaction to occur is considered negligible, given the lack of a static or perched water table and the dense nature of bearing soils on-site. Because the liquefaction potential is considered negligible, the potential for ground failures associated with liquefaction, i.e post liquefaction reconsolidation, and sand boils are also considered very low.

8.4 Dynamic Settlement

Portions of the shallow granular on-site soils may be loose and susceptible to dynamic settlement if strongly shaken by the design level earthquake. The potential for dynamic settlement will be greatly reduced if the loose (top 2 to 3-feet) and compressible soils near the surface are removed and properly compacted.

8.5 Seiches

The potential for seiches as the result of the design level earthquake in a nearby fault are considered non-existent, due to the distance of the ocean or large open bodies of water from the project site.

8.6 Lateral Spreading

Lateral spreading refers to landslides that form on gentle slopes as a result of seismic activity and have a fluid like movement. It differs from slope failure in that complete ground failure involving large movement does not occur due to the relatively smaller gradient of the initial ground surface. Soil types that are highly susceptible to lateral spread include silts and shale. Soils in the immediate vicinity of the building site consist of dense, sands with minor amounts of fines. Based on these findings, lateral spreading is not expected to occur on the site.

9. LANDSLIDES

Evidence of past landslides affecting the building area was not observed during aerial photographic review or in the field.

10. SUBSIDENCE

The subject site is not within an area known for past cases of substantial subsidence due to fluid removal. It is our opinion that the potential for significant subsidence due to the extraction of fluids is negligible. Soils subject to hydro-collapse, such as loose cemented silty and clayey soils were not noted in the test pits. Significant soil settlement associated with wetting of the subgrade materials is not anticipated. Post construction soil settlement associated with landscape irrigation is anticipated to be less than 1/2-inch.

11. FLOOD HAZARDS

The project site is located in Zone X – area of minimal flood hazard, per FEMA Flood Zone Map 6051C0040D, effective on 2/18/2011.

12. EXPANSIVE SOILS

Expansive soils are soils that swell when subjected to moisture. Shrink/swell potential is the relative change in volume to be expected with changes in moisture content; that is, the extent to which the soil shrinks as it dries or swells when it gets wet. The extent of shrinking and swelling is influenced by the amount and kind of clay in the soil. Shrinking and swelling of soils causes' damage to building foundations, roads, and other structures. Soils in the immediate vicinity of the building sites consist of dense, sands with minor fines and gravels. Based on these findings, there is a very low shrink/swell potential at the site.

13. PERCOLATION TEST STUDY

Two percolation test holes were tested on May 26th, 2021. The locations of the percolation test holes are shown on Figure 2. The excavations exposed granular soils to depths explored. Groundwater was not encountered. Terminal percolation rates ranged from 5.71 to 6-minutes per inch. The percolation test results are included in Appendix C.

Based on the observed conditions, construction of a sewage disposal system is considered feasible. A copy of this report should be provided to the Inyo County Environmental Health Department. The type of system and all other pertinent sewage disposal design information can be obtained from the health department.

14. CONCLUSIONS

Based on the results of this investigation, it is our opinion that the construction of the proposed project is feasible from a geotechnical standpoint provided the following are understood and incorporated into the design and construction. The following sections provide a summary of the above sections as well as preliminary foundation and grading recommendations which should be implemented during site development to mitigate site geologic constraints.

- There are no known active, potentially active, or inactive faults that transect the subject site. Evidence of past soil failures, landslides, or active faulting on the site was not encountered.
- Seismic hazards at the site may be caused by ground shaking during seismic events on regional active faults.
- The proposed construction area is underlain by up to approximately 2 to 3-feet of loose surficial soils considered “unsuitable” for the support of structural loads. Where these soils will be subjected to increased loading, remedial grading consisting of over-excavation and compaction is recommended to improve the bearing capacity of those materials. Remedial grading recommendations are provided in this report.
- The depths of the unsuitable soils are based upon the areas observed during the field investigation. It should be anticipated that the overall depth of the unsuitable materials exposed during construction may vary from that encountered in the test pits.
- Reasonably continuous construction observation and review during site grading and foundation installation allows for evaluation of the actual soil conditions and the ability to provide appropriate revisions where required during construction.
- Site soils encountered during our field investigation consisted of loose to dense, silty fine to coarse-grained sands, with abundant gravels and cobbles.
- Neither a groundwater table nor groundwater seepage were encountered during our field investigation. However, locally perched groundwater could develop with increased irrigation runoff infiltration. Since the prediction of the location of such conditions is difficult to determine, they are typically mitigated if or when they occur.
- Excavations at the site will be achievable using standard earthmoving equipment.
- Terminal percolation rates ranged from 5.71 to 6-minutes per inch. The subject site is suitable for construction of a sewage disposal system.

15. **RECOMMENDATIONS**

The following recommendations should be adhered to during site development. These recommendations are based on empirical and analytical methods typical of the standard of

practice in California. If these recommendations appear not to cover any specific feature of the project, please contact our office for additions or revisions to the recommendations.

15.1 Geotechnical Review

Geotechnical review is of paramount importance in engineering practice. The poor performance of many foundation and earthwork projects has been attributed to inadequate construction review. Sierra Geotechnical Services, Inc. should be provided the opportunity to review the following items, or we waive all liability for any and all geotechnical issues associated with grading or construction relative to the subject site.

15.2 Site Preparation

Prior to grading, the proposed structural improvement areas (i.e. all structural fill, pavements areas and structural building, etc.) of the site should be cleared of surface and subsurface obstructions, including vegetation. Vegetation and debris should be disposed of offsite. Holes resulting from removal of buried obstructions, which extend below the recommended removal depths described herein or below finished site grades (whichever is lower) should be filled with properly compacted soil. Should existing underground utilities be encountered they should be completely removed and properly backfilled. Alternatively, if the utility is not within the influence zone of the foundation it may be abandoned in place by fully grouting the pipe.

15.3 Excavations

Based upon the proposed construction and the information obtained during the field investigation, we anticipate that the proposed structures will be founded on continuous and/or spread footings, which are supported by competent alluvial deposits. The following grading and earthwork recommendations are based upon the limited geotechnical investigation performed and should be verified during construction by our field representative.

The subject property is underlain by up to approximately **2 to 3-feet** of loose surficial deposits considered unsuitable for the support of new fill or structural loads. This material should be removed from below the building areas. The removal should extend a minimum of 3-feet laterally beyond any continuous or perimeter

footings. All removal bottoms should be observed (tested as needed) by the geotechnical consultant prior to placing fill soils.

Cut/fill transitions shall not be allowed below foundation elements. If this will occur, we recommend that all footings be deepened to extend into uniform competent native soils, and that all soils below concrete slabs be undercut/removed so that slabs will be supported on an at least a 2-foot-thick compacted fill mat. As an alternative to the 2-foot fill mat, the slab may be designed to accommodate for differential settlements which conservatively speaking may be 1" static over 30'.

Site soils are suitable for use as compacted fill if they are processed in accordance with the recommendations in Appendix D. Approved fill soils should be placed in thin lifts (6 to 8-inches loose thickness) and moisture conditioned to at least optimum moisture content. All fill should be compacted to a minimum of 90-percent compacted to a minimum of 90-percent in footing areas (95-percent for the upper 12-inches below slabs and sitework) of the laboratory maximum dry density per ASTM D1557.

For any paved parking and/or permeable paver areas and other improvements a 1-foot removal is recommended depending on site conditions (i.e. depth of root zone, and depth of disturbance which may have locally deeper removal depths).

15.4 Foundation Preparation and Design

Shallow, spread or continuous footings may be used to support structures provided they are founded entirely upon properly compacted fill, or competent native deposits. Continuous and isolated column foundations should be sized according to the allowable soil bearing pressures shown in Table II below. The pressures shown on Table II are for dead loads plus long-term live load.

TABLE II

Allowable Soil Bearing Pressure (psf) FS =3.0	Lateral Passive Resistance (psf/ft) FS =1.5	Friction Coefficient
2,500	250	0.25

The allowable pressure may be increased by one-third when considering loads of short duration such as wind or seismic forces. When combining passive pressure and frictional resistance, the passive pressure component should be reduced by one-third. Continuous and isolated footings should be designed in accordance with the structural engineer requirements.

15.5 Foundation Construction

The following recommendations assume non to low expansive soils near finish pad grade.

- Footings should be designed in accordance with the structural engineer's requirements. Exterior and interior foundations shall be founded within compacted fill or competent native soils.
- Exterior foundations shall have a minimum embedment depth of 18-inches below outside adjacent grade. Interior foundations shall have a minimum embedment depth of 12-inches below adjacent grade.
- All footing excavations should be observed by a representative of SGSI prior to placement of reinforcing steel, to assure proper embedment into suitable soils.
- Footing trenches should not have any rocks or boulders protruding into the trench bottom. Soft soil pockets created by rock removal during foundation excavation shall be replaced with approved fill material and compacted to 90-percent of the material's maximum dry density.
- Site soils are suitable for use as compacted fill as long as they are processed in accordance with the recommendations in Appendix D. Approved fill soils should be placed in thin lifts (6 to 8-inches loose thickness) and moisture conditioned to at least optimum moisture content. All fill should be compacted to a minimum of 90-percent in footing areas (95-percent for the upper 12-inches below slabs and sitework) of the laboratory maximum dry density per ASTM D1557.
- Any import soils shall be tested for suitability in advance by the project Geotechnical Engineer. Earth fill material shall not contain more than 1-percent of organic materials (by volume). Imported fill shall have a maximum plasticity index of ≤ 12 , and a liquid limit less than 40 when measured in accordance with ASTM D 4318.

15.6 Foundation Setback

Utility trenches that parallel or nearly parallel structure footings should not encroach within a 1:1 plane extending downward and outward from the outside edge of the footing.

16. CONCRETE SLAB-ON-GRADE

Building slabs: Shall be supported on-grade by competent native deposits or compacted fill. Subgrade soils should have a very low expansion potential ($EI < 20$). Slabs should be designed for anticipated loading. Slab thickness shall meet the requirements of the Structural Engineer of record. Likewise, control joints and reinforcement should be designed by the Structural Engineer.

Concrete slabs should be underlain by a vapor barrier/retarder (Stego Wrap or equivalent - 10 mil minimum thickness), which is in turn, underlain by a 4-inch-thick layer of $\frac{3}{4}$ " crushed stone. All penetrations and laps in the moisture barrier should be appropriately sealed. The membrane should have a high puncture resistance and should be installed so that there are no openings or holes. All seams should be overlapped and sealed at the laps per the manufacturer's recommendations. Where pipes extend through the membrane, the barrier should be sealed to the pipes.

Moisture retarders can reduce, but not eliminate moisture vapor movement from the underlying soils up through the slab. We recommend that the floor coverings installer test the moisture vapor flux rate prior to attempting application of the flooring. "Breathable" floor coverings should be considered if the vapor flux rates are high. A slip-sheet should be used if crack sensitive floor coverings are planned.

The use of reinforcement in slabs and foundations will generally reduce the potential for drying and shrinkage cracking. However, some cracking may be expected as the concrete cures. Concrete cracking and/or spalling is often aggravated by a high cement ratio, high or low concrete temperature at the time of placement, small nominal aggregate size, rapid moisture loss, or the addition of water during placement. The use of low slump concrete (not exceeding 4-inches at the time of placement), a water-cement ratio no greater than 0.45 by weight, and proper curing methods can reduce the potential for shrinkage cracking.

17. PAVEMENT RECOMMENDATIONS

SGSI recommends the following Asphalt pavement section:

- 3-inches Asphalt Concrete / 4-inches Caltrans Class II Aggregate Base

The upper 12-inches of subgrade material along with the Class II Aggregate Base and the Asphaltic concrete shall be compacted to a minimum of 95-percent of the materials maximum dry density as determined by ASTM D1557. If pavement areas are adjacent to heavily watered landscape areas, some deterioration of the subgrade load bearing capacity may result. We recommend some measures of moisture control (such as deepened curbs or other moisture barrier materials) be provided to prevent the subgrade soils from becoming saturated.

18. DRAINAGE

Roof, pad, and slope drainage should be diverted away from slopes and structures to suitable discharge areas by non-erodible devices (e.g., gutters, downspouts, concrete swales, etc.). Positive drainage away from the foundations of the structures should be accomplished at a gradient of 5-percent or steeper for 10-feet or more outside the building perimeter if left as exposed soil or landscaped, or 2-percent or steeper for 10-feet or more outside the building perimeter if paved.

19. QUALITY CONTROL

The recommendations in this report are based on limited subsurface information. The nature and extent of variation across the site may not become evident until construction. If variations are exposed during construction, it may be necessary to re-evaluate our recommendations.

The recommendations presented herein assume that sufficient field testing and construction review will be provided during all phases of construction. We should review the final plans and specifications to check for conformance with the intent of our recommendations.

20. LIMITATIONS

This letter has been prepared for the sole use and benefit of our client. The conclusions of this report pertain only to the site investigated. The intent of the report is to advise our client of the geologic and geotechnical recommendations relative to the future development of the proposed project. It should be understood that the consulting provided and the contents of this report are not perfect. Any errors or omissions noted by any party reviewing this report, and/or any other geologic or geotechnical aspects of the project should be reported to this office in a timely fashion. The client is the only party intended by this office to directly receive this advice. Unauthorized use of or reliance on this report constitutes an agreement to defend and indemnify Sierra Geotechnical Services Incorporated from and against any liability, which may arise as a result of such use or reliance, regardless of any fault, negligence, or strict liability of Sierra Geotechnical Services Incorporated.

Conclusions and recommendations presented herein are based upon the evaluation of technical information gathered, experience, and professional judgment. Other consultants could arrive at different conclusions and recommendations. Final decisions on matters presented are the responsibility of the client and/or the governing agencies. No warranties in any respect are made as to the performance of the project.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings within this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

21. REFERENCES

Bryant, W.A., 1984, Evidence of recent faulting along the Antelope Valley Fault Zone, Mono County, California: California Division of Mines and Geology Open-File Report 84-56, scale 1:48,000.

California Building Code (2019). California Code of Regulations, Title 24, Part 2, Volume 2.

FEMA (2011), FEMA Flood Insurance Rate Map, Map No. 6051C0040D, effective on 2/18.

Hart, Earl W., and Bryant, William A (1999). Fault-rupture Hazard Zones in California, California Geological Survey Special Publication 42, 38p.

Hayes, G.F., 1985, Late Quaternary deformation and seismic risk in the southern Sierra Nevada Great Basin boundary zone near the Sweetwater Mountains, California and Nevada: Reno, University of Nevada, unpublished M.S. thesis, 135 p

Jennings, C.W., 1994, Fault activity map of California and adjacent areas: California Division of Mines and Geology Geologic Data Map No. 6, 1:750,000 scale.

John, D.A., Giusso, J., Moore, W.J., Armin, R.A., and Dohrenwend, J.C., 1981, Reconnaissance geologic map of the Topaz Lake 15 minute quadrangle, California and Nevada: U.S. Geological Survey Open-File Report 81-273, scale 1:62,500.



Miller, C.D., 1989, Potential hazards from future volcanic eruptions in California: U.S. Geological Survey Bulletin 1847, 17 p.

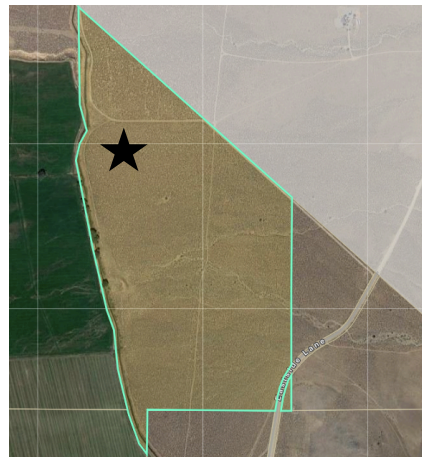


PROJECT:		VICINITY MAP ROUND MOUNTAIN FARMS, WALKER CA	
SCALE:	<i>NTS</i>	DATE:	<i>5/2021</i>
DRAWING:	<i>FIGURE 1</i>	DRAWN BY:	<i>PB</i>
JOB NO:	<i>3.31779</i>	FIGURE:	FIGURE 1



LEGEND

- TP-1
 APPROXIMATE LOCATION OF TEST PIT
- PK-1
 APPROXIMATE LOCATION OF PERCOLATION TEST
- ★ PERCOLATION & GEOTECHNICAL TESTING LOCATION



PROJECT:		SUBSURFACE LOCATION MAP	
SCALE:	NTS	DATE:	5/2021
COORDINATES:	38.6254, -119.4632	DRAWN BY:	PB
JOB NO:	3.31779	FIGURE:	FIGURE 2

APPENDIX A

EXPLORATORY TESTING

A subsurface field investigation was performed by SGSI on the subject site on May 26th, 2021. Excavations were performed with a CASE 590 backhoe equipped with a 24-inch bucket. Soils were visually classified in the field according to the Unified Soil Classification System (USCS). Bulk samples of the soils from the improvement areas were collected for laboratory testing. Logs of the test pits are presented herein. The approximate locations of the test pits are shown on the Subsurface Geotechnical Map (Figure 2).

In-place nuclear density tests and bulk samples of the soils encountered were obtained during the field investigation. Results of the in-place nuclear density tests are presented on the logs. Details of the laboratory testing are presented in Appendix B.



TEST PIT LOGS

JOB NO. 3.31779
LOCATION: Round Mountain Farms, Topaz (See Figure 2)
DATE: 5/26/2021
EQUIPMENT: Case 590 w/ 24-in bucket

LOGGED BY: GC

TEST PIT	DEPTH (FT)	U.S.C.S. GROUP SYMBOL	SAMPLE DEPTH	PERCENT MOISTURE	DRY DENSITY (pcf)	DESCRIPTION
TP-1						
	0 - 2	SM	1 - 2	5.0	125.0	<u>Topsoil</u> Medium brown, moist, loose, silty, fine to medium grained SAND, moderately rooted.
	2 - 8	SM	3 - 4	2.0	135.0	<u>Alluvial Fan Deposits</u> Light brown, damp, dense, silty, fine to coarse grained SAND, abundant gravels and cobbles. ----- <i>Total Depth = 8-feet. No groundwater encountered.</i>
TP-2						
	0 - 3	SM				<u>Topsoil</u> Medium brown, moist, loose, silty, fine to medium grained SAND, moderately rooted.
	3 - 7	SM				<u>Alluvial Fan Deposits</u> Light brown, damp, dense, silty, fine to coarse grained SAND, abundant gravels and cobbles. ----- <i>Total Depth = 7-feet. No groundwater encountered.</i>

APPENDIX B

LABORATORY TESTING

Laboratory tests were performed in general accordance with the American Society of Testing and Materials (ASTM) procedures. Laboratory tests were performed on the representative test samples to provide a basis for development of design parameters. Soil materials were visually classified in the field according to the Unified Soil Classification System (USCS). Selected samples were tested for the following parameters:

Classification

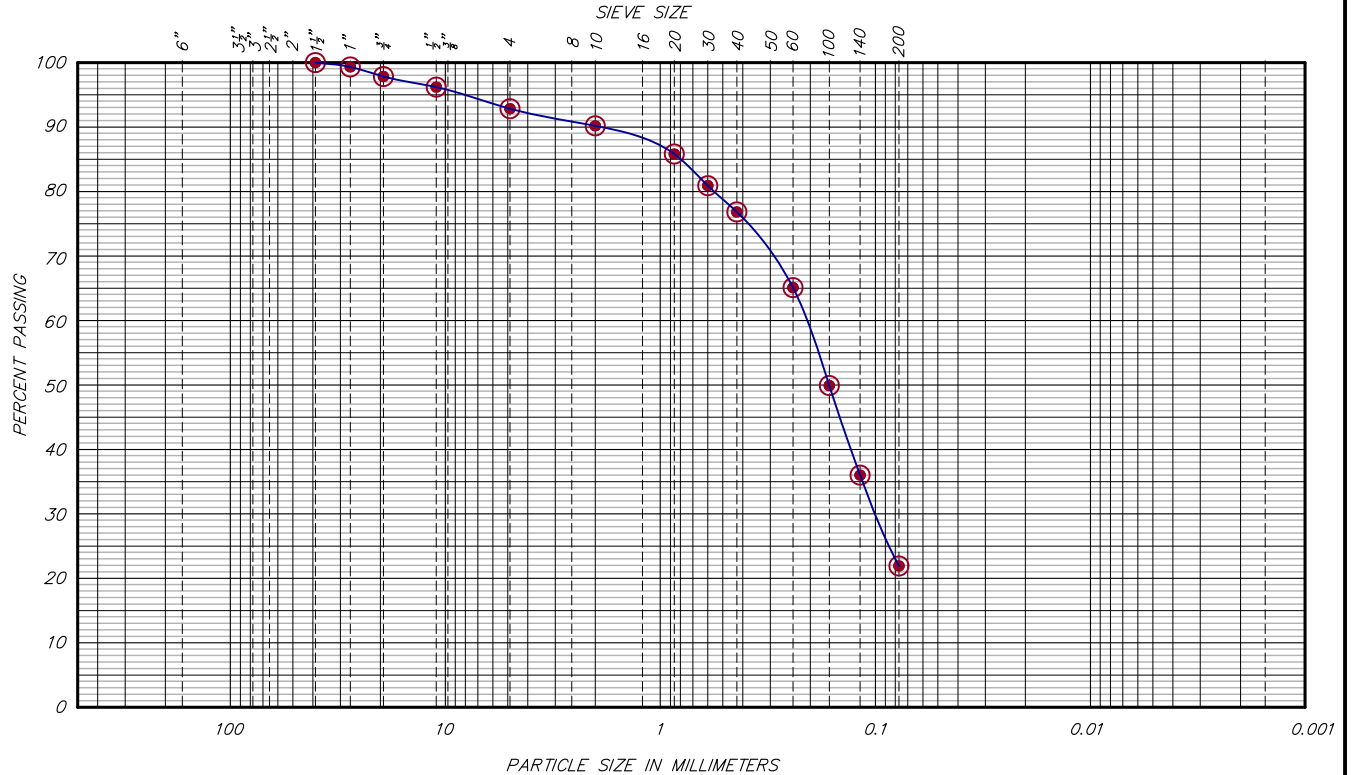
Soils were visually and texturally classified in accordance with the Unified Soil Classification System (USCS) in general accordance with ASTM D 2488.

Gradation Analysis

A gradation analysis test was performed on a selected representative soil sample in general accordance with ASTM D 422.

PARTICLE SIZE DISTRIBUTION REPORT

PER ASTM TEST METHODS D2487 & D6913



% >3"	% GRAVEL		% SAND			% FINES	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	2.2	5.0	2.6	13.4	54.9	21.9	n/a

SIEVE SIZE	PERCENT RETAINED	PERCENT PASSING	SPECIFIED PERCENT	PASS? (Yes or No)
3-1/2"				
3"				
2-1/2"				
2"				
1-1/2"	0	100		
1"	0.7	99.3		
3/4"	2.2	97.8		
1/2"	3.8	96.2		
3/8"	-	-		
No. 4	7.2	92.8		
No. 8	-	-		
No. 10	9.8	90.2		
No. 16	-	-		
No. 20	14.2	85.8		
No. 30	18.1	81.9		
No. 40	23.2	76.8		
No. 50	-	-		
No. 60	34.9	65.1		
No. 100	50.1	49.9		
No. 140	64.0	36.0		
No. 200	78.1	21.9		

<i>SOIL DESCRIPTION</i>		
<i>Silty sand</i>		
<i>ATTERBERG LIMITS</i>		
<i>PL = n/a</i>	<i>LL = n/a</i>	<i>PI = NP</i>
<i>COEFFICIENTS</i>		
<i>D₈₅ = n/a</i>	<i>D₆₀ = 0.20</i>	<i>D₅₀ = 0.15</i>
<i>D₃₀ = 0.10</i>	<i>D₁₅ = n/a</i>	<i>D₁₀ = n/a</i>
<i>C_u = n/a</i>	<i>C_c = n/a</i>	
<i>CLASSIFICATION</i>		
<i>USCS = SM</i>	<i>AASHTO = n/a</i>	
<i>REMARKS</i>		
<i>Specific Gravity (per ASTM D854) = n/a</i>		

SIERRA GEOTECHNICAL SERVICES, INC.

ENVIRONMENTAL GEOTECHNICAL GEOLOGY GROUNDWATER MINING MATERIALS
 873 NORTH MAIN STREET, SUITE 150, BISHOP, CALIFORNIA 93514
 PO BOX 5024, MAMMOTH LAKES, CALIFORNIA 93546
 www.sgsi.us

PROJECT: Round Mountain Farms		CLIENT: Chichewa, LLC John Borton	
SAMPLE DEPTH: Test Pit 1 at 2-3' deep		MATERIAL: Native Subgrade	
SAMPLED: 5/25/2021	DELIVERED: 5/25/2021	TESTED: 5/26/2021	TESTED BY: GC
JOB NO.: 3.31779		DRAFTED BY: DD	REVIEWED BY: JA

APPENDIX C

PERCOLATION TEST RESULTS

Two percolation tests were performed at the approximate anticipated depth of the future leach field (~3 to 4-feet below grade). An approximate 1'x1'x1' hole was dug at the base of the excavations and cleaned of loose soils at the sides and base. 3/4" clean crushed gravel was then placed around a 4" diameter perforated pipe from 2" below the base of the pipe, to just above the top of the perforated section. All holes were then saturated/presoaked for at least 2 hours before testing. After testing, pipes were removed and both holes in-filled with cuttings. Terminal percolation rates are included in Table I.

TABLE I

Percolation Test Number	Terminal Rate (Min/In)
PK-1	6
PK-2	5.71



PERCOLATION TEST RESULTS

JOB NO. 3.31779
LOCATION: Round Mountain Farms, Topaz (See Figure 2)

TESTED BY: GC
DATE: 5/26/2021

TEST NO.	TIME	WATER DEPTH (IN)	INTERVAL DROP (IN)	PERCOLATION RATE (MIN/IN)	DESCRIPTION
PK-1					
	1202	5.0	-	-	Initial Fill
	1232	10.0	5.0	6.00	-
	1232	5.0	-	-	Refill
	102	10.0	5.0	6.00	-
	102	5.0	-	-	Refill
	132	10.0	5.0	6.00	-
	132	5.0	-	-	Refill
	202	10.5	5.5	5.86	-
					Terminal Rate = 6 min/in



PERCOLATION TEST RESULTS

JOB NO. 3.31779
LOCATION: Round Mountain Farms, Topaz (See Figure 2)

TESTED BY: GC
DATE: 5/26/2021

TEST NO.	TIME	WATER DEPTH (IN)	INTERVAL DROP (IN)	PERCOLATION RATE (MIN/IN)	DESCRIPTION
PK-2					
	1200	1.50	-	-	Initial Fill
	1230	7.00	5.50	5.45	-
	1230	1.50	-	-	Refill
	100	6.75	5.25	5.71	-
	100	1.50	-	-	Refill
	130	6.75	5.25	5.71	-
	131	1.50	-	-	Refill
	201	6.75	5.25	5.71	-
					Terminal Rate = 5.71 min/in

APPENDIX D

EARTHWORK AND GRADING

These earthwork and grading specifications are for the grading and earthwork shown on the approved grading or construction plan(s) and/or indicated in the geotechnical report(s). Earthwork and grading should be conducted in accordance with applicable grading ordinances, the current California Building Code, and the recommendations of this report. The following recommendations are provided regarding specific aspects of the proposed earthwork construction. These recommendations should be considered subject to revision based on field conditions observed by the geotechnical consultant during grading.

Geotechnical Consultant of Record

Prior to commencement of work, the owner shall employ the Geotechnical Consultant of Record. The Geotechnical Consultant shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of grading or construction.

During grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required. Subsurface areas to be geotechnically observed, mapped, elevations recorded, and/or tested include natural ground, after it has been cleared for receiving fill but before it has been placed, bottoms of all "remedial removal areas, all key bottoms, and benches made on sloping ground to receive fill.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to determine the attained level of compaction. The Geotechnical Consultant shall provide the test results to the owner and the contractor on a routine and frequent basis.

The Earthwork Contractor

The Earthwork Contractor shall be solely responsible for performing the grading in accordance with the plans and specifications. The Earthwork Contractor shall review and accept the plans, geotechnical report(s) and these Specifications prior to the commencement of grading. The Earthwork Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant unsatisfactory conditions, such as unstable soil, improper moisture condition, inadequate compaction, adverse weather, etc... are resulting in a quality of work less than required in these Specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified.

Site Preparation

General: Site preparation includes removal of deleterious materials, unsuitable materials, and existing improvements from areas where new improvements or new fills are planned. Deleterious materials, which include vegetation, trash, and debris, should be removed from the site and legally disposed of off-site. Unsuitable materials include loose or disturbed soils, undocumented fills, contaminated soils, or other unsuitable materials. The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1-percent of organic materials (by volume). Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant etc...) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fine and/or imprisonment and shall not be allowed.

Any existing subsurface utilities that are to be abandoned should be removed and the trenches backfilled and compacted. If necessary, abandoned pipelines may be filled with grout or slurry cement as recommended by, and under the observation of, the Geotechnical Consultant.

Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

In addition to removals and over-excavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured, or otherwise unsuitable ground shall be over-excavated to competent ground as evaluated by the Geotechnical Consultant during grading.

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

Fill Compaction

The onsite soils are suitable for placement as compacted fill provided the organics, oversized rock (greater than 6-inches in diameter) and deleterious materials are removed. Rocks greater than 6-inches and less than 2-feet in diameter can be placed in the bottom of deeper fills or approved areas provided they are selectively placed in such a manner that no large voids are created. All rocks shall be placed a minimum of 4-feet below finish grade elevation unless used for landscaping purposes. Any import soils shall be tested for suitability in advance by the project Geotechnical Engineer.

After making the recommended removals prior to fill placement, the exposed ground surface should be scarified to a depth of approximately 12-inches, moisture conditioned as necessary, and compacted to at least 90-percent of the maximum dry density obtained using ASTM D1557 as a guideline. Surfaces on which fill is to be placed which are steeper than 5:1 (Horizontal to vertical) should be benched so that the fill placement occurs on relatively level ground.

For the parking areas and other improvements, a one-foot removal is recommended depending on site conditions (i.e. depth of root zone, and depth of disturbance which may have locally deeper removal depths). The removal bottom should be observed (tested as needed) by the geotechnical consultant prior to placing fill soils. The upper 12-inches of subgrade material along with the Class II Aggregate Base and the Asphaltic concrete shall be compacted to a minimum of 95-percent of the materials maximum dry density as determined by ASTM D1557. The subgrade and aggregate base shall be moisture-conditioned and compacted to 95-percent of the material's maximum dry density as determined by ASTM D1557 to a depth of 12-inches.

All fill and backfill to be placed in association with the proposed construction should be accomplished slightly over optimum moisture content using equipment that is capable of producing a uniformly compacted product throughout the entire fill lift. Fill materials at less than optimum moisture should have water added and the fill mixed to result in material that is uniformly above optimum moisture content. Fill materials that are too wet can be aerated by blading or other satisfactory methods until the moisture content is as required. The wet soils may be mixed with drier materials in order to achieve an acceptable moisture content.

The fill and backfill should be placed in horizontal lifts at a thickness appropriate for equipment spreading, mixing, and compacting the material, but generally should not exceed eight inches in thickness.

No fill soils shall be placed during unfavorable weather conditions. When work is interrupted by rains or snow, fill operations shall not be resumed until the field tests by the geotechnical engineer indicate that the moisture content and density of the fill are as previously specified.

Slopes

All slopes shall be compacted in a single continuous operation upon completion of grading by means of sheepsfoot or other suitable equipment, or all loose soils remaining on the slopes shall be trimmed back until a firm compacted surface is exposed. Slope compaction tests shall be made within one foot of slope surface.

Cut and fill slopes shall be a maximum of 2:1 (horizontal to vertical) unless approved by the Geotechnical Consultant.

Planting and irrigation of cut and fill slopes and/or installation of erosion control and drainage devices should be completed due to the erosion potential of the soil.

Temporary Excavations

Temporary excavation shall be made no steeper than 1:1 (horizontal to vertical). The recommended slope for temporary excavations does not preclude local raveling and sloughing. Where wet soils are exposed, flatter excavation of slopes and dewatering may be necessary. In areas of insufficient space for slope cuts, or where soils with little or no binder are encountered, shoring shall be used.

All large rocks exposed above temporary cuts shall be removed prior to foundation excavation. In addition any rocks exposed during development from raveling and sloughing should be removed immediately.

All excavations should comply with the requirements of the California Construction and General Industry Safety Orders and the Occupational Safety and Health Act and other public agencies having jurisdiction.

Utility Trench Backfill

All utility trenches in structural areas shall be compacted to a minimum of 95-percent per ASTM D1557. All trenches in non-structural areas shall be compacted to a minimum of 85-percent per ASTM D1557.

All material used for utility trench backfill shall be approved by the Geotechnical Engineer prior to placement. All bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1-foot over the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90-percent of maximum from 1-foot above the top of the conduit to the surface.

Lift thickness of utility trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

Regulations of the governing agency may supersede the above, and all trench excavations should conform to all applicable safety codes. The Contractor shall follow all OSHA and Cal/OSHA requirements for safety of trench excavations.



Nevada
Border
↓



395

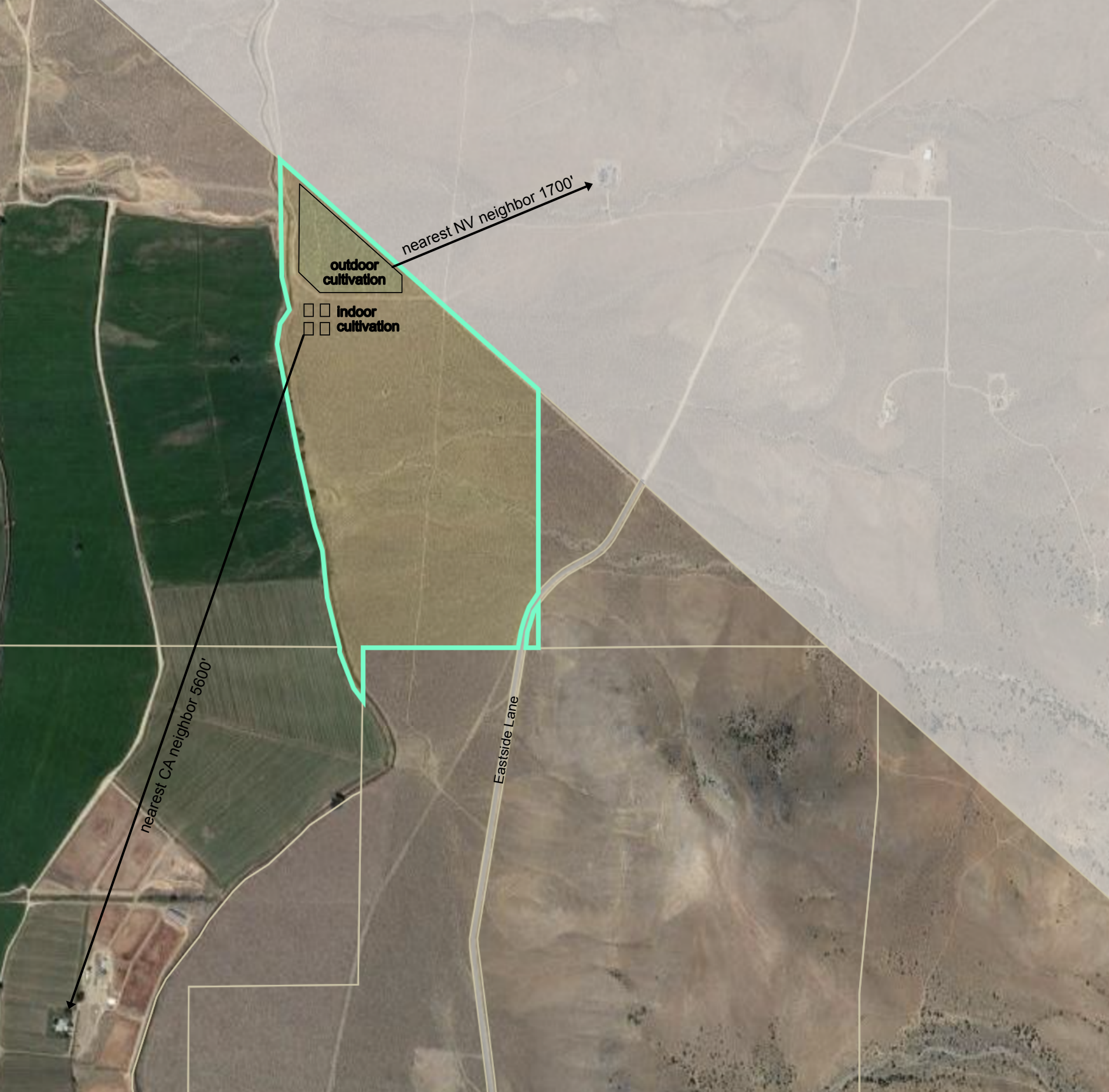
~Three Miles to US 395

APN
001-150-004-000
123 acres

Topaz Lane
↓

Eastside
Lane
→

0.2 0.4mi



nearest NV neighbor 1700'

outdoor cultivation

indoor cultivation

nearest CA neighbor 5600'

Eastside Lane

An aerial photograph of a rural landscape with a grid of fields. A large red circle is drawn over the center of the image. Inside the circle, a cyan-colored polygon outlines a specific area. Within this polygon, there are three small black icons representing houses. A diagonal black line runs from the top-left to the bottom-right of the image.

two mile circle

house

house

house

zero Mono County residences within circle
three NV residences within circle

Douglas County

AG19/FR19

Risue Canyon Rd

Risue Canyon Rd

Eastside Ln

5386 ft

AG 10

Parkers Ranch Rd

APN
001-150-004-000
123 acres

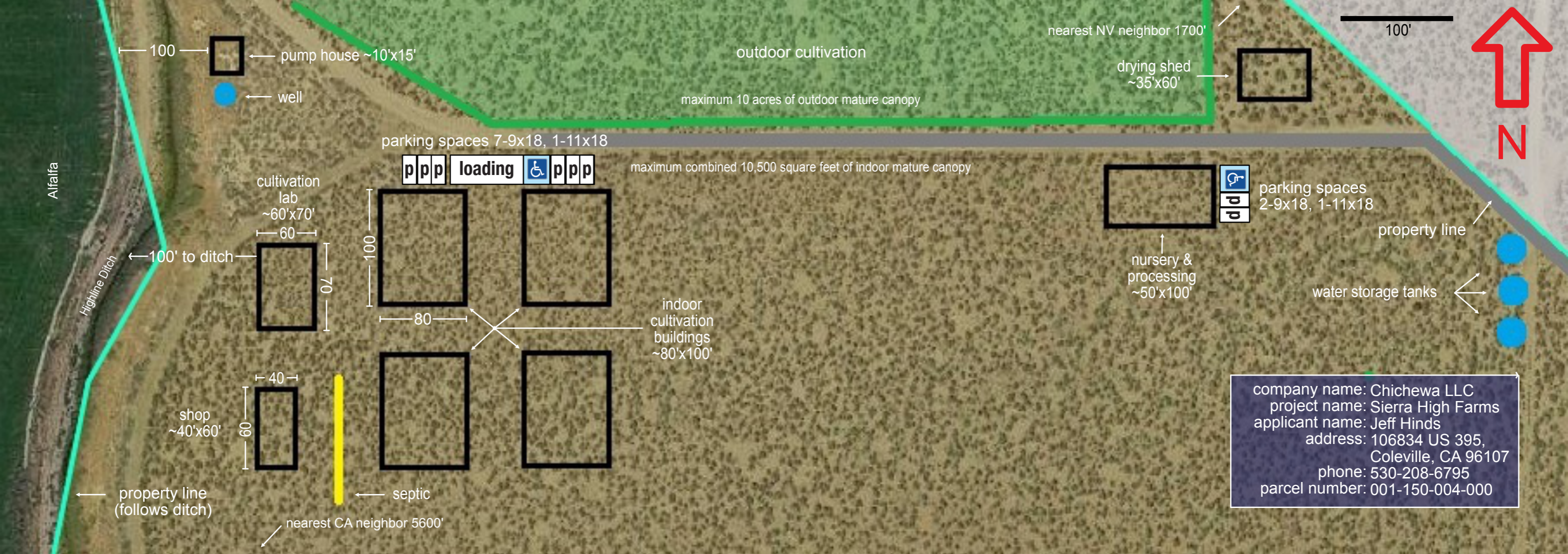
AG 10

STATE LINE CONNECTOR ROAD

RM

Highline Ditch

5811 ft
Round
Mountain



nearest NV neighbor 1700'

100'



100



pump house ~10'x15'



well

outdoor cultivation

maximum 10 acres of outdoor mature canopy

drying shed
~35'x60'



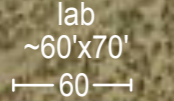
parking spaces 7-9x18, 1-11x18



maximum combined 10,500 square feet of indoor mature canopy

Alfalfa

cultivation lab
~60'x70'



60

70



100

80

indoor cultivation buildings
~80'x100'



nursery & processing
~50'x100'



parking spaces
2-9x18, 1-11x18

property line

water storage tanks



Highline Ditch

100' to ditch

shop
~40'x60'



40

60



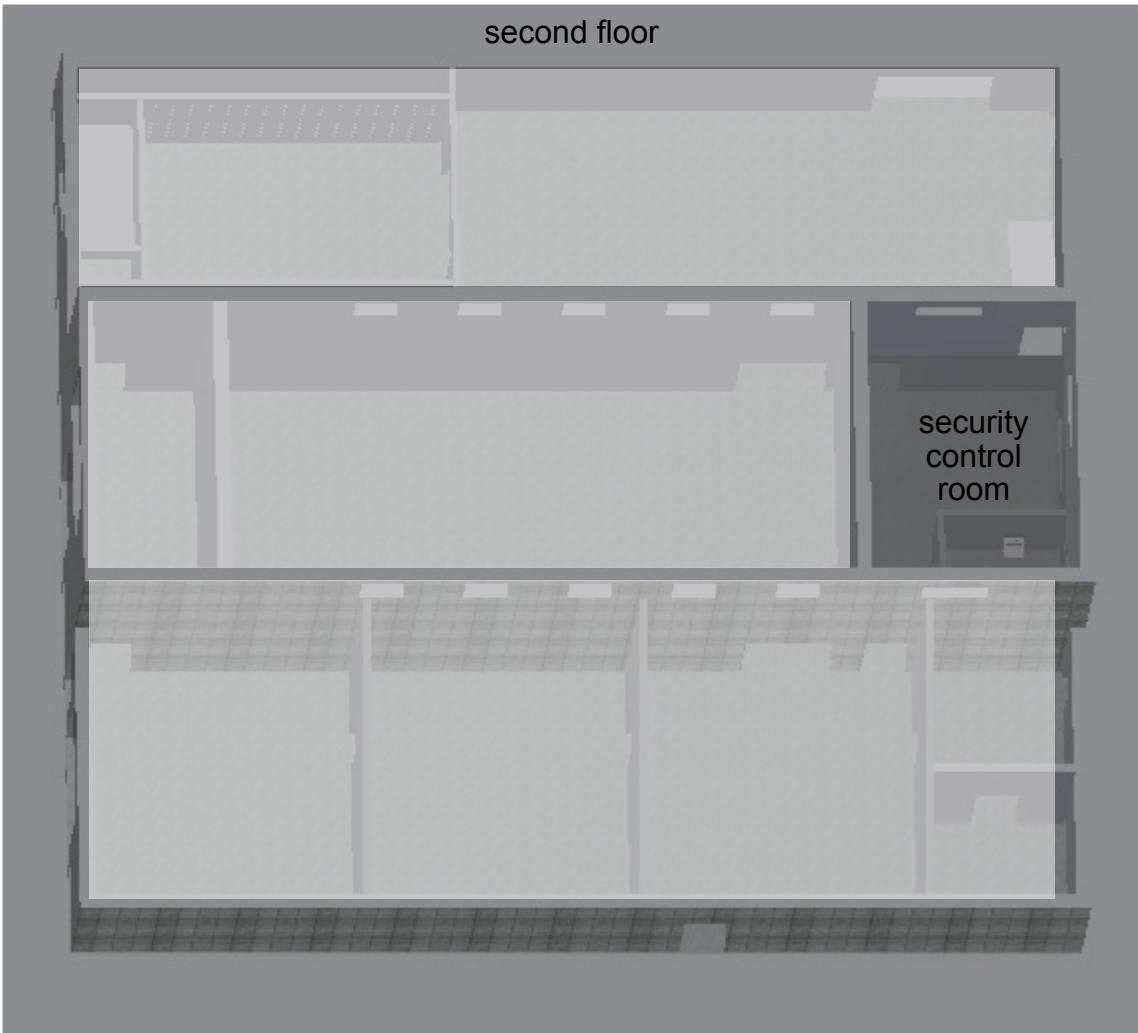
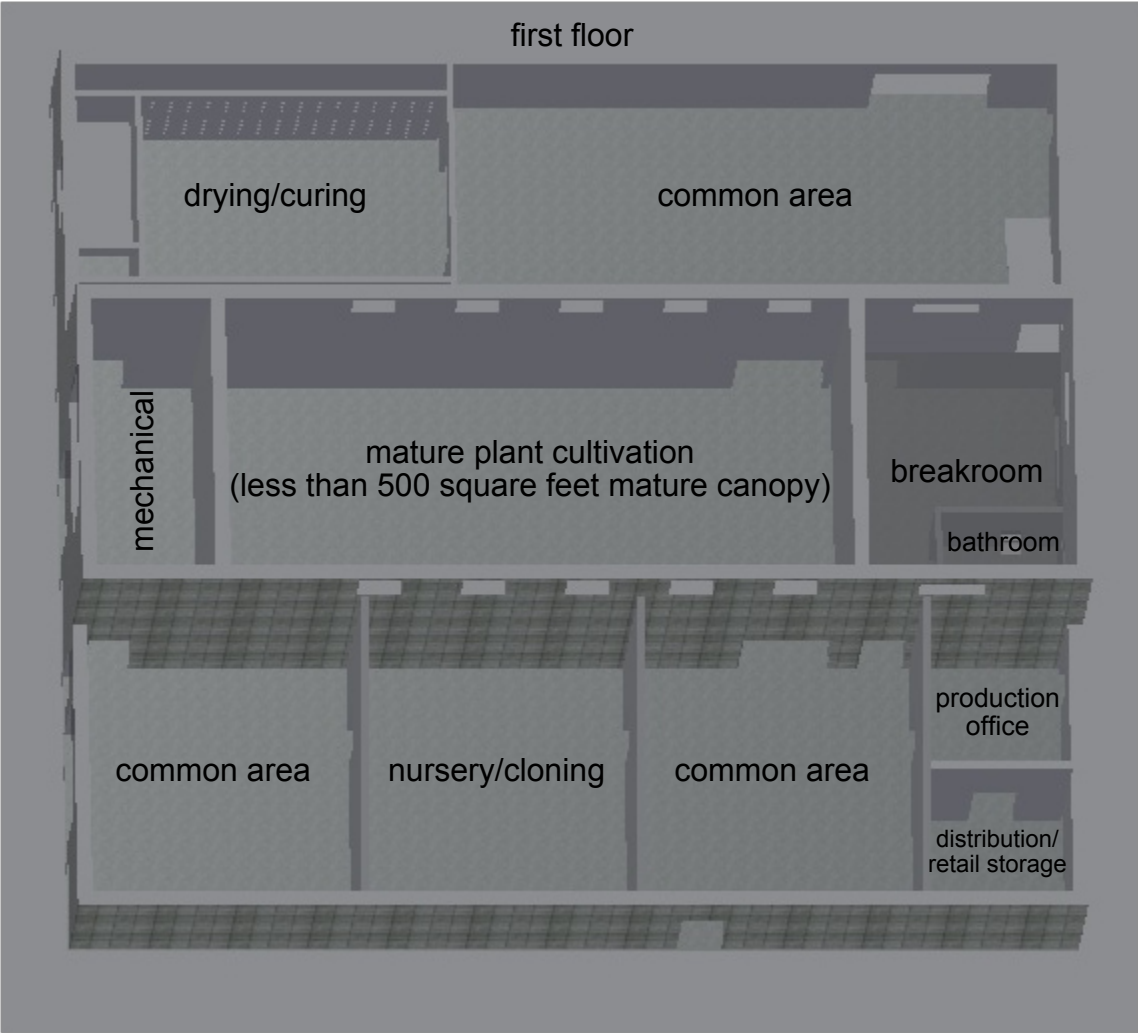
septic

nearest CA neighbor 5600'

property line
(follows ditch)

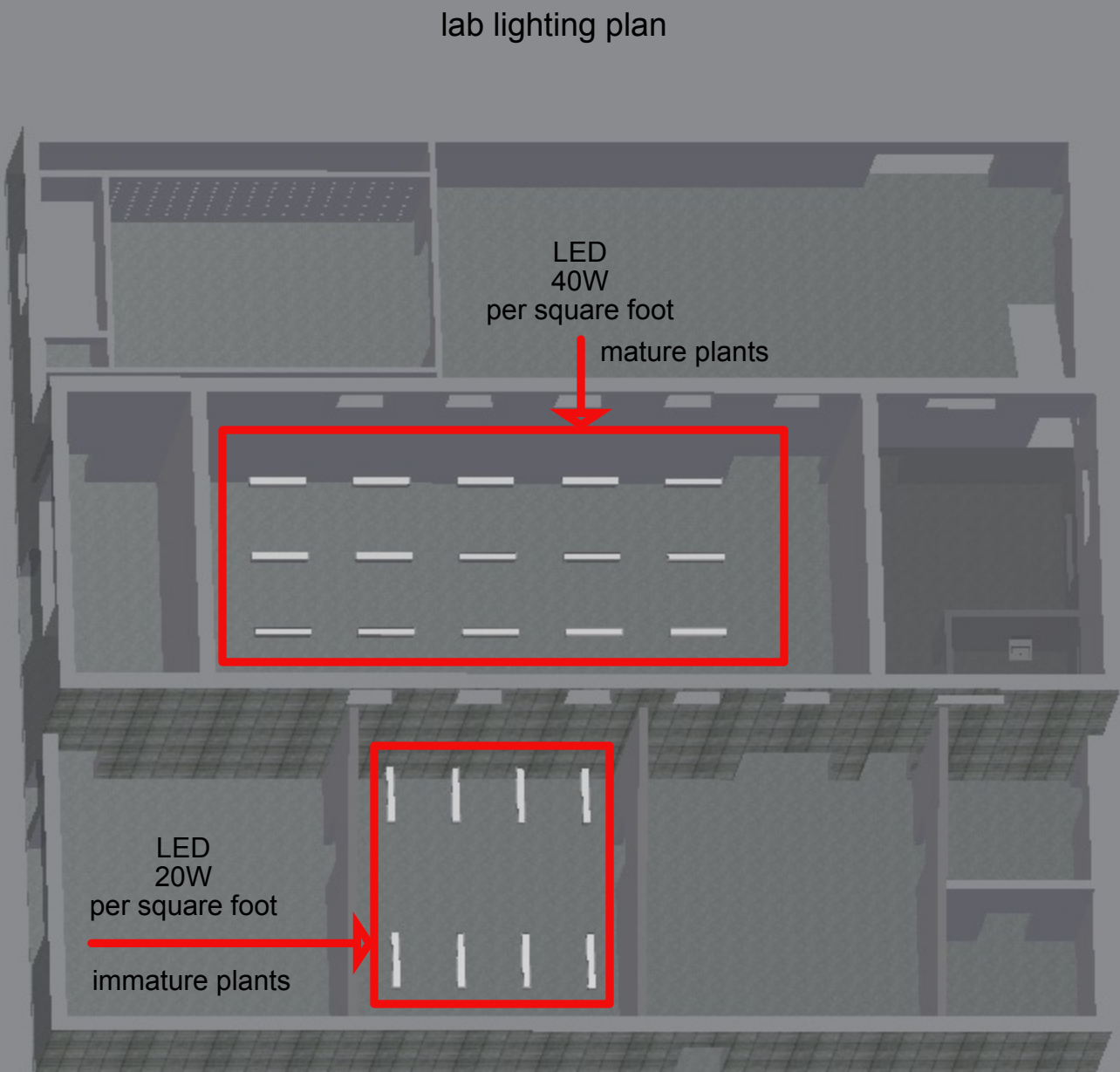
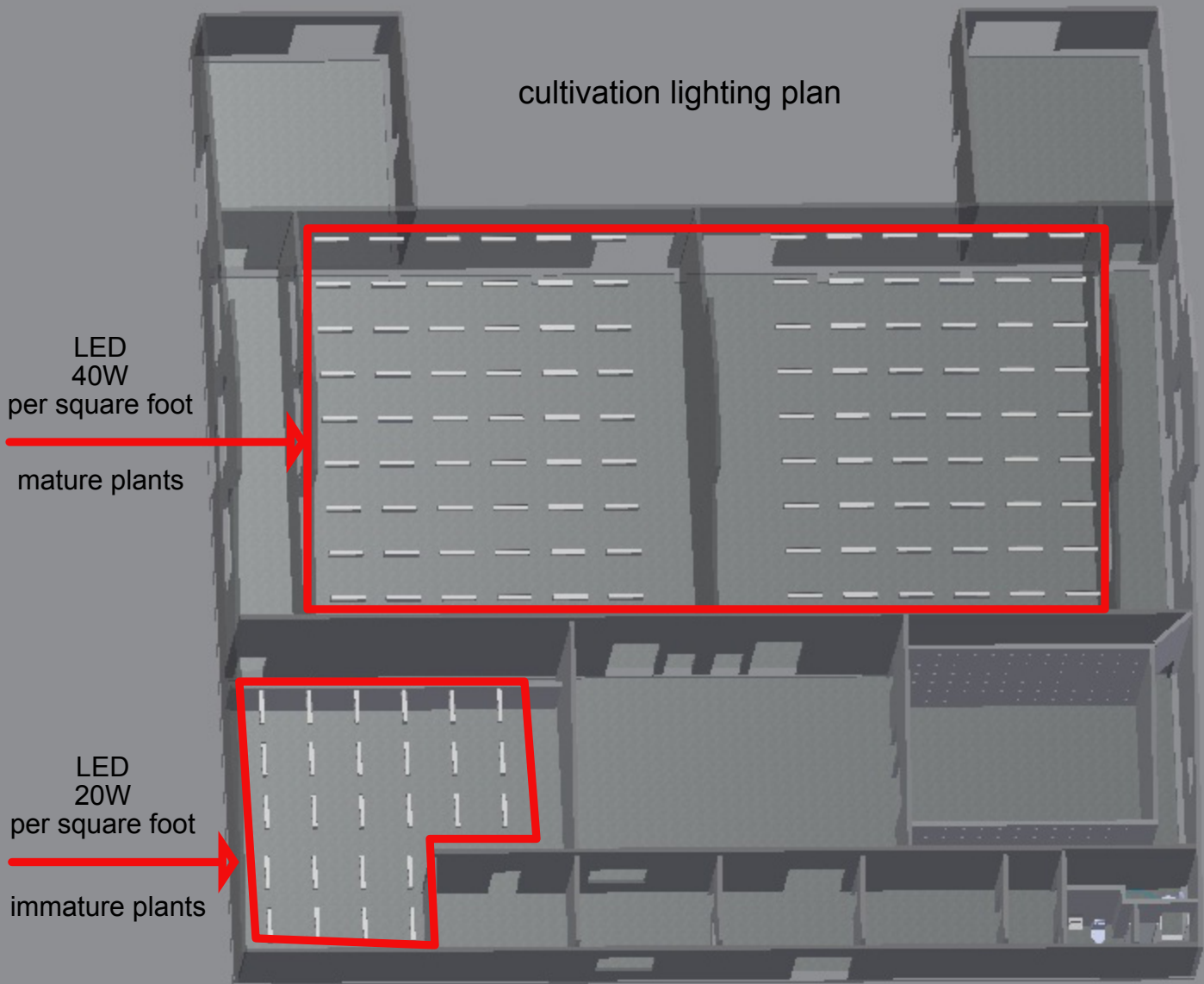
company name: Chichewa LLC
 project name: Sierra High Farms
 applicant name: Jeff Hinds
 address: 106834 US 395,
 Coleville, CA 96107
 phone: 530-208-6795
 parcel number: 001-150-004-000

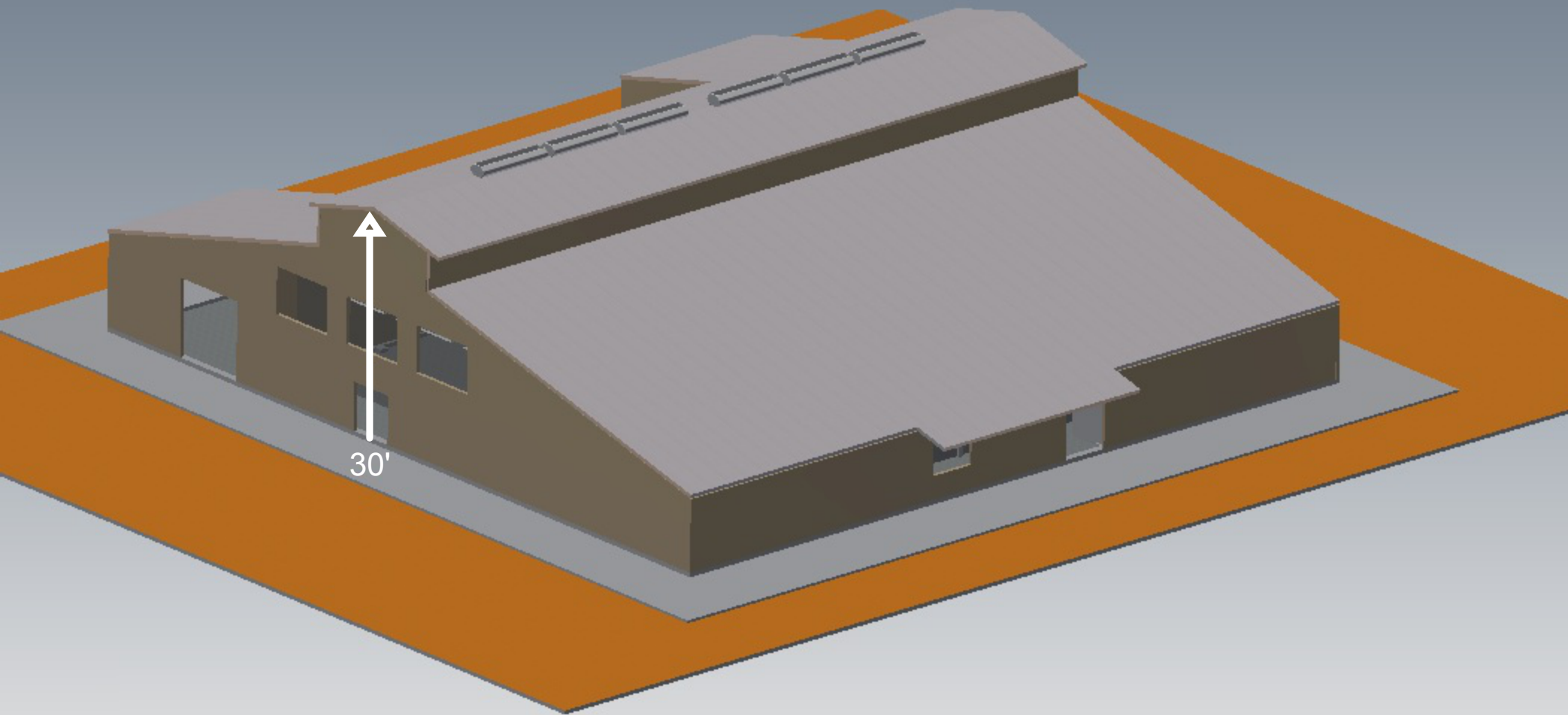
Lab Floor Plan



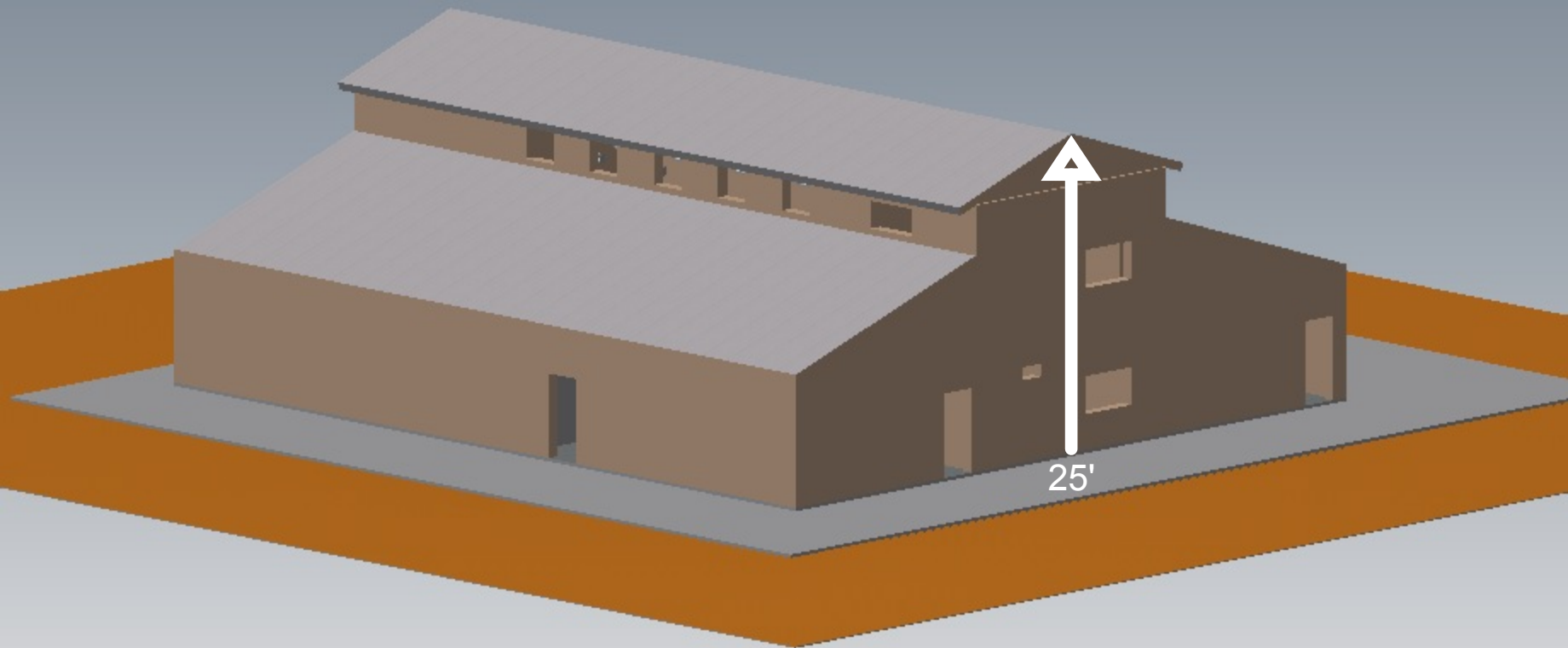
Lighting Plans

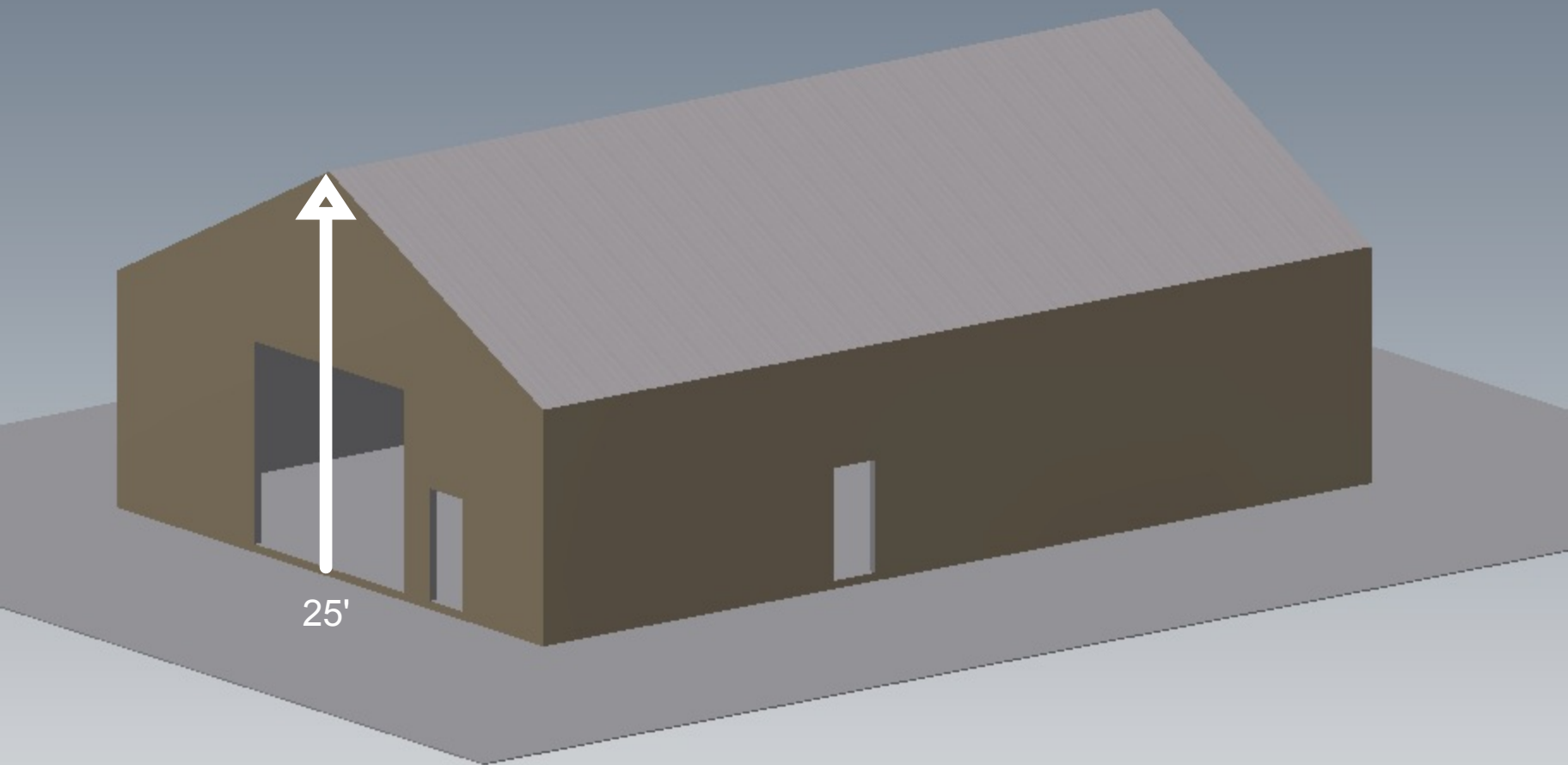
All exterior lighting will meet Mono County light requirements.



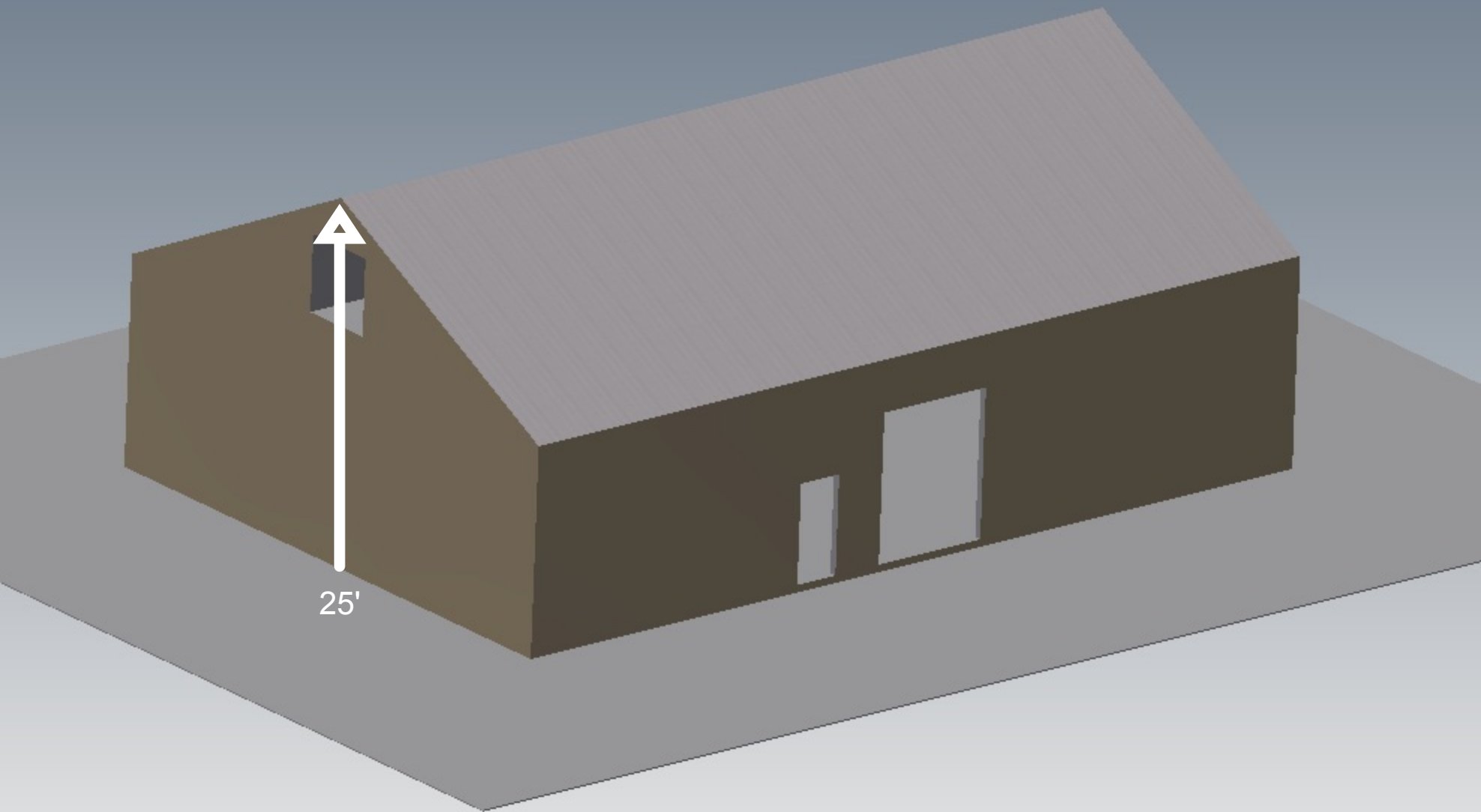


Lab Elevation

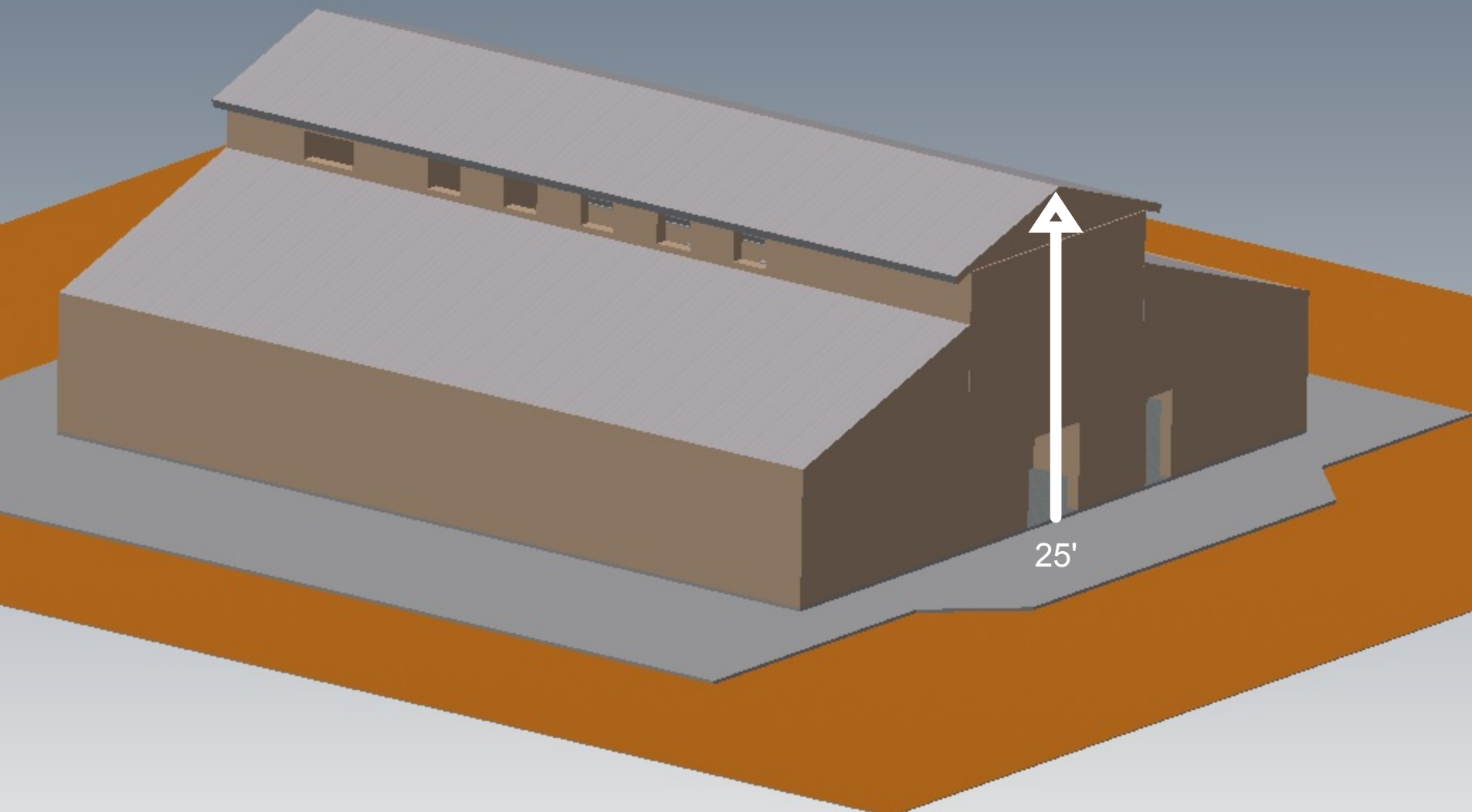




Drying Elevation



Nursery and Processing Elevation



25'