

# Initial Study

## Wolf Craft Collective

Nevada County, California

**To:**

CEO – Alison Lehman	Higgins Fire District
Principal Planner	Department of Public Works
COB – Jeff Thorsby	Commissioner Duncan – District 2
Supervisor Scofield – District 2	Building Department
Economic Development – Kimberly Parker	Senior Administrative Analyst – Erika Seward
NSAQMD – Suzie Tarnay	Environmental Health
Assessor – Rolf Kleinhans	Fire Planner
Assistant CEO – Caleb Dardick	Agricultural Commissioner
Nevada City Rancheria Nisenan Tribe	CDA Director – Trisha Tillotson
South County MAC	Transit Services
NASQMD – Julie Hunter	United Auburn Indian Community of the Auburn Rancheria
T'si Akim Maidu Tribal Council	PG&E
Nevada Irrigation District	Native American Heritage Commission
Caltrans	Wolf Creek Alliance
North Central Information Center	California Native Plant Society – Redbud
Bear Yuba Land Trust	Sierra Club – Sierra Nevada Group
FREED	CA Governor's Office of Planning & Research - State Clearinghouse
Lake of the Pines Association	North Central Information Center
Keep Nevada County Rural	Bear Yuba Land Trust
CA Department of Water Resources	Nevada County Counsel – Doug Johnson*
General Plan Defense Fund	Nevada County Counsel – Sims Ely*
Parcels within 500 feet of the project site	

*\*receives full report, others receive NOA only with report available online*

**File Number:** PLN23-0085; CUP23-0006; MGT23-0021; MGT24-0004; PFX24-0006; EIS23-0002

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**Zoning District:** General Agricultural 10 acre minimum (AG-10)

**General Plan Designation:** Rural 10 acre minimum (RUR-10)

**Project Location:** 10734 Wolf Road in Western Nevada County (APN 057-030-011). Approximately ½ mile west of Highway 49. See Figure 1.

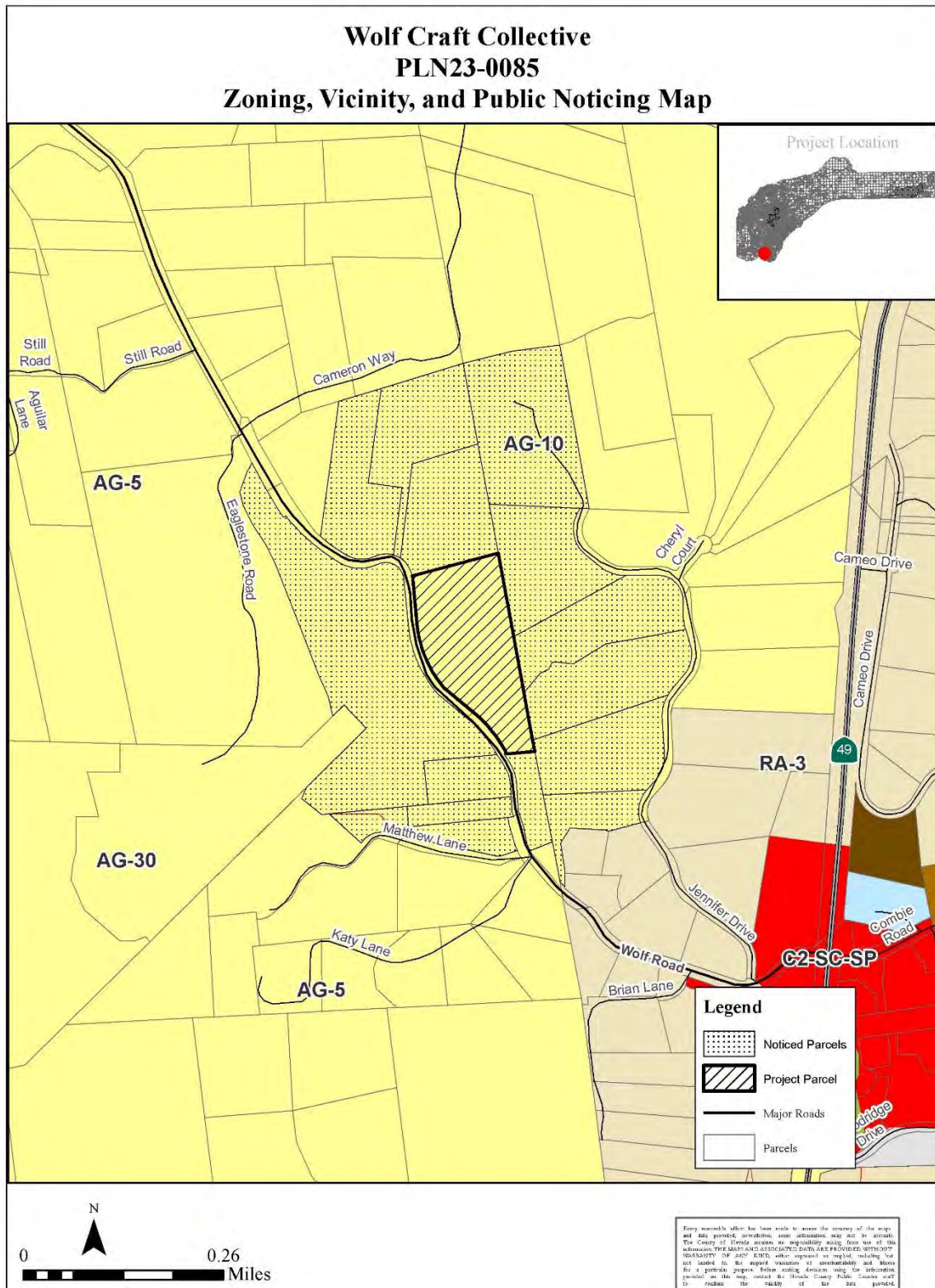


Figure 1 – Zoning, Vicinity, and Public Noticing Map

## Project Description

The project, known as the Wolf Craft Collective, is a low-intensity camp and community meeting and social event facility located at 10734 Wolf Road, Grass Valley, CA (APN 057-030-011) in the southern part of Nevada County, approximately 0.5 miles west of Highway 49. In addition to the Use Permit (CUP23-0006) for a low-intensity camp and community meeting and social event facility, Management Plans are required for impacts to trees (MGT23-0021) and watercourses (MGT24-0004), and a Petition for Exception to Road Standards (PFX24-0006) is required for road grades greater than 16%.

The parcel is 15.77 acres in size with an elevation of approximately 1,400 feet above Mean Sea Level (MSL). The site is characterized as having Foothill Pine-Blue Oak Woodland and Annual Grassland plant communities including stands of oaks with a canopy closure of 33% or greater. There are perennial ponds, seasonal watercourses, riparian habitat, and easements for Nevada Irrigation District (NID) canals on the parcel.

Adjacent land uses include residential and agricultural development. The commercial corridor known as the Lake of the Pines Village Center along is at the intersection of Wolf Road and Highway 49, approximately one driving mile from the project site. The project applicant is Leslie Barbazette, and the project representative is Millenium Planning and Engineering.

The objectives of the project are to provide workshops on craft skills such as woodworking, metalsmithing, fiber crafts, and ceramics along with overnight accommodations, food services, administrative space and retail to serve participants of the workshops. Additionally, the project seeks to act as a venue for community meetings and social events such as weddings. The project site also includes residential and agricultural uses such as crop and animal raising. The project is intended to serve local and out-of-town guests.

During normal craft workshop operations, the project is expected to have 3 to 10 employees and 30 to 40 guests on site. Workshops will typically vary from 1 to 7 days in length. Some guests will stay off site and travel to the site to attend workshops. Hours of operation would be from 8:00 am to 6:00 pm 7 days a week for workshops with overnight lodging available.

Events, such as weddings, corporate retreats, and small festivals, will be limited to 150 guests. Events will take place up to two times per month and may include amplified sound.

The project is split into three phases to be completed within 7 years of land use permitting approval. Construction is anticipated to begin in 2024 and complete in 2030. Staging areas for construction will occur on site. The scope of each phase is described below.

- Phase I (estimated construction 2024-2026)
  - Driveway with encroachment onto County-maintained Wolf Road
  - Interior circulation roads - approximately 1,800 feet
  - Parking areas sufficient for buildings in this phase - 42 parking spaces
  - Ceramics shop with kiln and bathroom – 2,400 square feet, 30 feet tall
  - Barn for animal keeping and storage – 3,240 square feet, 27 feet tall
  - Classroom with a bathroom – 664 square feet, 17 feet tall
  - Classroom – 600 square feet, 15 feet tall

- Office building with lobby, retail, bike and laundry room, bathroom – 1600 square feet, 12 feet tall
- 9 tent cabins each with a restroom – 450 square feet each, 19 feet tall
- 4 tent camping decks – 750 square feet each
- Shared restroom for tent campers – 144 square feet
- Food truck and utilities for future café
- Event area grading – approximately 22,000 square feet
- Trash enclosure – 200 square feet
- Septic system
- Stormwater treatment areas
- Fencing and retaining walls throughout
- Monument sign at entrance
- Wolf Road improvements including a new left turn lane
- Installation of landscaping, hardscaping, and lighting at developed areas
- Phase II (estimated construction 2027-2028)
  - Conversion of 664 square-foot classroom to fiber studio
  - Metal shop with machinery and bathroom – 2400 square feet, 20 feet tall
  - Wood shop with machinery and bathroom – 2400 square feet, 20 feet tall
  - 2 additional tent cabins – 450 square feet each, 19 feet tall
  - Residence and driveway
  - Parking areas and driveways to serve structures in this phase – 15 parking spaces
  - Installation of landscaping, hardscaping, and lighting at developed areas
- Phase III (estimated construction 2029-2030)
  - Commercial café with bathroom – 1000 square feet indoor and 500 square feet outdoor dining area
  - Café stormwater treatment area
  - Cabins to replace 9 tent cabins

The design of the structures will include board form concrete, standing seam metal, corten steel, glass, wood screening, and fabric. Colors may include dark bronze, black, dark green, and natural materials.

The structures on site will be served by driveways and pedestrian walkways. The project proposes 61 parking spaces throughout the property, seven of which are ADA accessible. Improvements, including a new left turn lane and an improved driveway encroachment, will be made to Wolf Road. The site will be accessed through the single existing driveway encroachment.

The surface runoff generated from the proposed impervious areas of compacted gravel, concrete, asphalt, and roof runoff will be captured via sheet flow or via a series of ditches and culverts to infiltration trenches and bioretention facilities throughout the project. The preliminary drainage report indicates there will be no net increase in peak runoff for a 10-year and 100-year storm event and the post-development drainage flows shall not exceed pre-development drainage flows. Grading includes approximately 12,250 cubic yards of cut and 4,240 cubic yards of fill with a net export of 8,010 cubic yards.

Landscaping plans include mostly native and drought tolerant plants. Approximately 19 oak trees and 2 pine trees will be removed. Raised garden beds for edible plants will also be included. Hardscaping includes

boulders, boardwalks, paving, permeable concrete pavers, decomposed granite, wood fencing, outdoor seating, and concrete boardform retaining walls. There will be signage at entrance and internal wayfinding signage. Exterior lighting includes various downward facing fixtures installed with the landscaping, affixed to structures, and freestanding.

The project site will be served by PG&E for electricity, and gas will be provided by individual underground propane tanks. A Class 2 commercial well will be installed onsite and will be used for potable water and to supply irrigation lines. Sewage disposal will be handled via on-site septic system(s). An OSSE was completed and identified appropriate areas for the septic system(s).

Additional permitting may include California Department of Fish and Wildlife, Army Corps of Engineers, Building, Environmental Health, Public Works, State Water Quality Control Board Storm Water Pollution Prevention Plan.

**Relationship to Other Projects:**

There are no directly related development projects known to this project. No additional development is anticipated as a result of this project.

**Consultation with Native American Tribes:**

Native American tribes traditionally and culturally affiliated with the project area were notified of the project and invited to consultation. Consultation was undertaken with the United Auburn Indian Community, and recommendations have been included as Tribal Cultural Resources Mitigation Measures.

# Summary of Impacts and Proposed Mitigation Measures

## Environmental Factors Potentially Affected

All of the following environmental factors have been considered. Those environmental factors checked below would be potentially affected by this project, involving at least one impact that is “Less Than Significant with Mitigation” as indicated by the checklist on the following pages.

✓	1. Aesthetics		2. Agricultural and Forestry Resources	✓	3. Air Quality
✓	4. Biological Resources	✓	5. Cultural Resources		6. Energy
✓	7. Geology and Soils	✓	8. Green House Gas Emissions	✓	9. Hazards and Hazardous Materials
✓	10. Hydrology and Water Quality	✓	11. Land Use and Planning		12. Mineral Resources
✓	13. Noise		14. Population and Housing	✓	15. Public Services
	16. Recreation	✓	17. Transportation	✓	18. Tribal Cultural Resources
✓	19. Utilities and Service Systems	✓	20. Wildfire	✓	21. Mandatory Findings of Significance

## Recommended Mitigation Measures

The following measures shall be implemented, and where appropriate, included as a note on construction/grading plans as outlined in each.

### 1. AESTHETICS

See Mitigation Measure 4D.

### 2. AGRICULTURAL AND FORESTRY RESOURCES

None

### 3. AIR QUALITY

**Mitigation Measure 3A: Reduce emissions during construction.** The following are the minimum mitigation measures designed to help reduce project emissions related to construction. These

measures shall be included as a note on all plans prior to issuance of all grading, improvement, and building permits:

1. The mobile off-road construction equipment in use at any time on the project shall be equipped with Tier 4 engines.
2. Construction equipment idling time shall be limited to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). All construction equipment shall also be maintained and properly tuned in accordance with manufacturer's specifications. Clear signage shall be provided for construction workers at all access points.
3. In addition to these measures, all statewide air pollution control regulations shall be followed, including diesel regulations (which may be accessed at [www.arb.ca.gov/diesel/diesel.htm](http://www.arb.ca.gov/diesel/diesel.htm)).

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** NSAQMD / Planning Department

**Mitigation Measure 3B: Prepare a Dust Control Plan.** Prior to issuance of grading and improvement permits, submit a Dust Control Plan to Northern Sierra Air Quality Management District, if more than one (1) acre of natural surface area is to be altered or where the natural ground cover is removed, and gain their approval. The disturbance of natural surface area includes any clearing or grading. Include the approved Dust Control Plan on the project plans using clear phrasing and enforceable conditions, under its own heading. Provide evidence of NSAQMD approval to Nevada County with permit application submittal. The plan shall include but not be limited to the following measures, which shall also be included on all construction plans:

1. Contact details must be provided for the person/s responsible for ensuring that all adequate dust control measures are implemented in a timely and effective manner:
2. All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and/or causing a public nuisance. Watering during summer months should occur at least twice daily, with complete coverage of disturbed areas.
3. All areas with vehicle traffic shall be watered or have dust palliative applied as necessary to minimize dust emissions.
4. All on-site vehicle traffic shall be limited to a speed of 15 mph on unpaved roads.
5. All land clearing, grading, earth moving, or excavation activities on a project shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 mph.
6. All inactive portions of the development site shall be covered, seeded, or watered or otherwise stabilized until a suitable cover is established.
7. All material transported off-site shall be either sufficiently watered or securely covered to prevent it being entrained in the air, and there must be a minimum of six (6) inches of freeboard in the bed of the transport vehicle.
8. Paved streets adjacent to the project shall be swept or washed at the end of each day, or more frequently, if necessary, to remove excessive accumulations or visibly raised areas of soil which may have resulted from activities at the project site.
9. Prior to final occupancy, the applicant shall re-establish ground cover on the site through seeding and watering.

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** NSAQMD / Planning Department

**Mitigation Measure 3C: Use Alternative Methods to Open Burning for Vegetation Disposal.** The following note shall be included on all grading and improvement plans: “Open burning of site-cleared vegetation is prohibited. Among suitable alternatives are chipping, grinding, hauling to an approved disposal site, cutting for firewood, and conversion to biomass fuel.”

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** NSAQMD / Planning Department

**Mitigation Measure 3D: Naturally Occurring Asbestos.** According to the California Code of Regulations Title 17 Section 93105 (b)(1), State asbestos regulations apply if “Any portion of the area to be disturbed is located in a geographic ultramafic rock unit...” Therefore, there are two options moving forward as detailed below. An approved exemption request or Asbestos Dust Mitigation Plan shall be achieved from NSAQMD and then submitted to the Planning Department prior to issuance of grading permits.

1. The applicant can engage a registered geologist to conduct an evaluation of the property. If this evaluation determines that no serpentine or ultramafic rock is likely to be found in the area to be disturbed, the applicant can request an exemption from the Air Pollution Control Officer of the NSAQMD. (See Title 17 Section 93105 (c)(1)(A) for report requirements.)

Or,

2. The applicant can proceed as if all disturbed soils contain asbestos and subsequently incorporate the required asbestos dust mitigation measures into the project documents and practices, as found in CCR Title 17 Section 93105(e)(2) and (4) etc. This includes submitting and acquiring NSAQMD approval of an Asbestos Dust Mitigation Plan (ADMP) before the start of any construction or grading activity. The ADMP must include:

- a. concrete measures for soil track-out prevention and control
- b. dust prevention measures for active construction areas and storage piles
- c. dust minimization from unpaved roads, parking lots, or staging areas, including a
- d. limit on vehicle speeds to 15 mph or less
- e. all offsite transport control measures
- f. methods of post construction stabilization (in perpetuity)
- g. all monitoring and reporting to be performed.

Please see the above-mentioned Title 17 sections for specific requirements in each of these categories.

**Timing:** Prior to issuance of the grading permits and improvement plans and during grading activity

**Reporting:** Approval of the grading permit and improvement plans

**Responsible Agency:** NSAQMD / Planning Department

#### 4. BIOLOGICAL RESOURCES

**Mitigation Measure 4A: Watercourse and Riparian Area Best Management Practices.** Proposed disturbance adjacent to the existing pond within the southern section of the subject parcel will include the bridge crossing footings to be on located along the pond's edge and not within the wetted portion of the pond itself and therefore, the access road and bridge crossing of the pond will not directly impact the pond and potential indirect impacts to the pond from impacts within the non-disturbance buffer of the pond will be minimized by mitigation measures and BMPs outlined below.

1. Limit construction to periods of extended dry weather and/or the dry summer season;
2. Establish the areas around the pond, NID canal, and riparian area as an Environmentally Sensitive Area (ESA) where those areas will not be impacted by construction;



3. No fill or dredge material will enter or be removed from the pond, riparian area, or NID canal. The culvert crossings may be upgraded where access roads cross the drainage ditches and the placement of boulders along the edges of the culverts will minimize erosion at both ends of the culverts and along each side of those drainage ditches;
4. Use appropriate machinery and equipment to limit disturbance in these areas;
5. Placement of straw and/or other soil erosion control devices between the pond, riparian area, NID canal, and drainage ditches, and the areas where grading and/or vegetation removal will occur to limit potential runoff and sedimentation into those aquatic resources;
6. No dewatering of the pond, NID canal, riparian area, or drainage ditches will occur as part of the proposed construction; and
7. Minimize the number and size of work areas for equipment and spoil storage sites in the vicinity of the pond, riparian area, NID canal, and drainage ditch. Place staging areas and other work areas outside of the non-disturbance buffers to these aquatic resources within the subject parcel during construction as feasible. However, the staging area within the eastern section of the subject parcel should be approved in that location given it is within a flat area and BMPs (including straw) will be placed around the edges of the staging area to minimize any potential runoff from that area.
8. The contractor shall exercise reasonable precaution to protect these as well as all aquatic resources and their adjacent non-disturbance buffers from pollution such as fuels, oils, and other harmful materials. Construction byproducts and pollutants such as oil, cement, and wash water shall be prevented from discharging into or near any aquatic resources and shall be collected for removal off the site. All construction debris and associated materials and litter shall be removed from the work site immediately upon completion.
9. No equipment for vehicle maintenance or refueling shall occur within the non-disturbance buffers. The contractor shall immediately contain and clean up any petroleum or other chemical spills with absorbent materials such as sawdust or kitty litter. For other hazardous materials, follow the cleanup instructions on the label.
10. Exposed bare soil along the proposed disturbance within the non-disturbance buffers should be protected against loss from erosion by the placement of straw within the area where vegetation will be removed. Once revegetation is completed the erosion control within the non-disturbance buffer areas can be removed.
11. To ensure the proper and timely implementation of all mitigation measures contained in this Aquatic Resources Management Plan, as well as the terms and conditions of any other required permits, the applicant shall distribute copies of these mitigation measures and permit requirements to the contractors prior to grading and construction within the non-disturbance buffers. All contractors shall be completely familiar with the mitigation measures contained above and with the terms and conditions of all permits.

**Timing:** Prior to grading/building permit issuance and during construction

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

**Mitigation Measure 4B: Implement Restorative Landscaping.** A Landscape Planting Plan is attached as Appendix C showing areas to be planted with both aquatic associated and upland associated habitats. The additional restoration within the subject parcel to include several areas that will include native plantings, and will offset any impacts to aquatic and upland plant species within the subject parcel.

**Timing:** Prior to grading/building permit issuance and during construction

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

**Mitigation Measure 4C: Bird Survey.** The following note must appear on all grading plans: The trees, shrubs, and grasslands within the subject parcel contain suitable habitat for nesting raptors and MBTA and CDFW protected nesting bird species. The breeding season for most protected birds in the vicinity of the Project area is generally from March 1 to August 31. Vegetation clearing or tree removal outside of the breeding season for such bird species would not require the implementation of any avoidance, minimization, or mitigation measures. However, construction or development activities during the breeding season could disturb or remove occupied nests of migratory birds or raptors and would require the implementation of a pre-construction survey within 250 feet of the disturbance area within the subject parcel for nesting migratory birds and raptors prior to development. If any nesting raptors or migratory birds are identified during surveys, active nests shall be avoided and a no-disturbance buffer shall be established around the nesting site to avoid disturbance or destruction of the nest site until after the breeding season or after a qualified wildlife biologist determines that the young have fledged. The extent of these buffers shall be determined by a CDFW qualified wildlife biologist or a biologist on the Nevada County Pre-Qualified Biological Consultants List and would depend on the bird species actively nesting, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. These factors would be analyzed by the qualified biologist who would make an appropriate decision on buffer distances. The applicant or their representative shall ensure all buffer areas are marked with high-visibility construction fencing and all workers on site are trained to avoid such areas.

Grading, construction, and vegetation removal shall be avoided during the nesting season (March 1- July 31) to prevent impacts to nesting raptors or migratory birds, including nesting Cooper's hawks, yellow-breasted chats, and yellow warblers, using the construction zone and adjacent forest. If construction activities cannot be avoided during the nesting season, pre-construction surveys shall be conducted to verify that the construction and potential disturbance zones do not support nesting migratory birds.

1. Tree removal shall not take place during the breeding season (March 1 -July 31), unless supported by a report from a qualified biologist to verify that birds, including raptors, are not nesting in the trees proposed for removal or disturbance.
2. An additional survey may be required if periods of construction inactivity (e.g., gaps of activity during grading, tree removal, road building, or structure assembly) exceed a period of two weeks, an interval during which bird species, in the absence of human or construction-related disturbances, may establish a nesting territory and initiate egg laying and incubation.
3. Surveys shall be conducted no sooner than two weeks prior to the initiation of construction activities or other site disturbances.
4. Should any active nests or breeding areas be discovered, a buffer zone (protected area surrounding the nest, the size of which is to be determined by a qualified biologist) shall be established with high-visibility construction fencing. A monitoring plan shall be developed to ensure buffer zones are enforced. Nest locations shall be mapped to determine the necessary buffer zones and a report stating the survey results shall be submitted to the Nevada County Planning Department within one week of survey completion in order to verify compliance with the required buffer zone mitigation.

**Timing:** *Prior to grading/building permit issuance and during construction*

**Reporting:** *Agency approval of permits or plans*

**Responsible Agency:** *Planning Department*

**Mitigation Measure 4D: Compensatory Oak Planting.** The Project applicant shall implement the specifications for the blue oak acorn planting to be located within the northwest section of the subject

parcel where common white snowberry are shown to be planted within the updated Landscape Planting Plan (see Appendix C). The acorns will be planted within that area.

Given the landmark grove trees have not been removed prior to the permit being finalized for the project, nor will any landmark grove trees be removed prior to project approval, a 2:1 ratio for planting acorns would be required for each tree removed and belonging to the areas of mapped landmark grove (see Appendix A). Therefore, a total of thirty (30) blue oak acorns will be planted within the northwest section of the subject parcel within the circles identified for common white snowberry planting in Appendix C. A minimum of 24 blue oaks must survive 5 years for the mitigation planting to be successful. Therefore, given some acorns may not sprout or survive, it is recommended that a greater than 2:1 mitigation ratio be planted to give the applicant a higher probability of having the minimum of 24 native blue oaks survive the entirety of the required 5 years. Successful growth of 24 blue oaks is of equivalent biological value as the inch-for-inch replacement required by Nevada County Code Section 12.04.215

A memo-format report and photo documentation prepared by a Nevada County pre-qualified biological consultant shall be submitted to the Nevada County Planning Department in October of each year for five years once the blue oak acorns are planted. Maintenance, irrigation, and monitoring throughout the growing season shall be the responsibility of the Project applicant, but the Project Biologist shall conduct a field review of the plantings annually, in advance of the annual monitoring report sent to Nevada County to ensure that the mitigation is implemented successfully.

**Timing:** Prior to grading/building permit issuance and during construction

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

**Mitigation Measure 4E: Oak Grove Best Management Practices.** The following Best Management Practices (BMPs) for oak resources shall be implemented during the development of the proposed Project:

1. Plans and specifications shall clearly state protection procedures for oak resources within the Project area. The specifications shall also require contractors to stay within designated work areas.
2. Damage to Oak Trees during construction shall be immediately reported to a qualified biologist on the Nevada County Planning Department's Biological Resources Consultants List or a certified arborist to assess the potential level of impacts to oak resources and determine whether the damage will have a significant impact on any landmark oak trees or landmark oak grove. If it is determined by the qualified biologist or certified arborist that the damage to any landmark oak tree or landmark oak grove is significant for that tree or landmark grove, work shall be stopped and the Nevada County Planning Department shall be contacted to discuss appropriate mitigation measures for such damages.
3. Equipment Damage to limbs, trunks, and roots of all remaining trees shall be avoided during project construction and development.
4. Grading Restrictions Care must be taken to limit grade changes near the drip line of an oak tree. Grade changes can lead to plant stress from oxygen deprivation or oak root fungus at the root collar of oaks. Minor grade changes further from the trunk are not as critical but can negatively affect the health of the tree if not carefully monitored by a qualified biologist or certified arborist.
5. The Root Protective Zones (Drip Lines) Grade shall not be lowered or raised around the trunks (i.e., within the drip line) of any oak tree. A qualified biologist or certified arborist shall supervise all excavation or grading proposed within the protective zone (drip line) of a protected oak resource and/or the clearance of vegetation within the protective zone (drip line) of a protected oak resource. Such work within the drip line of any protected oak resource shall be accomplished by the use of

hand tools or small hand-held power tools. Any major roots encountered shall be conserved to the greatest extent possible and treated as recommended by the qualified biologist or certified arborist.

**Timing:** Prior to grading/building permit issuance and during construction

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

## 5. CULTURAL RESOURCES

**Mitigation Measure 5A: Halt work and contact the appropriate agencies if human remains or cultural materials are discovered during project construction.** All equipment operators and employees involved in any form of ground disturbance at any phase of project improvements shall be advised of the remote possibility of encountering subsurface cultural resources. If such resources are encountered or suspected, work shall be halted immediately and the Nevada County Planning Department, United Auburn Indian Community of the Auburn Rancheria, and any other interested and affected tribe shall be contacted. A professional archaeologist shall be retained by the developer and consulted to access any discoveries and develop appropriate management recommendations for archaeological resource treatment. If bones are encountered and appear to be human, California Law requires that the Nevada County Coroner and the Native American Heritage Commission be contacted and, if Native American resources are involved, Native American organizations and individuals recognized by the County shall be notified and consulted about any plans for treatment. A note to this effect shall be included on the grading and construction plans for each phase of this project.

**Timing:** Prior to the issuance of building/grading permits and during construction

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

## 6. ENERGY

None

## 7. GEOLOGY AND SOILS

See Mitigation Measure 4A.

## 8. GREENHOUSE GAS EMISSIONS

See Mitigation Measure 3A.

## 9. HAZARDS AND HAZARDOUS MATERIALS

**Mitigation Measure 9A: Evacuation Plan.** Prior to Building/Grading Permit issuance, the applicant shall work with the Nevada County Fire Marshal to develop an evacuation plan that ensures safe and orderly emergency evacuation of the site in case of an emergency.

**Timing:** Prior to building/grading permit issuance

**Reporting:** Approval of permits

**Responsible Agency:** Fire Marshal

## 10. HYDROLOGY AND WATER QUALITY

**Mitigation Measure 10A: Construction Storm Water Pollution Prevention Plan.** Dischargers whose project disturbs one or more acres or where projects less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, shall be required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Oder No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or

excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit shall require the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Prior to issuance of any grading permits, a copy of an approved Storm Water Pollution Prevention Plan shall be submitted to the Department of Public Works.

**Timing:** Prior to grading permit issuance

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

**Mitigation Measure 10B: Oil, Grease, and Silt Traps.** Pursuant to General Plan Policy 11.6A, commercial and industrial development of 1 acre or greater in size must provide oil, grease and silt traps. The applicant shall provide for oil, grease, and silt traps designed by a registered civil engineer in the site plans and shall demonstrate that a legally enforceable mechanism for long-term maintenance of such facilities has been provided pursuant to General Plan Policy 3.19C. The design of these traps must be included in all grading and building permits and a copy of the legally enforceable mechanism documentation shall be submitted to the Department of Public Works prior to issuance of grading permits.

**Timing:** Prior to grading permit issuance

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

**Mitigation Measure 10C: Maintenance of Drainage Facilities.** Pursuant to General Plan Policy 3.19C, the applicant shall maintain all drainage facilities constructed as part of the project through a permanent, legally enforceable mechanism such as, but not limited to, a CSA, CSD, or recorded covenant. Prior to grading or improvement permit issuance, the applicant shall demonstrate that a legally enforceable mechanism for long-term maintenance of such facilities has been provided. A copy of the legally enforceable mechanism documentation shall be submitted to the Department of Public Works prior to issuance of grading permits.

**Timing:** Prior to grading permit issuance

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

## 11. LAND USE AND PLANNING

See Mitigation Measures 4A-E.

## 12. MINERAL RESOURCES

None

## 13. NOISE

**Mitigation Measure 13A: Limit Construction Hours.** In order to avoid impacts from construction noise, construction work hours shall be limited to 7AM to 5PM, Monday through Friday. Prior to issuance of grading permits, this measure shall be included as a note on all plans.

**Timing:** Prior to building permit issuance and during construction

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

**Mitigation Measure 13B: Special Event Noise Reduction.** During outdoor amplified special events at the subject property, the following noise-reduction measures shall be adhered to:

1. Conclude all outdoor amplified sound by 10:00 p.m.
2. Require that the sound system contractor/DJ limit noise levels to 75 dBA at a distance of 25 feet from the speakers. The sound system contractor/DJ can verify the noise level in real time using a sound level meter or decibel reader phone application such as the NIOSH SLM app. Measures to achieve this include, but are not limited to, volume control, bandwidth, and peak limiters. The sound system/contractor shall use speaker angle or directivity techniques to ensure that the noise is directed to the west away from the nearest off-site residences to the east.
3. Construct a minimum 5-foot-high barrier (as measured from the ground) such as a wall or bandshell immediately to the east of the special events area where PA speakers would be located. Materials for the barrier may include solid masonry, plexiglass, 1/4-inch-thick glass, wooden fence, or a combination of these barrier types. The barrier shall be continuous from bottom to top, with no cracks or gaps.

**Timing:** During operations

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

**Mitigation Measure 13C: Limit Number of Events.** In order to avoid impacts from event-related noise, events shall be limited to twice per calendar month.

**Timing:** During operations

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

**Mitigation Measure 13D: Event Notification.** At least five (5) days prior to the date of any event, the applicant shall send or personally deliver written notices of the event to the Planning Department, Sheriff, local agency responsible for fire protection, and all property owners within five hundred (500) feet of the premises on which the event will be held. A current list of nearby property owners shall be obtained from the Planning Department by the applicant at least annually. Notices shall include a brief description of the event, the dates, times, locations and types of activities that will take place during the event as well as contact information for a designated responsible person who will be on-site for the duration of the event on behalf of the applicant.

**Timing:** During operations

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

## 14. POPULATION AND HOUSING

None

## 15. PUBLIC SERVICES

See Mitigation Measure 13D.

## 16. RECREATION

None

## 17. TRANSPORTATION

**Mitigation Measure 17A: Implement a Construction Traffic Control Plan.** Prior to issuance of grading and improvement permits, the applicant shall submit a Construction Traffic Control Plan to the Department of Public Works for review and approval. The plan shall showing all public roadways where work is to be performed and indicates each stage of work, closure dates for street and section of closure

(if necessary and otherwise allowed by local jurisdiction), signage, flaggers, and any other pertinent information. Relevant measures shall be noted on all construction plans prior to issuance of permits.

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

**Mitigation Measure 17B: Sight Distance Maintenance.** The following note shall appear on all landscaping plans: Landscaping and all other improvements shall be designed, installed, and maintained to ensure that driver sight distance is sufficient. All existing vegetation between the roadway and fence shall also be trimmed to ensure adequate sight distance.

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

**Mitigation Measure 17C: Driveway Warning Traffic Sign.** The existing W2-2 sign south of the project site shall be replaced with a W2-7R sign to alert northbound drivers of the project's driveway on the right. This scope shall be included in the encroachment permit with the Department of Public Works for the project's driveway improvements at Wolf Road.

**Timing:** Prior to issuance of encroachment permit

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

**Mitigation Measure 17D: Fire Safe Road Standards.** Road grades in excess of 10% shall have a structural section of 3" asphalt concrete (AC) paving over 6" aggregate base (AB) compacted to 95% relative compaction over subgrade compacted to 95%. Grades of roads or driveways shall not exceed 20%. No road or roadway structure shall have an inside radius of less than 50 feet. In cases where the centerline radius of a road is less than or equal to 200 feet, the inside edge of pavement shall be widened by four feet. In cases where the centerline radius is 100 to 200 feet, the inside edge of pavement shall be widened by two feet. A letter from a licensed engineer affirming installation of the road to the above standards shall be provided to the Department of Public Works and the roadways shall be inspected by the Fire Marshal prior to final building inspection. This note shall appear on all grading and building permits.

**Timing:** Prior to issuance of grading and improvement permits; prior to final building inspection

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works / Fire Marshal

**Mitigation Measure 17E: Left Turning Lane.** The applicant shall install a new left turning lane into the proposed driveway to ensure safe driveway access from the north. This scope of work shall be subject to an Encroachment Permit from the Department of Public Works.

**Timing:** Prior to issuance of encroachment permit

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

## 18. TRIBAL CULTURAL RESOURCES

**Mitigation Measure 18A: Install Protective Fencing During Construction.** The construction contractor(s), with a paid, certified UAIC Tribal Representative present, shall install protective fencing or other acceptable methods outside the site boundary, including a buffer area, before construction starts or restarts. Standard buffer areas are 100 feet, but may be increased or decreased if both the CEQA lead agency representative UAIC agree. The construction contractor(s) shall maintain the protection

throughout construction to avoid the resource/area of sensitivity during all remaining phases of construction. The area will be demarcated as an “Environmentally Sensitive Area” on all building plans, and the protective fencing shall be depicted on all building plans. Prior to issuance of grading/building permits, the applicant shall submit a copy of a contract with UAIC for monitoring of fence installation to the Planning Department.

**Timing:** *Prior to issuance of grading and improvement permits; prior to start of construction; during construction.*

**Reporting:** *Permit issuance*

**Responsible Agency:** *UAIC; Planning Department*

**Mitigation Measure 18B: Ground Disturbance Monitoring.** A minimum of seven days prior to beginning earthwork, clearing and grubbing, or other soil disturbing activities, the applicant shall notify lead agency of the proposed earthwork start-date. The lead agency shall contact the United Auburn Indian Community (UAIC) Tribal Historic Preservation Officer (THPO) ([thpo@auburnrancheria.com](mailto:thpo@auburnrancheria.com)) with the proposed earthwork start-date and a paid, UAIC certified Tribal Monitor shall be contracted to monitor the ground disturbance at the project site, including clearing, grubbing, inspecting any soil piles, trenches, or other disturbed areas, within the first five days of groundbreaking activity, or as appropriate for type of earth moving activities occurring at the project. During or prior to this monitoring, a UAIC Tribal Representative or Tribal Monitor may provide an on-site meeting for construction personnel information on TCRs and workers awareness brochure.

If any TCRs are encountered during this initial inspection, or during any subsequent construction activities, work shall be suspended within 100 feet of the find, or a distance that is agreed upon based on the nature of the find, and the measures included in the Unanticipated Discoveries Mitigation Measure (Mitigation Measure 18C) shall be implemented. Preservation in place is the preferred alternative under CEQA and UAIC protocols, and every effort must be made to preserve the resources in place, including through project redesign.

The contractor shall implement any measures deemed by CEQA lead agency to be necessary and feasible to preserve in place, avoid, or minimize significant effects to the resources, including the use of a paid Native American Monitor during ground disturbing activities. These requirements shall be included on all grading and building permit plans prior to issuance of permits, and a copy of the contract with UAIC for monitoring services shall be submitted to the Planning Department prior to issuance of grading permits.

**Timing:** *Prior to issuance of grading and improvement permits; during ground disturbing activities*

**Reporting:** *Permit issuance*

**Responsible Agency:** *UAIC; Planning Department*

**Mitigation Measure 18C: Unanticipated Discoveries.** The following mitigation measure is intended to address the evaluation and treatment of inadvertent/unanticipated discoveries of potential tribal cultural resources (TCRs), archaeological, or cultural resources during a project’s ground disturbing activities. The requirement shall appear on all grading and building permit plans prior to issuance of permits.

If any suspected TCRs are discovered during ground disturbing construction activities, all work shall cease within 100 feet of the find, or an agreed upon distance based on the project area and nature of the find as determined by a UAIC Tribal Representative. A UAIC Tribal shall be immediately notified and shall determine if the find is a TCR (PRC §21074). The Tribal Representative will make recommendations for further evaluation and treatment as necessary.



When avoidance is infeasible, preservation in place is the preferred option for mitigation of TCRs under CEQA and UAIC protocols, and every effort shall be made to preserve the resources in place, including through project redesign, if feasible. Culturally appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, or returning objects to a location within the project area where they will not be subject to future impacts. Permanent curation of TCRs shall not take place unless approved in writing by UAIC.

The contractor shall implement any measures deemed by the CEQA lead agency to be necessary and feasible to preserve in place, avoid, or minimize impacts to the resource, including, but not limited to, facilitating the appropriate tribal treatment of the find, as necessary. Treatment that preserves or restores the cultural character and integrity of a TCR may include Tribal Monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or cultural soil.

Work at the discovery location cannot resume until all necessary investigation and evaluation of the discovery under the requirements of the CEQA, including AB52, have been satisfied.

**Timing:** *Prior to issuance of grading and improvement permits; during construction*

**Reporting:** *Permit issuance*

**Responsible Agency:** *UAIC; Planning Department*

**Mitigation Measure 18D: Cultural Awareness Training.** The following mitigation measure is intended to address the cultural sensitivity of the project area by including a Worker Environmental Awareness Program for relevant project personnel and construction workers. The training shall be specified in the Standard Construction Specifications for the project prior to building/grading permit issuance.

1. The applicant/Contractor shall provide a tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]) for all personnel involved in project construction, including field consultants and construction workers, at their own expense. The WEAP shall be developed in coordination with UAIC.
2. The WEAP shall be conducted before any project-related construction activities begin at the project site. The WEAP shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP shall also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values. The training may be done in coordination with the project archaeologist.
3. All ground-disturbing equipment operators shall be required to receive the training and sign a form that acknowledges receipt of the training and the date. Records of the training shall be submitted to the Planning Department upon completion and no later than prior to final building permit inspection.

**Timing:** *Prior to issuance of grading and improvement permits; prior to start of construction*

**Reporting:** *Permit issuance; final permit inspection*

**Responsible Agency:** *UAIC; Planning Department*

**Mitigation Measure 18E: Brush/Vegetation Clearance near Resource.** Applicant shall contract with United Auburn Indian Community (UAIC) to monitor clearance within 20 feet of the environmentally

sensitive area (ESA) to ensure that the resource is preserved and not damaged by equipment or personnel, or obtain written clearance from UAIC to self-perform the work. An executed contract for the clearance work or written letter from UAIC authorizing the applicant to perform brush/vegetation clearance shall be submitted to the Planning Department prior to issuance of grading/building permits.

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** UAIC; Planning Department

## 19. UTILITIES AND SERVICES SYSTEMS

**Mitigation Measure 19A: Appropriately Dispose of Toxic Waste:** Industrial toxic waste (petroleum and other chemical products) is not accepted at the McCourtney Road transfer station and if encountered, shall be properly disposed of in compliance with existing regulations and facilities. This mitigation measure shall be included as a note on all improvement plans, which shall be reviewed and approved by the Planning Department prior to permit issuance.

**Timing:** Prior to issuance of grading or improvement permits and during construction

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

## 20. WILDFIRE

See Mitigation Measure 9A.

## 21. MANDATORY FINDINGS OF SIGNIFICANCE

See all Mitigation Measures listed above

## Mitigation and Monitoring Matrix

MEASURE #	MONITORING AUTHORITY	IMPLEMENTATION TIMING
3A	NSAQMD / Planning Department	Prior to issuance of grading and improvement permits
3B	NSAQMD / Planning Department	Prior to issuance of grading and improvement permits
3C	NSAQMD / Planning Department	Prior to issuance of grading and improvement permits
3D	NSAQMD / Planning Department	Prior to issuance of grading and improvement permits
4A	Planning Department	Prior to grading/building permit issuance and during construction
4B	Planning Department	Prior to grading/building permit issuance and during construction
4C	Planning Department	Prior to grading/building permit issuance and during construction
4D	Planning Department	Prior to grading/building permit issuance and during construction
4E	Planning Department	Prior to grading/building permit issuance and during construction

5A	Planning Department	Prior to grading/building permit issuance and during construction
9A	Fire Marshal	Prior to building/grading permit issuance
10A	Department of Public Works	Prior to grading permit issuance
10B	Department of Public Works	Prior to grading permit issuance
10C	Department of Public Works	Prior to grading permit issuance
13A	Planning Department	Prior to building permit issuance and during construction
13B	Planning Department	During operations
13C	Planning Department	During operations
13D	Planning Department	During operations
17A	Department of Public Works	Prior to issuance of grading and improvement permits
17B	Department of Public Works	Prior to issuance of grading and improvement permits
17C	Department of Public Works	Prior to issuance of encroachment permit
17D	Department of Public Works / Fire Marshal	Prior to issuance of grading and improvement permits; prior to final building inspection
17E	Department of Public Works	Prior to issuance of encroachment permit
18A	UAIC; Planning Department	Prior to issuance of grading and improvement permits; prior to start of construction; during construction.
18B	UAIC; Planning Department	Prior to issuance of grading and improvement permits; during ground disturbing activities
18C	UAIC; Planning Department	Prior to issuance of grading and improvement permits; during construction
18D	UAIC; Planning Department	Prior to issuance of grading and improvement permits; prior to start of construction
18E	UAIC; Planning Department	Prior to issuance of grading and improvement permits
19A	Planning Department	Prior to issuance of grading or improvement permits and during construction

# Initial Study and Checklist

## Introduction

This checklist is to be completed for all projects that are not exempt from environmental review under the California Environmental Quality Act (CEQA). CEQA requires a brief explanation for answers to the Appendix G: Environmental Checklist except “No Impact” responses that are adequately supported by noted information sources. Answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. This Initial Study uses the following terms to describe the level of significance of adverse impacts. These terms are defined as follows.

- **No Impact:** An impact that would result in no adverse changes to the environment.
- **Less than Significant Impact:** An impact that is potentially adverse but does not exceed the thresholds of significance as identified in the impact discussions. Less than significant impacts do not require mitigation.
- **Less than Significant with Mitigation:** An environmental effect that may cause a substantial adverse change in the environment without mitigation, but which is reduced to a level that is less than significant with mitigation identified in the Initial Study.
- **Potentially Significant Impact:** An environmental effect that may cause a substantial adverse change in the environment; either additional information is needed regarding the extent of the impact to make the significance determination, or the impact would or could cause a substantial adverse change in the environment. A finding of a potentially significant impact would result in the determination to prepare an EIR.

## 1. Aesthetics

**Existing Setting:** The parcel is 15.77 acres in size with an elevation of approximately 1,400 feet above Mean Sea Level (MSL). The site is characterized as having Foothill Pine – Blue Oak Woodland and Annual Grassland plant communities including stands of oaks with a canopy closure of 33% or greater. There are perennial ponds, seasonal watercourses, riparian habitat, and easements for Nevada Irrigation District (NID) canals on the parcel. The Project area ranges between 1,350 feet above MSL in the western section of the Project area along Wolf Road and 1,490 feet above MSL in the eastern section of the Project area. Therefore, general drainage within the Project area is from east to west and north to south within the subject parcel.

Adjacent land uses include residential and agricultural development, and the commercial corridor known as the Lake of the Pines Village Center is at the intersection of Wolf Road and Highway 49, approximately one driving mile from the project site. Highway 49 is designated as an “eligible” state scenic highway.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Have a substantial adverse effect on a scenic vista?				✓	A
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓	10

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?		✓			A
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓		A

**Impact Discussion:**

- 1a A scenic vista is typically considered to be a view that possesses visual and aesthetic qualities of high value to the public. Scenic vistas can provide views of natural features or significant structures and buildings. Though the project will be visible from Wolf Road, a public County maintained road, there are no particular natural features or significant structures or buildings in the vicinity of the project that would comprise a scenic vista. The parcel is currently undeveloped. The site’s oak woodlands and sloped topography are typical in the area. Therefore, there is **no impact** on scenic vistas.
- 1b The project site is approximately one half mile from Highway 49, which is designated as an “eligible” state scenic highway. No project components are visible from Highway 49, so there is **no impact** on scenic resources within a state scenic highway.
- 1c The project site is within a non-urbanized area and has frontage on Wolf Road, a publicly accessible county-maintained road. The project will add several structures, signage, landscaping, and parking areas among other improvements, that will be visible from the public right-of-way. The existing visual character of the area includes mostly single family residential and agricultural uses in addition to a structure across the street from the subject parcel that was formerly used as a school. The topography includes rolling hills with oak habitat and small watercourses. The project structures are designed to use natural materials and textures (such as wood and board-form concrete) and neutral-colored standing seam metal siding and glass. See Figure 2 below for sample project design components.

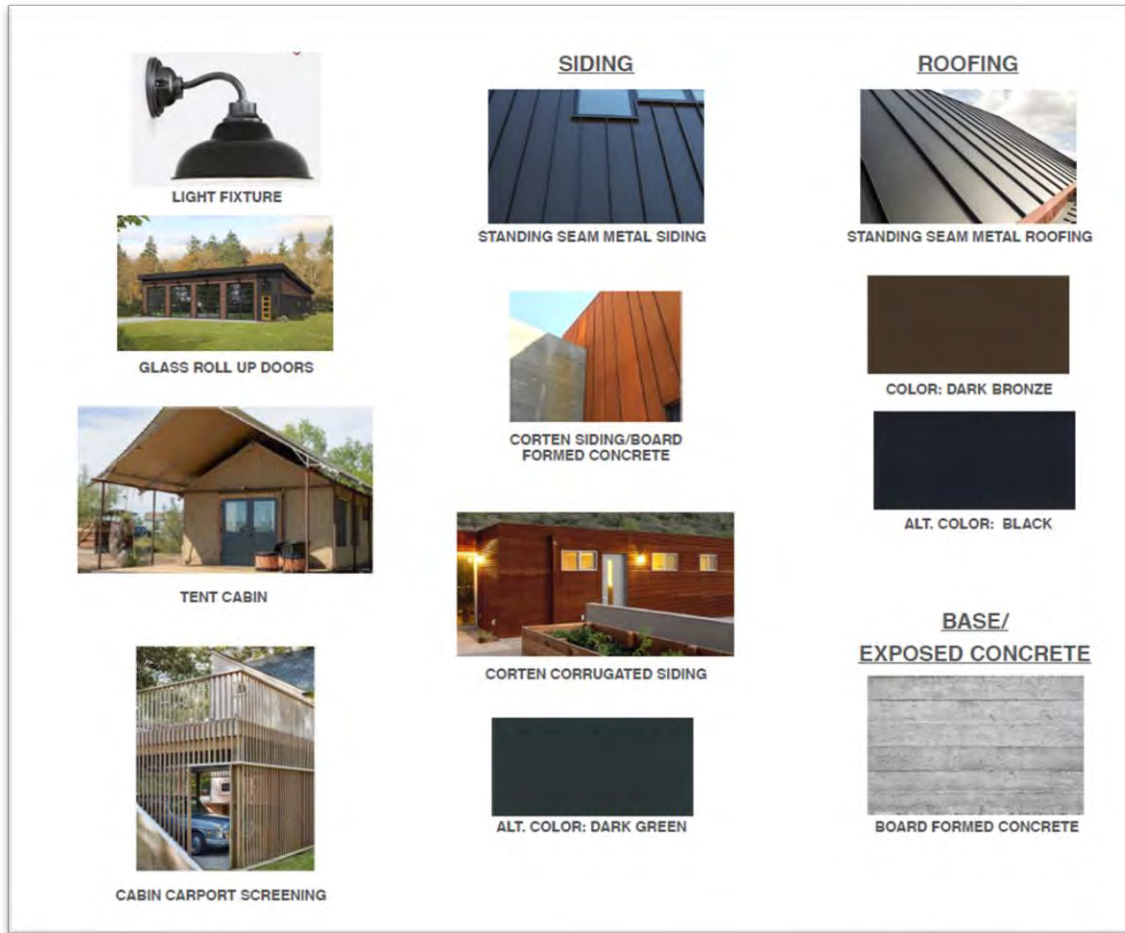


Figure 2 - Project Design Components

The proposed signage is in compliance with Nevada County Code Section 12.04.112 and includes downcast and shielded lighting. Though the Nevada County Western Design Guidelines does not include standing seam metal siding and board-form concrete in the list of appropriate materials for rural areas, standing seam mimics board and batten but provides necessary fire protection, durability, and low maintenance design. Board form concrete provides texture in the same way that rock and stone would, and will retain their natural color. The color palette is a contemporary take on traditional architectural palette.

Significant landscaping will be included in the project as required by Nevada County Code Section 12.04.107. This includes a bufferyard at the property boundary with Wolf Road, which will enhance the view from the public right-of-way. The landscaping plan is included as Appendix C. Up to 12 oak trees that are part of a landmark oak grove with 33% canopy coverage or greater will be impacted by this development. This impact will be compensated by the planting of 24 oak trees, mitigating the biological and visual impact (see Mitigation Measure 4D). The structure and landscape design of this project will result in **less than significant impacts with mitigation** related to the degradation of the visual character of the area.

- 1d The project includes outdoor landscaping lights, building mounted lights, pendant lights, a light pole to provide outdoor lighting in the event area, and a signage light. The photometric plan prepared for this project is included as Appendix D. Nevada County Code Section 12.04.108 provides standards to provide

for efficient, safe and attractive outdoor lighting while minimizing nighttime light pollution and energy waste. These standards include fully shielded fixtures that prevent the light source from being visible from adjacent properties and roadways, top-mounted light fixtures which shine downward for externally illuminated signs, restricting height of light poles to 15 feet, lighting to be turned off between 11:00 pm and sunrise, and security lighting fixtures to be shielded and aimed so that illumination is directed only to the designated area and not cast on other areas. These standards ensure that new lighting would not adversely affect day or nighttime views. All proposed lighting fixtures meet the Nevada County standards. Therefore, impacts related to light and glare will be **less than significant**.

**Mitigation Measures:** See **Mitigation Measure 4D**.

## 2. Agricultural and Forestry Resources

**Existing Setting:** The project site contains Grazing Land and Other Land according the California Department of Conservation. There is no Prime Farmland, Farmland of Statewide Importance, Unique Farmland or Farmland of Local Importance at the project site. Farmland of Local Importance is determined by each county’s board of supervisors and a local advisory committee. In Nevada County, farmland of local importance is defined as farmland that does not meet the criteria of Prime Farmland, Statewide Importance or Unique Farmland; is zoned Residential Agricultural (RA), General Agricultural (AG), Agricultural Exclusive (AE), Forest (FR), or Timberland Production Zone (TPZ); and delineated by the following soil types: Ahwahnee sandy loam, 15 to 30% slopes (AdD); Argonaut gravelly loam, 2 to 15% slopes (ArC); Hoda sandy loam, 9 to 15% slopes (HnC); Sobrante loam, 15 to 30% slopes (SoD); or Trabuco loam, 5 to 15% slopes (TrC). Grazing land is defined as land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen’s Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. Grazing land is shown in taupe in Figure 3 below. Other Land includes land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Other Land is shown in light blue-gray in Figure 3 below.



Figure 3 – Farmland Designations at the Project Site

The site is zoned General Agricultural (AG). The parcel does not have a Williamson Act Contract. There is no Timberland Production Zone (TPZ) or Forest (FR) zoning on the project parcels, and no forestry uses are existing on these parcels or in the project vicinity.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓	1, 2
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓	A, 3, 4
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓	A, 4
d. Result in the loss of forest land or conversion of forest land to non-forest use?				✓	A
e. Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				✓	A

**Impact Discussion:**

- 2a There are no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) or Farmland of Local Importance at the project site. The nearest Farmland is approximately one half mile to the west of the project parcel. Therefore, there is **no impact** to protected farmlands.
- 2b The project includes agricultural uses of animal keeping and raising and cultivation of vegetables. The Nevada County Zoning Ordinance allows low-intensity camps and community event facilities on General Agricultural (AG) zoned properties. There is no Williamson Act Contract at the project site. Therefore, there is **no impact** related to conflicts with existing zoning for agricultural use or a Williamson Act Contract.
- 2c,d These project parcel does not have forest or timberland zoning or uses, and are not in the vicinity of any forest land or timberland. Therefore, there is **no impact** to forest land or timberland.
- 2e The project area does not include Farmland or forest land. Therefore, none will be converted and there will be **no impact** related to the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

**Mitigation Measures:** None



### 3. Air Quality

**Existing Setting:** Nevada County is located in the Mountain Counties Air Basin (MCAB). The MCAB includes the central and northern Sierra Nevada mountain range with elevations ranging from several hundred feet in the foothills to over 6,000 feet above mean sea level along the Sierra Crest. The MCAB generally experiences warm, dry summers and wet winters. Ambient air quality in the air basin is generally determined by climatological conditions, the topography of the air basin, and the type and amount of pollutants emitted. The Northern Sierra Air Quality Management District has responsibility for controlling air pollution emissions including “criteria air pollutants” and “toxic air pollutants” from direct sources (such as factories) and indirect sources (such as land-use projects) to improve air quality within Nevada County. To do so, the District adopts rules, regulations, policies, and programs to manage the air pollutant emissions from various sources, and also must enforce certain statewide and federal rules, regulations, and laws.

The Federal Clean Air Act of 1971 established national ambient air quality standards (NAAQS). These standards are divided into primary and secondary standards. Primary standards are designed to protect public health and secondary standards are designed to protect plants, forests, crops, and materials. Because of the health-based criteria identified in setting the NAAQS, the air pollutants are termed “criteria” pollutants. California has adopted its own ambient air quality standards (CAAQS). Criteria air pollutants include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and particulate matter. CAAQS include the NAAQS pollutants, in addition to visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. A nonattainment area is an area where a criteria air pollutant’s concentration is above either the federal and/or state ambient air quality standards. Depending on the level of severity, a classification will be designated to a nonattainment area. Failure of a state to reach attainment of the NAAQS by the target date can trigger penalties, including withholding of federal highway funds. Table 1 shows the current attainment/nonattainment status for the federal and state air quality standards in Nevada County.

Nevada County has two federally recognized air monitoring sites: The Litton Building in Grass Valley (fine particulate matter, also called PM<sub>2.5</sub>, and ozone) and the fire station in downtown Truckee (PM<sub>2.5</sub> only). For eight-hour average ozone concentrations, Nevada County is serious nonattainment for both the 2008 and 2015 state and federal ozone standards of 75 and 70 parts per billion, respectively (Table 1). Unlike other pollutants, ozone is not typically released directly into the atmosphere from any sources. Ozone is created by the interaction of Nitrogen Oxides and Reactive Organic Gases (also known as Volatile Organic Compounds) in the presence of sunlight, especially when the temperature is high. The major sources of Nitrogen Oxides and Reactive Organic Gases, known as ozone precursors, are combustion sources such as factories, automobiles and evaporation of solvents and fuels. Ozone is mainly a summertime problem, with the highest concentrations generally observed in July and August, when the days are longest, especially in the late afternoon and evening hours. Ozone is considered by the California Air Resources Board to be overwhelmingly transported to Nevada County from the Sacramento Metropolitan area and, to a lesser extent, the San Francisco Bay Area. This recognition of overwhelming transport relieves Nevada County of CAAQS-related requirements, including the development of CAAQS attainment plan with a “no-net-increase” permitting program or an “all feasible measures” demonstration.

For particulate matter, ambient air quality standards have been established for both PM<sub>10</sub> and PM<sub>2.5</sub>. California has standards for average PM<sub>10</sub> concentrations over 24-hour periods and over the course of an entire year, which are 50 and 20 µg/m<sup>3</sup>, respectively. (The notation “µg/m<sup>3</sup>” means micrograms of pollutant per cubic meter of ambient air.) For PM<sub>2.5</sub>, California only has a standard for average PM<sub>2.5</sub> concentrations over a year, set at 12 µg/m<sup>3</sup>, with no 24-hour-average standard. Nevada County is in compliance with all of the federal particulate matter standards, but like most California counties it is out of compliance with the state PM<sub>10</sub> standards. Particulate-matter is identified by the maximum particle size in microns as either PM<sub>2.5</sub> or PM<sub>10</sub>. PM<sub>2.5</sub> is

mostly smoke and aerosol particles resulting from woodstoves and fireplaces, vehicle engines, wildfires, and open burning. PM-10 is a mixture of dust, combustion particles (smoke) and aerosols from sources such as surface disturbances, road sand, vehicle tires, and leaf blowers.

<b>Table 1: Attainment Status by Northern Sierra Air Quality Management District of State and Federal Air Quality Standards.</b>		
<u>Pollutant</u>	<u>State Designation</u>	<u>Federal Designation</u>
Ozone (O <sub>3</sub> )	Nevada County: Non-attainment (due to overwhelming transport)	<u>2008 O<sub>3</sub> Standard (75 ppb)</u> Western Nevada County: Serious Non-attainment
		<u>2015 O<sub>3</sub> Standard (70 ppb)</u> Western Nevada County: Serious Non-attainment
PM <sub>10</sub>	Nevada County: Non-attainment	Unclassified
PM <sub>2.5</sub>	Nevada County: Unclassified	<u>2012 Annual Standard (12µg/m<sup>3</sup>)</u> Nevada County: Unclassifiable/Attainment
		<u>2012 24-hour Standard (35µg/m<sup>3</sup>)</u> Unclassifiable/Attainment
CO	Nevada: Unclassified	Unclassifiable/Attainment
<i>In addition, the entire district is either Attainment or Unclassified for all State and Federal NO<sub>2</sub>, SO<sub>2</sub>, Pb, H<sub>2</sub>S, visibility reducing particles, sulfates, and vinyl chloride standards.</i>		

Ultramafic rock and its altered form, serpentine rock (or serpentinite), both typically contain asbestos, a cancer-causing agent. Ultramafic rock and serpentine are likely to exist in several areas of western Nevada County. The area of the project site is mapped as an area that is likely to contain ultramafic rock (California Department of Conservation, 2000). The preliminary investigation of the property shows the possibility of ultramafic (um) rock at the site, which is an indicator of naturally occurring asbestos (NOA). Please see Figure 4 below. Additionally, the Soil Report indicates that 33% of the area of interest is Dubakella soil, which the USDA states "...consists of moderately deep, well drained soils... with a large amount of serpentinitic minerals." Serpentine soils are formed from ultramafic rock, and are also NOA indicators. Natural occurrences of asbestos are more likely to be encountered in, and immediately adjacent to, areas of ultramafic rock.



Figure 4 - Ultramafic Rock Units in Nevada County. Source: California Department of Conservation, Division of Mines and Geology, August 2000. Ultramafic Rock Units are shown in green.

Sensitive receptors are facilities where sensitive receptor population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include residences, schools, playgrounds, child-care centers, retirement homes, convalescent homes, hospitals and medical clinics. Sensitive receptors in the project area include residential dwellings that are adjacent to the project parcel. The parcel directly across Wolf Road had previously operated as a school, but is no longer operational.

Please see Section 8 of this Initial Study for discussion of greenhouse gas emissions.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Conflict with or obstruct implementation of the applicable air quality plan?		✓			A, B, 15
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?		✓			A, B, 17, 18, 19
c. Expose sensitive receptors to substantial pollutant concentrations?		✓			A, B, C
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓		A, B

**Impact Discussion:**

3a Nevada County’s General Plan, Chapter 14 Air Quality Element, contains numerous policies to protect air quality in Nevada County. With the exception of General Plan Air Quality Element Policy 14.7A, which requires compliance with Northern Sierra Air Quality Management District (NSAQMD) Rule 226, the

Nevada County General Plan Air Quality Element policies are intended to apply to development that generates new residents or new employees. By assessing air pollution and emissions associated with the proposed project and recommending mitigation measures based on thresholds of significance established by the NSAQMD, the project as proposed would comply with NSAQMD regulations.

The California Emissions Estimation Model (CalEEMod) provides a means to estimate potential emissions associated with both construction and operation of land use projects. Estimated construction and operation impacts were determined by inputting the parameters specific to the proposed project into CalEEMod version 2022.1.1.21. Table 2 below shows the NSAQMD thresholds for criteria air pollutants relative to the maximum daily emissions of the project during construction and during operation.

**Table 2. Estimated Project Air Quality Impacts**

Pollutant	NSAQMD Level B Threshold	Project Impacts – Construction	Project Impacts – Operation
NOx	24-136 lbs/day	37 lbs/day max	0.7 lbs/day max
ROG	24-136 lbs/day	4 lbs/day max	1 lb/day max
PM10	79-136 lbs/day	20 lbs/day max	0.5 lbs/day max
CO	N/A	34 lbs/day	4 lbs/day

\*All projects require basic mitigations under Level A, which is under 24 pounds per day of any pollutant shown. Source: CAPCOA, CalEEMod Version 2020.4.0 2022

As shown in Table 2, the project would result in Level B impacts for NOx if no mitigation is included. NOx pollution is emitted by automobiles, trucks and various non-road vehicles (e.g., construction equipment). Therefore, best management practices for construction emission controls should be implemented by this project for NOx emissions reductions as shown in **Mitigation Measure 3A**, which includes the use of the highest tier diesel engines available (Tier 4 final rule) and limiting idling time to less than 5 minutes. With the implementation of these measures, there will be a reduction in NOx to Level A impacts.

PM10 emissions are due both to diesel engine exhaust from construction vehicles and the quantities of earth movement included in the project. Though the projected levels will be below NSAQMD Level B Thresholds, the suppression of dust, along with cleaner-running engines, will assist with lowering PM10 levels. The proposed project involves the disturbance of well over an acre and will therefore trigger the requirement for a Dust Control Plan to mitigate construction impacts on air quality, as shown in **Mitigation Measure 3B**. Reasonable precautions would include watering vehicle traffic areas, as well as any stockpiled material, and limiting traffic speeds during construction. As shown in **Mitigation Measure 3C**, the project will also be required to find alternatives to open burning of vegetative materials at the site. Such methods will be required to be noted on the improvement plans prior to approval.

The proposed project is located near a known deposits of ultramafic or asbestos-containing rock or soils, as shown in Figure 4 above. **Mitigation Measure 3D** requires that the applicant engage a register geologist to conduct and evaluation of the property for ultramafic rock and file and exemption request from NSAQMD, or proceed as if all disturbed soils contain asbestos and implement an Asbestos Dust Mitigation Plan as approved by NSAQMD to ensure impacts related to airborne asbestos pollutants is less than significant with mitigation.

The project is not anticipated to have significant impacts on air quality during operation. Though additional vehicle trips will be generated and equipment will be operated on the site during the craft school, camping, and event operations, they are not anticipated to be a significant factor in increased air pollutants. The maximum number of guests on site is anticipated to be 150 during an event, which would

occur approximately once a month, and regular operations would include approximately 50 people on a daily basis. These figures are marginal compared to operations of the nearby commercial development at the intersection of Wolf Road and Highway 49, and do not require mitigation.

With implementation of Mitigation Measures 3A, 3B, 3C, and 3D the potential for this project to conflict with applicable air quality plans, violate any air quality standards during the construction phase, or expose sensitive receptors such as residents along the haul roads to substantial pollutant concentrations would be **less than significant with mitigation**.

- 3d The proposed project includes operation of a craft school, campground, and events. Equipment for woodworking, metalsmithing, and ceramics may produce small amounts of odors. Operation of a café is also anticipated to create odors. However, these operations shall take place indoors and are not expected to affect nearby receptors sites. The nearest residence is approximately 300 feet to the southwest of the parcel boundary, with the craft and food operations an additional 150 to 700 feet away. Though this parcel to the southwest across Wolf Road was an elementary school in the past, it is no longer operated as one, and is instead limited to residential and agricultural uses. Given the low density, rural nature of the surrounding area, the impacts of odors or other emissions to a substantial number of people is **less than significant**.

**Mitigation Measures:** To offset potentially adverse air quality impacts associated with the project activities, the following mitigation measures shall be required and shall be included in the improvement plans for the project:

**Mitigation Measure 3A: Reduce emissions during construction.** The following are the minimum mitigation measures designed to help reduce project emissions related to construction. These measures shall be included as a note on all plans prior to issuance of all grading, improvement, and building permits:

1. The mobile off-road construction equipment in use at any time on the project shall be equipped with Tier 4 engines.
2. Construction equipment idling time shall be limited to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). All construction equipment shall also be maintained and properly tuned in accordance with manufacturer's specifications. Clear signage shall be provided for construction workers at all access points.
3. In addition to these measures, all statewide air pollution control regulations shall be followed, including diesel regulations (which may be accessed at [www.arb.ca.gov/diesel/diesel.htm](http://www.arb.ca.gov/diesel/diesel.htm)).

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** NSAQMD / Planning Department

**Mitigation Measure 3B: Prepare a Dust Control Plan.** Prior to issuance of grading and improvement permits, submit a Dust Control Plan to Northern Sierra Air Quality Management District, if more than one (1) acre of natural surface area is to be altered or where the natural ground cover is removed, and gain their approval. The disturbance of natural surface area includes any clearing or grading. Include the approved Dust Control Plan on the project plans using clear phrasing and enforceable conditions, under its own heading. Provide evidence of NSAQMD approval to Nevada County with permit application submittal. The plan shall include but not be limited to the following measures, which shall also be included on all construction plans:

1. Contact details must be provided for the person/s responsible for ensuring that all adequate dust control measures are implemented in a timely and effective manner:

2. All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and/or causing a public nuisance. Watering during summer months should occur at least twice daily, with complete coverage of disturbed areas.
3. All areas with vehicle traffic shall be watered or have dust palliative applied as necessary to minimize dust emissions.
4. All on-site vehicle traffic shall be limited to a speed of 15 mph on unpaved roads.
5. All land clearing, grading, earth moving, or excavation activities on a project shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 mph.
6. All inactive portions of the development site shall be covered, seeded, or watered or otherwise stabilized until a suitable cover is established.
7. All material transported off-site shall be either sufficiently watered or securely covered to prevent it being entrained in the air, and there must be a minimum of six (6) inches of freeboard in the bed of the transport vehicle.
8. Paved streets adjacent to the project shall be swept or washed at the end of each day, or more frequently, if necessary, to remove excessive accumulations or visibly raised areas of soil which may have resulted from activities at the project site.
9. Prior to final occupancy, the applicant shall re-establish ground cover on the site through seeding and watering.

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** NSAQMD / Planning Department

**Mitigation Measure 3C: Use Alternative Methods to Open Burning for Vegetation Disposal.** The following note shall be included on all grading and improvement plans: “Open burning of site-cleared vegetation is prohibited. Among suitable alternatives are chipping, grinding, hauling to an approved disposal site, cutting for firewood, and conversion to biomass fuel.”

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** NSAQMD / Planning Department

**Mitigation Measure 3D: Naturally Occurring Asbestos.** According to the California Code of Regulations Title 17 Section 93105 (b)(1), State asbestos regulations apply if “Any portion of the area to be disturbed is located in a geographic ultramafic rock unit...” Therefore, there are two options moving forward as detailed below. An approved exemption request or Asbestos Dust Mitigation Plan shall be achieved from NSAQMD and then submitted to the Planning Department prior to issuance of grading permits.

1. The applicant can engage a registered geologist to conduct an evaluation of the property. If this evaluation determines that no serpentine or ultramafic rock is likely to be found in the area to be disturbed, the applicant can request an exemption from the Air Pollution Control Officer of the NSAQMD. (See Title 17 Section 93105 (c)(1)(A) for report requirements.)

Or,

2. The applicant can proceed as if all disturbed soils contain asbestos and subsequently incorporate the required asbestos dust mitigation measures into the project documents and practices, as found in CCR Title 17 Section 93105(e)(2) and (4) etc. This includes submitting and acquiring NSAQMD approval of an Asbestos Dust Mitigation Plan (ADMP) before the start of any construction or grading activity. The ADMP must include:
  - a. concrete measures for soil track-out prevention and control

- b. dust prevention measures for active construction areas and storage piles
- c. dust minimization from unpaved roads, parking lots, or staging areas, including a
- d. limit on vehicle speeds to 15 mph or less
- e. all offsite transport control measures
- f. methods of post construction stabilization (in perpetuity)
- g. all monitoring and reporting to be performed.

Please see the above-mentioned Title 17 sections for specific requirements in each of these categories.

**Timing:** *Prior to issuance of the grading permits and improvement plans and during grading activity*

**Reporting:** *Approval of the grading permit and improvement plans*

**Responsible Agency:** *NSAQMD / Planning Department*

## 4. Biological Resources

**Existing Setting:** The Project area is located at approximately 1,400 feet above Mean Sea Level (MSL). The Project area ranges between 1,350 feet above MSL in the western section of the Project area along Wolf Road and 1,490 feet above MSL in the eastern section of the Project area. Therefore, general drainage within the Project area is from east to west and north to south within the subject parcel. The Project area is best characterized as Foothill Pine – Blue Oak Woodland and Annual Grassland plant communities.

Based on a current review of the California Natural Diversity Data Base (CNDDB) and database information provided by the United States Fish and Wildlife Service for the Project area, four (4) special status species have been identified within 3 miles of the Project area. These species include Brandegees' clarkia, dubious pea, western pond turtle, and California black rail.

The trees, shrubs, and grasslands within the subject parcel contain suitable habitat for nesting raptors and Migratory Bird Treaty Act (MBTA) and CDFW protected nesting bird species. The subject parcel represents potential habitat for bird species protected under the MBTA and by CDFW, such as tree nesting species (raptors) and ground nesting species like the spotted towhee (*Pipilo maculatus*) and dark-eyed junco (*Junco hyemalis*). There is a low to moderate potential for nesting raptors and other nesting migratory bird species protected under the MBTA and by CDFW to occur within and adjacent to the subject parcel.

The subject parcel includes a Nevada Irrigation District (NID) canal that terminates at a small pond within the subject parcel. The existing NID canal and small pond leakage have created some marginal wet areas immediately downslope of the NID canal. However, based on close observations of the plants, hydrology, and soils within those areas of the subject parcel, the wet areas would not meet the definition of a regulated wetland and therefore, would not be regulated by the Clean Water Act (CWA) or by California Department of Fish and Wildlife (CDFW). The mapped riparian area and drainage within the northern section of the subject parcel, shown in Figure 5 below, would most likely be regulated by CDFW and appears to be fed by an existing spring within the mapped area. These areas are identified in the National Wetland Inventory.

The Nevada County Code Section 12.04.203 details a number of Resource Standards with the purpose of avoiding the impact of development projects on sensitive environmental resources and natural site constraints. The Project site contains qualifying Trees (Section 12.04.215) in the form of landmark oak groves with a canopy coverage of greater than 33% and Watercourses, Wetlands and Riparian Areas (Section 12.04.217) in the form of riparian areas, perennial watercourses, intermittent watercourses, and a canal. In the case that impacts to these resources cannot be avoided, a Management Plan may be prepared that limits the degree of impact to the

maximum extent possible. Management Plan provisions to minimize impacts shall become conditions of approval or mitigation measures of the project.

There are no adopted Habitat Conservation Plans, or other approved local, regional, or state habitat conservation plans in the Project area.

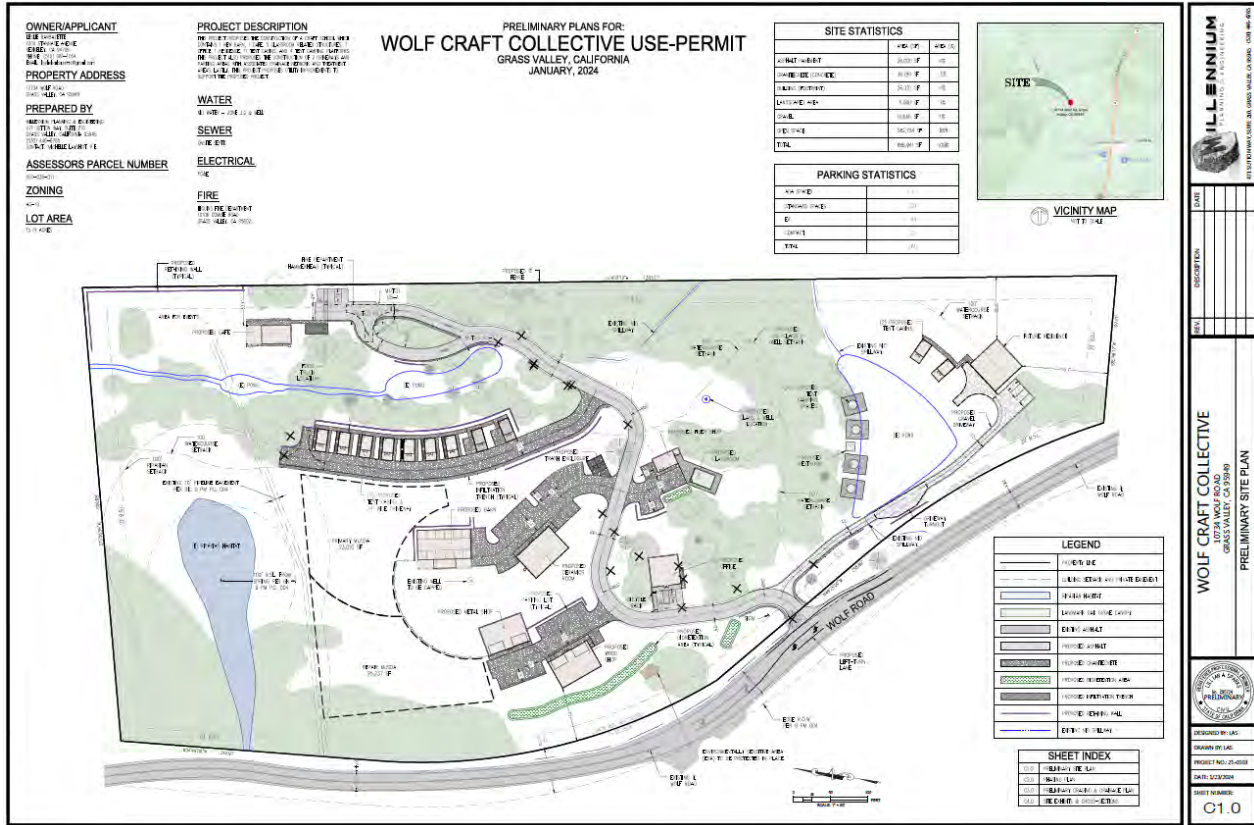


Figure 5 - Site Plan showing Riparian Habitat on the north side of the parcel

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			✓		18
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?		✓			18



Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		✓			18
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		✓			18
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		✓			A,18
f. Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓	A

**Impact Discussion:**

4a Special-status species considered for this project are based on a current review of the California Natural Diversity Data Base (CNDDDB) and database information provided by the United States Fish and Wildlife Service for the Project area. Detailed database information is included in Appendix E – Biological Resources Assessment. The database searches did reveal four (4) species, including Brandegees clarkia, dubious pea, western pond turtle, and California black rail that have been previously identified within 3 miles of the Project area. None of these species were observed during field surveys conducted by Greg Matuzak, a Nevada County prequalified biological consultant, and it is unlikely that they occur on the project site. In addition, there is no Designated Critical Habitat (DCH) for any plant or wildlife species protected by USFWS within 3 miles of the Project area. Therefore there is **less than significant impact** on special status species.

4b As described in the Biological Resource Assessment and Aquatic and Oak Resources Management Plans (Appendix E) prepared by Nevada County prequalified biological consultant Greg Matuzak, the parcel contains riparian habitat and perennial watercourses, which are protected by local policies and CDFW. The Nevada County Code Section 12.04.217 requires setbacks of 100-feet from riparian habitat and perennial watercourses. Development of a parking area and minimum usable sewage disposal areas (MUSDAs) are proposed within 100-feet of riparian habitat and spring on the north side of the parcel (see Figure 5). On the eastern portion of the parcel, a café, event area, parking and road improvements, and tent cabins are proposed within 100-feet of a pond. There are also proposed driveway improvements within the 20-foot downhill setback and 100-foot uphill setback of a canal on the eastern side of the property. In the southern portion of the parcel, the project proposes tent camping spaces, a restroom, road and parking improvements, tent cabins, and a residence within 100-feet of a pond. On the west side of the parcel, there is a drainage ditch which qualifies as an intermittent watercourse and requires a 50-foot setback; driveway improvements are also proposed within this setback. Accordingly, a Management Plan has been developed in accordance with Section 12.04.217 in order to avoid, minimize, or compensate for potential impacts to these areas. **Mitigation Measure 4A** details watercourse best management practices, including dry weather construction, avoiding use of equipment close to the watercourses, and erosion control measures like placement of straw, all of which minimize impacts to

the watercourses during construction. In addition, **Mitigation Measure 4B** requires landscape planting of aquatic and upland plants that will enhance the existing landscape and create additional high quality biological resources on the parcel. Together, these mitigation measures ensure that impacts to riparian habitats are **less than significant with mitigation**.

4c No direct removal, filling, hydrological interruption, or other means on interruption shall take place on any of the wetland areas on the site. **Mitigation Measure 4A** specifies that no fill or dredge material will enter or be removed from the pond, riparian area, or NID canal, and that no dewatering of the pond, NID canal, riparian area, or drainage ditches will occur as part of the proposed construction. Therefore, impacts to protected wetlands will be **less than significant with mitigation**.

4d As reported in the Biological Resource Assessment and Aquatic and Oak Resources Management Plans (Appendix E) prepared by Nevada County prequalified biological consultant Greg Matuzak, there are no native resident or migratory fish species on the parcel. There is a low to moderate potential for nesting raptors and other nesting migratory bird species protected under the MBTA and by CDFW to occur within and adjacent to the subject parcel. The subject parcel represents potential habitat for bird species protected under the MBTA and by CDFW, such as tree nesting species (raptors) and ground nesting species like the spotted towhee (*Pipilo maculatus*) and dark-eyed junco (*Junco hyemalis*). However, active and inactive nests within and adjacent to the proposed areas to be developed within the subject parcel were not identified during the field survey. If development within the subject parcel will occur during the nesting season for raptors and ground nesting MBTA and CDFW protected birds, a preconstruction survey shall be conducted if such development activities pose a risk to nest abandonment prior to the fledging of young from such nests pursuant to **Mitigation Measure 4C**. This mitigation measure ensures that impacts related to the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or use of native wildlife nursery sites will be **less than significant with mitigation**.

4e Landmark oak groves with a canopy coverage of 33% or greater are protected resources pursuant to Nevada County Code Section 12.04.215. The project proposes to remove twelve (12) native oak trees from within landmark oak groves. Accordingly, a Management Plan has been developed by Nevada County prequalified biological consultant Greg Matuzak (Appendix E) in accordance with Section 12.04.203 in order to avoid, minimize, or compensate for potential impacts to these areas. Mitigation measures are included to offset potential direct impacts to landmark oak groves through a compensatory mitigation planting of blue oak acorns and monitoring their success over five years. The planting of blue oak acorns will be of a much higher habitat value than the planting of interior live oak given the habitat value of blue oaks are much higher than interior live oak trees and given the restriction of areas where blue oak grow within Nevada County. **Mitigation Measure 4D** calls for compensatory planting of 30 blue oak acorns such that a minimum of 24 native blue oaks survive for five years and constitute a successful planting and habitat compensation, which is the equivalent to the inch-for-inch replacement required by Nevada County Code Section 12.04.215. In addition, tree protection measures are included for avoiding potential accidental impacts during construction to oaks in close proximity to areas of disturbance. **Mitigation Measure 4E** details Best Management Practices such as restricting vehicles and prohibiting grading within the root zones (drip lines) of trees to ensure that the remaining landmark oak groves are not impacted by project development. With these mitigation measures, impacts to protected trees will be **less than significant with mitigation**.

Please see 4b for a discussion of local ordinances protecting riparian areas and perennial watercourses.

4f No conservation plans currently include the project area. There would be **no impact**.

**Mitigation Measures:** To reduce potential impacts to sensitive biological resources, the following mitigation shall be noted on the project construction plans for implementation during project construction:

**Mitigation Measure 4A: Watercourse and Riparian Area Best Management Practices.** Proposed disturbance adjacent to the existing pond within the southern section of the subject parcel will include the bridge crossing footings to be on located along the pond's edge and not within the wetted portion of the pond itself and therefore, the access road and bridge crossing of the pond will not directly impact the pond and potential indirect impacts to the pond from impacts within the non-disturbance buffer of the pond will be minimized by mitigation measures and BMPs outlined below.

1. Limit construction to periods of extended dry weather and/or the dry summer season;
2. Establish the areas around the pond, NID canal, and riparian area as an Environmentally Sensitive Area (ESA) where those areas will not be impacted by construction;
3. No fill or dredge material will enter or be removed from the pond, riparian area, or NID canal. The culvert crossings may be upgraded where access roads cross the drainage ditches and the placement of boulders along the edges of the culverts will minimize erosion at both ends of the culverts and along each side of those drainage ditches;
4. Use appropriate machinery and equipment to limit disturbance in these areas;
5. Placement of straw and/or other soil erosion control devices between the pond, riparian area, NID canal, and drainage ditches, and the areas where grading and/or vegetation removal will occur to limit potential runoff and sedimentation into those aquatic resources;
6. No dewatering of the pond, NID canal, riparian area, or drainage ditches will occur as part of the proposed construction; and
7. Minimize the number and size of work areas for equipment and spoil storage sites in the vicinity of the pond, riparian area, NID canal, and drainage ditch. Place staging areas and other work areas outside of the non-disturbance buffers to these aquatic resources within the subject parcel during construction as feasible. However, the staging area within the eastern section of the subject parcel should be approved in that location given it is within a flat area and BMPs (including straw) will be placed around the edges of the staging area to minimize any potential runoff from that area.
8. The contractor shall exercise reasonable precaution to protect these as well as all aquatic resources and their adjacent non-disturbance buffers from pollution such as fuels, oils, and other harmful materials. Construction byproducts and pollutants such as oil, cement, and wash water shall be prevented from discharging into or near any aquatic resources and shall be collected for removal off the site. All construction debris and associated materials and litter shall be removed from the work site immediately upon completion.
9. No equipment for vehicle maintenance or refueling shall occur within the non-disturbance buffers. The contractor shall immediately contain and clean up any petroleum or other chemical spills with absorbent materials such as sawdust or kitty litter. For other hazardous materials, follow the cleanup instructions on the label.
10. Exposed bare soil along the proposed disturbance within the non-disturbance buffers should be protected against loss from erosion by the placement of straw within the area where vegetation will be removed. Once revegetation is completed the erosion control within the non-disturbance buffer areas can be removed.
11. To ensure the proper and timely implementation of all mitigation measures contained in this Aquatic Resources Management Plan, as well as the terms and conditions of any other required permits, the applicant shall distribute copies of these mitigation measures and permit requirements to the contractors prior to grading and construction within the non-disturbance

buffers. All contractors shall be completely familiar with the mitigation measures contained above and with the terms and conditions of all permits.

**Timing:** *Prior to grading/building permit issuance and during construction*

**Reporting:** *Agency approval of permits or plans*

**Responsible Agency:** *Planning Department*

**Mitigation Measure 4B: Implement Restorative Landscaping.** A Landscape Planting Plan is attached as Appendix C showing areas to be planted with both aquatic associated and upland associated habitats. The additional restoration within the subject parcel to include several areas that will include native plantings, and will offset any impacts to aquatic and upland plant species within the subject parcel.

**Timing:** *Prior to grading/building permit issuance and during construction*

**Reporting:** *Agency approval of permits or plans*

**Responsible Agency:** *Planning Department*

**Mitigation Measure 4C: Bird Survey.** The following note must appear on all grading plans: The trees, shrubs, and grasslands within the subject parcel contain suitable habitat for nesting raptors and MBTA and CDFW protected nesting bird species. The breeding season for most protected birds in the vicinity of the Project area is generally from March 1 to August 31. Vegetation clearing or tree removal outside of the breeding season for such bird species would not require the implementation of any avoidance, minimization, or mitigation measures. However, construction or development activities during the breeding season could disturb or remove occupied nests of migratory birds or raptors and would require the implementation of a pre-construction survey within 250 feet of the disturbance area within the subject parcel for nesting migratory birds and raptors prior to development. If any nesting raptors or migratory birds are identified during surveys, active nests shall be avoided and a no-disturbance buffer shall be established around the nesting site to avoid disturbance or destruction of the nest site until after the breeding season or after a qualified wildlife biologist determines that the young have fledged. The extent of these buffers shall be determined by a CDFW qualified wildlife biologist or a biologist on the Nevada County Pre-Qualified Biological Consultants List and would depend on the bird species actively nesting, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. These factors would be analyzed by the qualified biologist who would make an appropriate decision on buffer distances. The applicant or their representative shall ensure all buffer areas are marked with high-visibility construction fencing and all workers on site are trained to avoid such areas.

Grading, construction, and vegetation removal shall be avoided during the nesting season (March 1- July 31) to prevent impacts to nesting raptors or migratory birds, including nesting Cooper's hawks, yellow-breasted chats, and yellow warblers, using the construction zone and adjacent forest. If construction activities cannot be avoided during the nesting season, pre-construction surveys shall be conducted to verify that the construction and potential disturbance zones do not support nesting migratory birds.

1. Tree removal shall not take place during the breeding season (March 1 -July 31), unless supported by a report from a qualified biologist to verify that birds, including raptors, are not nesting in the trees proposed for removal or disturbance.
2. An additional survey may be required if periods of construction inactivity (e.g., gaps of activity during grading, tree removal, road building, or structure assembly) exceed a period of two weeks, an interval during which bird species, in the absence of human or construction-related disturbances, may establish a nesting territory and initiate egg laying and incubation.
3. Surveys shall be conducted no sooner than two weeks prior to the initiation of construction activities or other site disturbances.

4. Should any active nests or breeding areas be discovered, a buffer zone (protected area surrounding the nest, the size of which is to be determined by a qualified biologist) shall be established with high-visibility construction fencing. A monitoring plan shall be developed to ensure buffer zones are enforced. Nest locations shall be mapped to determine the necessary buffer zones and a report stating the survey results shall be submitted to the Nevada County Planning Department within one week of survey completion in order to verify compliance with the required buffer zone mitigation.

**Timing:** *Prior to grading/building permit issuance and during construction*

**Reporting:** *Agency approval of permits or plans*

**Responsible Agency:** *Planning Department*

**Mitigation Measure 4D: Compensatory Oak Planting.** The Project applicant shall implement the specifications for the blue oak acorn planting to be located within the northwest section of the subject parcel where common white snowberry are shown to be planted within the updated Landscape Planting Plan (see Appendix C). The acorns will be planted within that area.

Given the landmark grove trees have not been removed prior to the permit being finalized for the project, nor will any landmark grove trees be removed prior to project approval, a 2:1 ratio for planting acorns would be required for each tree removed and belonging to the areas of mapped landmark grove (see Appendix A). Therefore, a total of thirty (30) blue oak acorns will be planted within the northwest section of the subject parcel within the circles identified for common white snowberry planting in Appendix C. A minimum of 24 blue oaks must survive 5 years for the mitigation planting to be successful. Therefore, given some acorns may not sprout or survive, it is recommended that a greater than 2:1 mitigation ratio be planted to give the applicant a higher probability of having the minimum of 24 native blue oaks survive the entirety of the required 5 years. Successful growth of 24 blue oaks is of equivalent biological value as the inch-for-inch replacement required by Nevada County Code Section 12.04.215

A memo-format report and photo documentation prepared by a Nevada County pre-qualified biological consultant shall be submitted to the Nevada County Planning Department in October of each year for five years once the blue oak acorns are planted. Maintenance, irrigation, and monitoring throughout the growing season shall be the responsibility of the Project applicant, but the Project Biologist shall conduct a field review of the plantings annually, in advance of the annual monitoring report sent to Nevada County to ensure that the mitigation is implemented successfully.

**Timing:** *Prior to grading/building permit issuance and during construction*

**Reporting:** *Agency approval of permits or plans*

**Responsible Agency:** *Planning Department*

**Mitigation Measure 4E: Oak Grove Best Management Practices.** The following Best Management Practices (BMPs) for oak resources shall be implemented during the development of the proposed Project:

1. Plans and specifications shall clearly state protection procedures for oak resources within the Project area. The specifications shall also require contractors to stay within designated work areas.
2. Damage to Oak Trees during construction shall be immediately reported to a qualified biologist on the Nevada County Planning Department's Biological Resources Consultants List or a certified arborist to assess the potential level of impacts to oak resources and determine whether the damage will have a significant impact on any landmark oak trees or landmark oak grove. If it is determined by the qualified biologist or certified arborist that the damage to any landmark oak tree or landmark oak grove is significant for that tree or landmark grove, work shall be stopped

and the Nevada County Planning Department shall be contacted to discuss appropriate mitigation measures for such damages.

3. Equipment Damage to limbs, trunks, and roots of all remaining trees shall be avoided during project construction and development.
4. Grading Restrictions Care must be taken to limit grade changes near the drip line of an oak tree. Grade changes can lead to plant stress from oxygen deprivation or oak root fungus at the root collar of oaks. Minor grade changes further from the trunk are not as critical but can negatively affect the health of the tree if not carefully monitored by a qualified biologist or certified arborist.
5. The Root Protective Zones (Drip Lines) Grade shall not be lowered or raised around the trunks (i.e., within the drip line) of any oak tree. A qualified biologist or certified arborist shall supervise all excavation or grading proposed within the protective zone (drip line) of a protected oak resource and/or the clearance of vegetation within the protective zone (drip line) of a protected oak resource. Such work within the drip line of any protected oak resource shall be accomplished by the use of hand tools or small hand-held power tools. Any major roots encountered shall be conserved to the greatest extent possible and treated as recommended by the qualified biologist or certified arborist.

**Timing:** Prior to grading/building permit issuance and during construction

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

## 5. Cultural Resources

**Existing Setting:** California Public Resources Code Section 15064.5 defines a historically significant resource (one eligible for listing in the California Register of Historical Resources, per PRC SS5024.1) as an archaeological site which possess one or more of the following attributes or qualities:

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage
2. Is associated with the lives of persons important in our past
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
4. Has yielded, or may be likely to yield, information important in prehistory or history

One (1) indigenous resource has been documented within the subject property, and is addressed in the Tribal Cultural Resources section. Aside from this resource, no additional indigenous resources were observed within the area of potential effects (APE). No historic-era resources were observed within the APE. The absence of such resources may best be explained by past wild fires which would have destroyed any wooden buildings and structures that could have been present in the past.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?		✓			19

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		✓			19
c. Disturb any human remains, including those interred outside of formal cemeteries?		✓			19

**Impact Discussion:**

5a-c There is one indigenous cultural resource on the parcel, and no historical era resources. Please see the Tribal Cultural Resources section and **Mitigation Measures 18A-18E** for mitigation measures related to this resource.

Though the Cultural Resources Inventory Survey for this project indicated no findings, there is always the remote chance that resources may be uncovered during construction. In addition to these Mitigation Measures, **Mitigation Measure 5A** requires halting work in the case of inadvertent discovery of either cultural material or human remains. Consultation will then commence to ensure any impacts to cultural resources will be **less than significant with mitigation**.

**Mitigation Measure:**

**Mitigation Measure 5A: Halt work and contact the appropriate agencies if human remains or cultural materials are discovered during project construction.** All equipment operators and employees involved in any form of ground disturbance at any phase of project improvements shall be advised of the remote possibility of encountering subsurface cultural resources. If such resources are encountered or suspected, work shall be halted immediately and the Nevada County Planning Department, United Auburn Indian Community of the Auburn Rancheria, and any other interested and affected tribe shall be contacted. A professional archaeologist shall be retained by the developer and consulted to access any discoveries and develop appropriate management recommendations for archaeological resource treatment. If bones are encountered and appear to be human, California Law requires that the Nevada County Coroner and the Native American Heritage Commission be contacted and, if Native American resources are involved, Native American organizations and individuals recognized by the County shall be notified and consulted about any plans for treatment. A note to this effect shall be included on the grading and construction plans for each phase of this project.

**Timing:** Prior to the issuance of building/grading permits and during construction

**Reporting:** Agency approval of permits or plans

**Responsible Agency:** Planning Department

## 6. Energy

**Existing Setting:** On February 12, 2019, the Nevada County Board of Supervisors approved the Energy Action Plan (EAP) as the County’s unincorporated area’s roadmap for expanding energy-efficiency, water-efficiency, and renewable-energy, and the cost-savings that accompany these efforts. The EAP is focused on operations of structures, infrastructure that generates energy, and efficient use of water.

The California Building Code (CBC) regulates the use, properties, performance, and types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvement to real property. The CBC includes mandatory green building standards for residential and nonresidential structures, the most recent version of which is the 2022 Building Energy Efficiency Standards (also referred to as CALGreen). These standards focus on four key areas: smart residential photovoltaic systems, updated thermal envelope standards (preventing heat transfer from the interior to the exterior and vice versa), residential and nonresidential ventilation requirements, and non-residential lighting requirements.

In 2012, the California Air Resources Board (CARB) adopted the Advanced Clean Cars program in coordination with the Environmental Protection Agency (EPA) and National Highway Traffic Safety Administration. The program created a set of requirements for vehicle model years 2015 through 2025 that controls smog causing pollutants and GHG emissions. The goals of the program are to promote development of higher energy efficiency passenger cars and other vehicles and create financial savings for consumers through lowered fuel consumption.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operation?			✓		A
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			✓		A, G, 6

**Impact Discussion:**

6a,b Construction techniques and equipment used to construct the project will be consistent with local and state regulations. Typical construction activities require the use of energy (e.g., electricity and fuel) for various purposes such as the operation of construction equipment and tools, as well as grading and construction travel. The size and scope of the project is not likely to require extraordinary or non-typical construction equipment, or techniques resulting in a wasteful or inefficient construction operation.

All proposed structures will require building permits, ensuring they meet the 2022 Building Energy Efficiency Standards (also referred to as CALGreen). Additional equipment related to the craft school operation, such as a pottery kiln and metal forge, will be utilized. This equipment will be operated on an educational basis with classes of up to 40 people, not on a full time commercial production basis, and is unlikely to consume significant amounts of energy.

The local Energy Action Plan strategies are focused mostly on public outreach and education and improvement in County owned buildings, as well as bringing historic buildings up to California Energy Efficiency Standards. Because this will be new construction, the project will already be required to meet the California Energy Efficiency Standards. Therefore there is no conflict with the local Energy Action Plan.

This project will result in is a **less than significant impact** related to excessive energy consumption or conflicts with renewable energy or energy efficiency plans.

**Mitigation:** None



## 7. Geology and Soils

**Existing Setting:** The Project area is located at approximately 1,400 feet above Mean Sea Level (MSL). The Project area ranges between 1,350 feet above MSL in the western section of the Project area along Wolf Road and 1,490 feet above MSL in the eastern section of the Project area. Therefore, general drainage within the Project area is from east to west and north to south within the subject parcel.

The United States Department of Agriculture Soil Conservation Service has mapped two soil types on the project site. See Figure 6 below. Auburn-rock outcrop complex with 2-30% slopes is the predominant soil type on the parcel. Runoff is slow to medium and the hazard of erosion is slight to moderate, depending on slope. There is low shrink-swell potential. There are also severe limitations for septic tank leach fields due to bedrock occurring at 14 to 27 inches and slopes. The Auburn complexes offer poor topsoil. Dubakella shallow variant-rock outcrop complex 2-50% slopes occurs on the south east section of the parcel. Runoff is medium to rapid with moderate to high soil erosion hazard. The shrink-swell potential is high as it contains more than 35% serpentinitic clays. This soil type also has severe septic tank leach field limitations due to bedrock at depth of 10 to 20 inches, slopes, and very slow permeability. Dubakella soils offer poor topsoil as well.



Figure 6 - Soil Types at Project Site

The Alquist-Priolo Earthquake Fault Zoning Act was adopted in 1972 to prevent the construction of buildings in areas where active faults have surface expression. Ground or fault rupture is generally defined as the displacement that occurs along the surface of a fault during an earthquake. The project site is not within an Alquist-Priolo Earthquake Fault Zone, and there are no known faults that cross through the project site. Generally, western Nevada County is located in the low intensity zone for earthquake severity. The area has not been evaluated by the California Geologic Survey for liquefaction hazards or seismic landslide hazards.

There are no known unique paleontological resources or sites or unique geologic features in the project area.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Directly or indirectly cause potential substantial adverse effects, including risk of loss, injury or death involving: i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii. Strong seismic ground shaking? iii. Seismic-related ground failure including liquefaction? iv. Landslides?				✓	8
b. Result in substantial soil erosion or the loss of topsoil?		✓			7, G
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?			✓		7, G
d. Be located on expansive soil creating substantial direct or indirect risks to life or property?			✓		7, G
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?			✓		7, E, 23
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓	A

**Impact Discussion:**

7a The project site is not within an Alquist-Priolo Earthquake Fault Zone, and there are no known faults that cross through the project site. Generally, western Nevada County is located in the low intensity zone for earthquake severity. All grading and construction will be done in accordance to California Building Code, including structural evaluation. Therefore, there is **no impact** for impacts to rupture of known earthquake faults, seismic ground shaking, seismic-related ground failure and landslides.

7b The two soil types occurring at the project site offer poor topsoil. They range from low to high erosion hazards depending on the slope. The slopes on the site are moderate, averaging about 20%. Beyond the standard erosion control plans required with all grading permits, **Mitigation Measure 4A** requires erosion control devices such as straw, covering of exposed bare soil, and limits construction to dry weather. Therefore, the project’s impacts on erosion and topsoil loss will be **less than significant with mitigation**.

7c,d Though there are expansive soils on a small portion of the site that may present a hazard to structures due to their shrink-swell potential, several factors limit the impacts of this soil on the proposed project. First, a grading permit is required for all grading work on this project. Grading permits require standards

such as compaction, maximum grades, and erosion control to ensure that the soils will remain stable on the site.

Second, all structures proposed on the site require building permits. Geotechnical studies will be required for all commercial structures by the Building Department so any potentially unstable soils will be identified prior to building permit issuance. In the southern portion of the parcel where expansive soils are likely to occur, a future residence and tent cabins are proposed. The tent cabins will be considered commercial use and will be included in the geotechnical study area, thus providing some useful information about soil stability in the area of the residence. However, single family residential structures do not require geotechnical studies. They are, however, required to provide structural engineering calculations to ensure stability. Though expansive soils may cause uneven settling of foundations for single family residences, the consequences are primarily aesthetic (i.e. cracks in drywall, doors and windows that do not operate smoothly) and would not pose risks to life or property. Furthermore, common building practices typically include over-excavation and/or mixing other soil types when heavy clay-rich soils are encountered to help eliminate future settling. These factors will help to limit any risk of damage due to unstable soils. Therefore, impacts related to expansive or unstable soils are **less than significant**.

- 7e This project includes a centralized septic system that will handle all wastewater from the project. Cranmer Engineering, Inc. (CEI) prepared a Leachfield Disposal System Design Report in March 2024. The wastewater system demand has been determined to be 4,890 gallons per day. Based on mantle and percolation tests done in 2020 and 2021, CEI has identified both a primary leachfield and repair area with adequate soils that can accommodate the project wastewater demand. The proposed primary leachfield system is design as a Cap and Fill, Pressure Does system with a distributing valve to sequentially dose three different subfields. The preliminary septic design has been evaluated by the Environmental Health Department for consistency with local regulations and found adequate. A finalized septic design showing adequate soils to support the proposed system will be required as a standard procedure ahead of building permit issuance. A permit for the centralized septic system is also required from Environmental Health and will ensure the soils are adequate to handle the project's wastewater demand. Therefore, the impact to soils related to septic systems is **less than significant**.
- 7f There is no evidence of unique paleontological or geologic resources at the project site. Therefore, there is **no impact** to paleontological resources and unique geological features.

**Mitigation Measures:** See **Mitigation Measure 4A**.

## 8. Greenhouse Gas Emissions

**Existing Setting:** Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation and storms. Global warming, a related concept, is the observed increase in the average temperature of the earth's surface and atmosphere. One identified cause of global warming is an increase of greenhouse gases (GHGs) in the atmosphere. Greenhouse gases (GHGs) are those gases that trap heat in the atmosphere. GHGs are emitted by natural and industrial processes, and the accumulation of GHGs in the atmosphere regulates the earth's temperature. Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g. gasoline, diesel, coal, etc.), have contributed to the increase in atmospheric levels of GHGs. GHGs that are regulated by the State and/or EPA are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride

(SF6) and nitrous oxide (NO2). Emission inventories typically focus on GHG emissions due to human activities only, and compile data to estimate emissions from industrial, commercial, transportation, domestic, forestry, and agriculture activities. CO2 emissions are largely from fossil fuel combustion and electricity generation. Agriculture is a major source of both methane and NO2, with additional methane coming primarily from landfills. Most HFC emissions come from refrigerants, solvents, propellant agents, and industrial processes, and persist in the atmosphere for longer periods of time and have greater effects at lower concentrations compared to CO2. Global warming adversely impacts air quality, water supply, ecosystem balance, sea level rise (flooding), fire hazards, and causes an increase in health-related problems.

To reduce emissions of greenhouse gases, the California Legislature enacted AB 32 (Núñez and Pavley), which is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive, multiyear program to limit California’s GHG emissions at 1990 levels by 2020, and initiate the transformations required to achieve the state’s long-range climate objectives. In April 2015, the California Air Resources Board (CARB) issued Executive Order B-30-15 to set an interim target goal of reducing GHG emissions to 40 percent below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80 percent below 1990 levels by 2050 as set forth in EO S-3-05. SB 32, enacted in 2016, codified the 2030 the emissions reduction goal of CARB Executive Order B-30-15.

In addition, the Governor signed Senate Bill 97 in 2007 directing the California Office of Planning and Research to develop guidelines for the analysis and mitigation of the effects of greenhouse gas emissions and mandating that GHG impacts be evaluated in CEQA documents. CEQA Guidelines Amendments for GHG Emissions were adopted by OPR on December 30, 2009. The Northern Sierra Air Quality Management District (NSAQMD) has prepared a guidance document called Guidelines for Assessing Air Quality Impacts of Land Use Projects, which includes mitigations for general air quality impacts that can be used to mitigate GHG emissions when necessary. Continuing to reduce greenhouse gas emissions is critical for the protection of all areas of the state, but especially for the state’s most disadvantaged communities, as those communities are affected first, and, most frequently, by the adverse impacts of climate change, including an increased frequency of extreme weather events, such as drought, heat, and flooding.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?		✓			A, 19
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?		✓			A, 19

**Impact Discussion:**

8a,b The project is not expected to generate greenhouse gases that would result in significant environmental impacts or that would be in conflict with plans for greenhouse gas reductions.

California is divided geographically into air basins for the purpose of managing the air resources of the State on a regional basis. An air basin generally has similar meteorological and geographic conditions throughout. Nevada County and Placer County are both within the Mountain Counties Air Basin. Nevada County is within the jurisdiction of the Northern Sierra Air Quality Management District, but the NSAQMD has not adopted thresholds of significance for greenhouse gases. However, Placer County Air Pollution

Control District has adopted thresholds of significance for greenhouse gases. Due to greenhouse gas emissions being not only a regional but also a global concern, and the similarities between the neighboring air districts, it was determined that the Placer APCD thresholds are relevant standard for the determination of significance.

The thresholds adopted by Placer County APCD include a bright-line threshold of 10,000 metric tons of Carbon dioxide equivalent per year and a De Minimis level of 1,100 metric tons of carbon dioxide equivalent per year (MT CO<sub>2</sub>e/yr). A bright-line threshold is a numerical value used to determine the significance of a project's annual GHG emissions. GHG emissions from projects that exceed 10,000 MT CO<sub>2</sub>e/yr would be deemed to have a cumulatively considerable contribution to global climate change. The De Minimis Level for the operational phases of 1,100 MT CO<sub>2</sub>e/yr represents an emissions level which can be considered as less than cumulatively considerable and be excluded from the further GHG impact analysis.

The California Emissions Estimator Model (CalEEMod) was used to model the greenhouse gas emissions from the construction and operation of the project. During construction, an estimated 287 metric tons of carbon dioxide equivalent would be emitted per year. **Mitigation Measure 3A** reduces emissions during construction by requiring Tier 4 engine vehicles which pollute less and limit idling time. During the operational level, the project is projected to produce 162 metric tons of carbon dioxide equivalent annually, which is below the De Minimis Level. Though the project proposes use of equipment such as a pottery kiln and blacksmithing forge during the operations phase, these will be used for educational and recreational purposes, and not for high-intensity production. The traffic generated by approximately 50 daily users and 150 occasional event users is also less than significant in the regional context. Due to the greenhouse gas emissions from the project being below the greenhouse gas significance threshold, the overall GHG impact is expected to remain at a level that is **less than significant with mitigation**.

**Mitigation Measures:** See **Mitigation Measure 3A**.

## 9. Hazards and Hazardous Materials

**Existing Setting:** Health and safety issues apply to construction works and members of the public who would be exposed to hazardous materials and physical conditions associated with the presence of construction equipment and excavation in areas of sensitive land uses. There are a variety of state and federal regulations that apply to construction projects for the protection of health and safety. Though a neighboring property had previously operated as a school, currently, no existing or proposed schools are located within one-quarter mile of the project area. The project area is not within an airport land use plan or within two miles of a public airport or public use airport.

The Hazardous Waste and Substances Site List (Cortese List) is a planning database used by the State and local agencies to comply with the CEQA requirements in providing information about the location of hazardous materials release site. Government Code Section requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's Brownfields and Environmental Restoration Program (Cleanup Program) EnviroStor database provides DTSC's component of the Cortese List by identifying State Response and/or Federal Superfund sites and Backlog sites listed under Health and Safety Code Section 25356, In addition, DTSC's Cortese List includes Certified with

Operation and Maintenance sites. There are three sites on the Cortese List in Nevada County: Empire Mine State Park, the Lava Cap Mine, and Davis Mill/Hoge Mine. None of these are within the vicinity of the proposed project.

The project is not within or adjacent to any hazardous materials sites, nor is it located on an abandoned solid waste disposal site known to the County.

The project area is located within the boundaries of the Higgins Fire Protection District and is designated as a high fire hazard severity zone.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓		E
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓		E
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓	A
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?				✓	A, 17
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				✓	A
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?		✓			A, H
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?		✓			A, H

**Impact Discussion:**

9a,b The project includes facilities to teach crafts including woodworking, metalsmithing, ceramics, and fiber arts. Some of these processes use limited amounts of hazardous materials and require the use of propane powered equipment. The Nevada County Environmental Health Department requires the applicant and/or facility operators to adhere to all applicable codes and regulations regarding the storage of hazardous materials and the generation of hazardous wastes set forth in California Health and Safety Code Section 25500 – 25519 and 25100 – 25258.2 including the electronic reporting requirement to the California Environmental Reporting System (CERS). The applicant and/or facility operator must apply for and obtain a permit for the storage of hazardous materials and the generation of hazardous wastes from the Nevada County Department of Environmental Health (NCDEH), Certified Unified Program Agency

- (CUPA). With compliance with state and local hazardous material standards, the project's impacts related to hazards to the public or the environment related to hazardous materials are **less than significant**.
- 9c There are no existing or proposed schools within one-quarter mile of the proposed project. An adjacent parcel was previously operated as a school, but no longer operates as such. Therefore, there would be **no impact** related to hazardous emissions or substances near a school.
- 9d No portion of the project area is included on the Cortese List of hazardous materials sites. Therefore, the project would not create significant hazard to the public or the environment, and **no impact** would occur.
- 9e The proposed project is not located within an airport land use plan or within two miles of an airport. Therefore, there would be **no impact**.
- 9f In the case of an emergency, Wolf Road would serve as a major route for many parcels to the north and west of the project site. Highway 49 is the primary corridor for the Grass Valley/Nevada City/Auburn region running north to south. While the project would add people and vehicles to the area that would need to evacuate, both during construction and operation, the project site is less than one driving mile to Highway 49 along Wolf Road and would not significantly hinder the flow of traffic during an evacuation. The project proposes to improve driveway and encroachment access onto Wolf Road, and would not pose any substantial increase in difficulty in exiting the area in the case of an emergency. The Nevada County Office of the Fire Marshal is requiring development of an evacuation plan to ensure that occupants of the site can exit safely in case of an emergency. This is included as **Mitigation Measure 9A**. Therefore, there are **less than significant impacts with mitigation** related to interference with emergency response or evacuation plans.
- 9g The project is proposed in an area classified as a high fire hazard severity zone by CALFIRE, which is typical in Nevada County. The proposed structures will be required to incorporate Wildland Urban Interface (WUI) requirements as part of the building permit process. These standards help protect structures from fire risks by reducing the likelihood of structure material ignition. The parcel will also be subject to Public Resources Code Section 4291 which requires vegetation clearance around structures. Structures shall have a maintained Defensible Space/Fuel Reduction Zone by removing, limbing, and/or thinning trees, brush, flammable vegetation, or combustible growth no less than 100 feet from structures or to the property line, whichever is closer to prevent the transmission of fire. Defensible space treatment shall be completed by the applicant and inspected by the County Fire Marshal or his/her designee prior to the granting of any occupancy of new structures. In addition, **Mitigation Measure 9A** requires creation of an evacuation plan that would go into effect in case of wildfire exposure at the site. Therefore, there is **less than significant impacts with mitigation** related to exposing people or structures to wildland fires.

#### Mitigation Measures:

**Mitigation Measure 9A: Evacuation Plan.** Prior to Building/Grading Permit issuance, the applicant shall work with the Nevada County Fire Marshal to develop an evacuation plan that ensures safe and orderly emergency evacuation of the site in case of an emergency.

**Timing:** Prior to building/grading permit issuance

**Reporting:** Approval of permits

**Responsible Agency:** Fire Marshal

## 10. Hydrology and Water Quality

**Existing Setting:** The Project area is located at approximately 1,400 feet above Mean Sea Level (MSL). The Project area ranges between 1,350 feet above MSL in the western section of the Project area along Wolf Road and 1,490 feet above MSL in the eastern section of the Project area. Therefore, general drainage within the Project area is from east to west and north to south within the subject parcel. There are perennial ponds, seasonal watercourses, riparian habitat, and easements for Nevada Irrigation District (NID) canals on the parcel.

The California State Water Resources Control Board (State Water Board) regulates stormwater discharges from construction sites because of the potential to mobilize pollutants and discharge into waterbodies or watersheds. By regulating these discharges, the State Water Board is preserving, enhancing, and restoring California's waterbodies and its resources. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities.

Sustainable management of groundwater basins is overseen by the Department of Water Resources (DWR) and State Water Resources Control Board (SWRCB) via the Sustainable Groundwater Management Act (SGMA). This project is not located within any groundwater basins or priority basins identified by the DWR Bulletin 118, or the SGMA Basin Prioritization Dashboard. The nearest DWR Bulletin 118 basins are the North and South Yuba Subbasins of the Sacramento Valley Basin (5-21.60 and 5-021.61, respectively). No Groundwater Sustainability Agency, no Groundwater Sustainability Plan, and no sustainability criteria or goals have been established for the underlying aquifer of this project.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		✓			A
b. Substantially decrease groundwater supplies or interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			✓		A, E



Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) Result in substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site; iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows?		✓			A, 20, G
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓	A
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?		✓			A
f. Place housing within a 100-year flood hazard area as mapped on a federal Flood hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				✓	A
g. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				✓	A

**Impact Discussion:**

10a,e The project proposes ground disturbance over an area greater than one (1) acre. Therefore, the project will be required to achieve a Storm Water Pollution Prevention Plan (SWPPP) from the Water Board. This permit will detail Storm Water Best Management Practices to be implemented on the site such as erosion control and site stabilization, spill response, retention ponds or other measures to ensure that there are no violations to water quality standards or waste discharge requirements. **Mitigation Measure 10A** requires the applicant to submit a copy of the approved SWPPP to the Planning Department prior to issuance of grading permits.

In addition, **Mitigation Measure 4A** includes several best management practices that are focused on preserving the quality of existing water bodies on the project site. These include dry weather construction, avoiding use of equipment close to the watercourses, and erosion control measures like placement of straw, all of which minimize impacts to the watercourses during construction. Together, these two mitigation measures ensure that any impacts to water quality are *less than significant with mitigation*.

10b,e The project proposes use of a Class 2 well for potable water to serve the students, campers, event guests, and food preparation activities on site. The well will draw on groundwater. Class 2 wells require a Small Domestic Water Supply permit from Environmental Health and must meet the requirements for new public water wells including a well capacity test. Design features such as low flow fixtures and drought

resistant landscaping help to lessen the need for groundwater use on the property. The requirement of obtaining a permit from Environmental Health for the well on the project site will ensure appropriate siting and ensure that the impacts related to ground water supplies shall be **less than significant**.

10c The project proposes additional impervious surfaces include roadways and structures. The project will not alter the course of a stream or river. In order to accommodate for changes in the existing drainage pattern, a Preliminary Drainage Report was prepared. The preliminary drainage report affirms that the project was designed such that there will be no net increase in peak runoff for a 10-year and 100-year storm event, as required by Nevada County Code. For preliminary purposes, volume retention systems will be designed to store 1.36 inches of runoff per square foot of impervious area. The detention basins included in the project design will ensure that there will be no flooding on or off site, and that the water will not exceed the capacity of any stormwater drainage systems or provide substantial additional sources of polluted runoff.

All grading for this project will require a grading permit from the Building Department. Grading permits require comprehensive erosion control measures, so there will not be substantial erosion or siltation on- or off-site.

In addition, the Department of Public Works requires oil, grease, and silt traps and ongoing legally enforceable maintenance of drainage facilities to ensure that there is no excessive polluted runoff. These requirements are included as **Mitigation Measures 10B** and **10C**.

The project is not within a flood zone, and will not impeded or redirect flood flows. The project will have **less than significant** impacts related to the drainage patterns of the site or area.

10d,f,g The project is not located in a flood hazard, tsunami, or seiche zone. Therefore, there are **no impacts** related to release of pollutants due to project inundation or placing housing or structures within a 100-year flood zone.

**Mitigation Measures:** In addition to **Mitigation Measure 4A**, the following hydrology and water quality mitigation measures are also identified:

**Mitigation Measure 10A: Construction Storm Water Pollution Prevention Plan.** Dischargers whose project disturbs one or more acres or where projects less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, shall be required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Oder No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit shall require the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Prior to issuance of any grading permits, a copy of an approved Storm Water Pollution Prevention Plan shall be submitted to the Department of Public Works.

**Timing:** Prior to grading permit issuance

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

**Mitigation Measure 10B: Oil, Grease, and Silt Traps.** Pursuant to General Plan Policy 11.6A, commercial and industrial development of 1 acre or greater in size must provide oil, grease and silt traps. The

applicant shall provide for oil, grease, and silt traps designed by a registered civil engineer in the site plans and shall demonstrate that a legally enforceable mechanism for long-term maintenance of such facilities has been provided pursuant to General Plan Policy 3.19C. The design of these traps must be included in all grading and building permits and a copy of the legally enforceable mechanism documentation shall be submitted to the Department of Public Works prior to issuance of grading permits.

**Timing:** Prior to grading permit issuance  
**Reporting:** Permit issuance  
**Responsible Agency:** Department of Public Works

**Mitigation Measure 10C: Maintenance of Drainage Facilities.** Pursuant to General Plan Policy 3.19C, the applicant shall maintain all drainage facilities constructed as part of the project through a permanent, legally enforceable mechanism such as, but not limited to, a CSA, CSD, or recorded covenant. Prior to grading or improvement permit issuance, the applicant shall demonstrate that a legally enforceable mechanism for long-term maintenance of such facilities has been provided. A copy of the legally enforceable mechanism documentation shall be submitted to the Department of Public Works prior to issuance of grading permits.

**Timing:** Prior to grading permit issuance  
**Reporting:** Permit issuance  
**Responsible Agency:** Department of Public Works

## 11. Land Use and Planning

**Existing Setting:** The project is in a rural region of Western Nevada County, approximately one half mile from the Lake of the Pines Village Center and Lake of the Pines Community Region. Adjacent land uses include residential and agricultural development, and the commercial corridor at the intersection of Wolf Road and Highway 49, approximately one driving mile from the project site. Within the Rural Regions, growth is limited to those types and densities of development which are consistent with the open, rural lifestyle, pastoral character and natural setting and surrounding land use patterns which exists in these areas.

Nevada County Code Section 12.04.217 requires non-disturbance buffers to protect watercourse, wetlands, and riparian areas and Section 12.04.215 protects landmark tree groves. Both of these resources are present within the project area.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Physically divide an established community?				✓	A
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?		✓			A, 18

**Impact Discussion:**

11a The proposed project is a low intensity camp teaching craft skills and hosting occasional events. It is contained within one parcel with access directly to Wolf Road, a County maintained road. No proposed improvements will interrupt or divide the established community, which consists primarily of residential

and agricultural uses. All vehicles will use existing roadways and no traffic closures are expected that would divide the community temporarily during construction. Therefore, the proposed project would have **no impacts** related to division of an existing community.

- 11b The project proposes development that will impact protected resources pursuant to Nevada County Code. These resources include watercourses and riparian areas and landmark tree groves. The project proposes to encroach within non-disturbance buffers to watercourses and remove 12 trees associated with landmark oak groves. Nevada County Code allows development of a Management Plan by a qualified biologist that avoids or minimizes impacts to the resources, thereby allowing responsible development that has a less than significant net impact. A Watercourse Management Plan was prepared for this project. It includes **Mitigation Measures 4A and 4B** which require best management practices such as dry weather construction, restrictive use of equipment, and establishing environmentally sensitive areas; and installation of restorative aquatic and upland plant landscaping to ensure that there is no significant impact to watercourses. A Tree Management Plan was also developed, and includes **Mitigation Measures 4C-E** requiring a nesting bird survey to protect the oak grove habitat, compensatory planting of native blue oak acorns, and best management practices including protective fencing and avoidance of grading at tree driplines. With these two Management Plans and the associated Mitigation Measures, the project will have a **less than significant impact with mitigation** as it relates to conflicts with land use code.

**Mitigation Measures:** See **Mitigation Measures 4A-E**.

## 12. Mineral Resources

**Existing Setting:** Mineral resources, particularly gold, have played a major role in the history of Nevada County. Since 1849, when gold was first discovered in the area, to the years preceding World War II, most of the County's population was economically supported, directly or indirectly, by the local gold mining industry. Other metals produced in the County since 1880 include silver, copper, lead, zinc, chromite, and small amounts of tungsten and manganese. Industrial minerals include barite, quartz for silicon production, and small amounts of limestone, asbestos, clay, and mineral paint. Also, significant deposits of sand, gravel, and rock types suitable for construction aggregate are exposed throughout the County. (Mineral Land Classification of Nevada County, State Division of Mines and Geology, 1990).

In order to promote the conservation of the state's mineral resources, and ensure adequate reclamation of mined lands, the Surface Mining and Reclamation Act of 1975 (SMARA) was enacted. SMARA requires that the State Geologist classify land in California for its mineral resource potential. Local governments are required to incorporate the mineral and classification reports and maps into their general plans and consider the information when making land use decisions.

Areas subject to mineral land classification studies are divided into various Mineral Resource Zone (MRZ) categories that reflect varying degrees of mineral potential. Mineral deposits of all types which are designated MRZ-2a or MRZ-2b, are used for areas underlain by mineral deposits where geologic data indicate that significant measured or indicated (MRZ-2a), or inferred (MRZ-2b) resources are present.

There are no identified mineral resources in the project vicinity. The closest known mineral resources are located approximately 2.2 miles northwest of the project area.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓	A, C
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓	A, C

**Impact Discussion:**

12a,b The project proposes construction and operation of a low intensity camp teaching craft skills and hosting occasional events. The project parcels does not contain known or designated mineral resources. Therefore there is **no impact** related to the loss of known mineral resources.

**Mitigation Measures:** None.

## 13. Noise

**Existing Setting:** Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment.

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dBA; dividing the energy in half would result in a 3 dBA decrease.

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible; and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud.

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense

woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line-of sight-will provide at least 5 dBA reduction in noise level at the receiver.

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level (Leq); it considers both duration and sound power level. Leq is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Typically, Leq is summed over a one-hour period. Lmax is the highest root mean square (RMS) sound pressure level within the sampling period, and Lmin is the lowest RMS sound pressure level within the measuring period. Noise that occurs at night tends to be more disturbing than that occurring during the day as it can disrupt sleep.

Nevada County Code Section 12.04.070 outlines the regulations that ensure that future development minimizes unnecessary and annoying noise by establishing maximum noise levels and standards for evaluating potential noise impacts. Noise standards apply to all discretionary projects, including Development Permits and Use Permits. dBA means the "A-weighted" scale for measuring sound in decibels (a unit used to express the relative intensity of a sound as it is heard by the human ear). This logarithmic scale reduces the effects of low and high frequencies in order to simulate human hearing. Leq means the energy equivalent level, defined as the average sound level on the basis of sound energy (or sound pressure squared). It is the level of constant sound which, in a given situation and time period, has the same sound energy as does a time varying sound. Lmax means the maximum sound pressure level for a given period of time. The project site is located in a Rural Land Use Category (AG zoning district), requiring the noise standards outlined in Table 3 below. Pursuant to the Nevada County Code, the above standards shall not apply to those activities associated with the actual construction of a project.

**Table 3. Exterior Noise Limits**

Land Use Category	Zoning Districts	Time Period		Noise Level, dBA	
		Start	End	Leq	Lmax
Rural	AG, TPZ, AE, OS, FR, IDR	7 am	7 pm	55	75
		7 pm	10 pm	50	65
		10 pm	7 am	40	55

Rincon Consultants, Inc. authored a noise study for the project which is included as Appendix F. To determine existing noise levels at the project site, Rincon conducted ambient noise monitoring in the project area. The noise monitoring included two short-term (ST) measurements (at least 10 minutes) taken on Friday, October 13, 2023 and one long-term (LT) measurement (24-hour) Thursday, October 12, through Friday, October 13, 2023. LT-1 and ST-1 were located near the project western boundary with Wolf Road. ST-2 was located near the eastern boundary of the project site.

Measured noise levels were consistent with a rural residential setting. Traffic noise from Wolf Road was the primary influence on the ambient noise levels. The sound level meter used for noise monitoring (Extech 407780A) satisfies the American National Standards Institute (ANSI) standard for Type 2 instrumentation. The sound level meter was set to "slow" response and "A" weighting (dBA). The meter was calibrated before and after the monitoring period. The measurement was at least five feet above the ground and away from reflective surfaces, and the sound level meter was equipped with a windscreen during measurements. The Ambient Noise Measurements showed a Leq of 63.4 dBA and Lmax of 82.2 at the western property boundary with Wolf Road, at the approximate north-south midline of the property boundary. The 24-hour Noise Level (dBA CNEL, Community Equivalent Noise Level) at this sample location was determined to be 66 dBA.

The project site is not within the vicinity of a private airstrip or an airport.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess standards established in the local General Plan or noise ordinance, or applicable standards of other agencies?		✓			A, 21
b. Generation of excessive ground borne vibration or ground borne noise levels?			✓		A
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓	A

**Impact Discussion:**

13a The project will result in a temporary increase in noise levels during construction, and in on-going noise during operation. Noise from construction of the project would temporarily increase noise levels at nearby residences. Construction activities would generate noise from site preparation, grading, building construction, and paving activities. Each phase of construction has a specific mix of construction equipment and associated noise characteristics, depending on the equipment used during that phase. Construction noise would typically be higher during the initial phases of construction (i.e., site preparation and grading work) and would be lower during the later construction phases (i.e., building construction and paving). Construction noise is exempt from compliance with the noise ordinance. Nonetheless, the temporary exposure of nearby sensitive uses to noise in excess of County thresholds could be an impact under CEQA. With implementation of **Mitigation Measure 13A**, which limits construction hours to 7AM to 5PM, Monday through Friday, temporary construction noise and vibration impacts from the project would be less than significant with mitigation.

During operation, the project would offer year-round classes to the public, lodging and dining for students, and specific areas designated for indoor and outdoor events, which could hold up to 150 individuals at peak time. Up to ten employees and up to 40 students and campers are anticipated. Hours of operations would be 8:00 am to 6:00 pm, seven days a week for classes, with overnight lodging available.

The proposed woodshop would include a dust collector unit, a table saw, a jointer, a planer, a bandsaw, and a small power hammer. In addition to various hand tools such as hammers and anvils. Use of these tools will be located inside the proposed barn and will not be operated during the nighttime hours of 10:00 p.m. to 7:00 a.m. Therefore, noise levels from these tools will be attenuated by the proposed barn walls and would not result in a significant operational noise impact at the nearby residential property lines.

In addition, proposed recreational and community activities such as weddings and special events at the project site would be a source of project operational noise. The main noise source associated with proposed special events would be from amplified music during the events held in the northeast corner

of the project site approximately 50 feet from the eastern rural residential property line. Each special event client would be responsible for hiring a DJ if they would like one. Since there is no proposed in-house PA or speaker system, noise levels generated by each special event would be a function of the type of PA system and speakers and the volume level set by the DJ. Noise levels from typical amplified special events with PA speakers could be 85 dBA or more near the speakers (e.g., 25 feet or less).

As discussed in the Noise Study prepared by Rincon Consultants and included as Appendix F, it is assumed that amplified events could occur at times in the evening hours past 7:00 p.m. but would end no later than 10:00 p.m. The closest residential property line to the proposed special events area is the rural residential property to the east at a distance of approximately 50 feet. The closest receptors to the west are residences to the northwest located at a distance of approximately 675 feet or greater from the proposed special events area. A 6-foot wooden fence is proposed along the eastern property line which, in combination with the proposed retaining wall/elevation change, would provide approximately 10 feet of acoustical shielding. Based on a standard noise attenuation rate of approximately 6 dBA per doubling of distance and reduction from the proposed retaining wall and fence, noise from special events would be 64 dBA Leq or more at the nearest residential property line to the east if uncontrolled, which would exceed the County noise standard of 50 dBA Leq during evening hours. The Noise Study concludes that in order to ensure that impacts are **less than significant with mitigation, Mitigation Measure 13B** is required which includes concluding amplified sound by 10:00 pm, limited the decibels and direction of sound systems, and constructing a noise barrier. With this mitigation measure, noise from special events would be 49 dBA Leq at the nearest residential property line to the east, which would not exceed the County noise standard of 50 dBA Leq during evening hours. Noise levels at the closest residence to the northwest at a distance of 675 feet, conservatively assuming no shielding, would be 46 dBA Leq, which would not exceed the County noise standard of 50 dBA Leq during evening hours.

In addition, **Mitigation Measure 13C** limits the number of events to twice per month in order to reduce the impacts of event noise on nearby residents. Finally, **Mitigation Measure 13D** requires that the applicant the Planning Department, Sheriff, local agency responsible for fire protection, and all property owners within five hundred (500) feet of the premises on which the event will be held. Notices shall include a brief description of the event, the dates, times, locations and types of activities that will take place during the event as well as contact information for a designated responsible person who will be on-site for the duration of the event on behalf of the applicant. This noticing will keep neighbors and local services informed of events and hold the applicant accountable for concluding all outdoor amplified sound by 10:00 p.m.

With these three mitigation measures, impacts related to substantial temporary or permanent increase in ambient noise levels in the vicinity of the project shall be **less than significant with mitigation**.

- 13b Grading will take place on the site in order to prepare for construction of the proposed structures. Grading inevitably creates some ground borne vibration and noise, but is temporary and not significant. The structures are of standard construction methods and materials and will not require any exceptionally deep or specialized grading that will create excessive ground borne vibration or ground borne noise levels. The operations of the craft school and camping facilities are not anticipated to create ground borne noise or vibration. Therefore, the impacts related to ground borne vibration and noise are **less than significant**.
- 13c The project site is not located within an airport land use plan or in proximity to any private airstrips. Therefore, there is **no impact** related expose people residing or working in the project area to excessive noise levels caused by airport or airstrip uses.



## Mitigation Measures:

**Mitigation Measure 13A: Limit Construction Hours.** In order to avoid impacts from construction noise, construction work hours shall be limited to 7AM to 5PM, Monday through Friday. Prior to issuance of grading permits, this measure shall be included as a note on all plans.

**Timing:** *Prior to building permit issuance and during construction*

**Reporting:** *Agency approval of permits or plans*

**Responsible Agency:** *Planning Department*

**Mitigation Measure 13B: Special Event Noise Reduction.** During outdoor amplified special events at the subject property, the following noise-reduction measures shall be adhered to:

1. Conclude all outdoor amplified sound by 10:00 p.m.
2. Require that the sound system contractor/DJ limit noise levels to 75 dBA at a distance of 25 feet from the speakers. The sound system contractor/DJ can verify the noise level in real time using a sound level meter or decibel reader phone application such as the NIOSH SLM app. Measures to achieve this include, but are not limited to, volume control, bandwidth, and peak limiters. The sound system/contractor shall use speaker angle or directivity techniques to ensure that the noise is directed to the west away from the nearest off-site residences to the east.
3. Construct a minimum 5-foot-high barrier (as measured from the ground) such as a wall or bandshell immediately to the east of the special events area where PA speakers would be located. Materials for the barrier may include solid masonry, plexiglass, 1/4-inch-thick glass, wooden fence, or a combination of these barrier types. The barrier shall be continuous from bottom to top, with no cracks or gaps.

**Timing:** *During operations*

**Reporting:** *Agency approval of permits or plans*

**Responsible Agency:** *Planning Department*

**Mitigation Measure 13C: Limit Number of Events.** In order to avoid impacts from event-related noise, events shall be limited to twice per calendar month.

**Timing:** *During operations*

**Reporting:** *Agency approval of permits or plans*

**Responsible Agency:** *Planning Department*

**Mitigation Measure 13D: Event Notification.** At least five (5) days prior to the date of any event, the applicant shall send or personally deliver written notices of the event to the Planning Department, Sheriff, local agency responsible for fire protection, and all property owners within five hundred (500) feet of the premises on which the event will be held. A current list of nearby property owners shall be obtained from the Planning Department by the applicant at least annually. Notices shall include a brief description of the event, the dates, times, locations and types of activities that will take place during the event as well as contact information for a designated responsible person who will be on-site for the duration of the event on behalf of the applicant.

**Timing:** *During operations*

**Reporting:** *Agency approval of permits or plans*

**Responsible Agency:** *Planning Department*

## 14. Population and Housing

**Existing Setting:** The project is in a rural region of Western Nevada County, approximately one half mile from the Lake of the Pines Village Center and Lake of the Pines Community Region. Adjacent land uses include residential and agricultural development, and the commercial corridor at the intersection of Wolf Road and Highway 49, approximately one driving mile from the project site. Within the Rural Regions, growth is limited to those types and densities of development which are consistent with the open, rural lifestyle, pastoral character and natural setting and surrounding land use patterns which exists in these areas.

The parcel has historically been used for agricultural purposes and is improved with a well but does not contain any housing units.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓		A
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓	A

### Impact Discussion:

14a The project proposes facilities to teach craft skills and accommodate overnight guests, along with occasional special events. The applicant also anticipates constructing a single family residence, which is an allowed use in the General Agricultural zoning district. The project is designed for recreational and tourism use and anticipates hiring approximately 10 employees. This would not generate any significant unplanned population growth. No significant extension of roads or other infrastructure is proposed. No changes to zoning or density are proposed. Therefore, there is **less than significant impact** on induction of unplanned population growth.

14b Currently, there is no housing or residential uses at the project site, and no interruption to nearby residential uses shall occur during construction or operation. Therefore, the proposed project would have **no impact** related to the induction or displacement of housing and people.

**Mitigation Measures:** None required.

## 15. Public Services

**Existing Setting:** The following services are provided within the project corridor:

- Fire: The Higgins Fire District provides fire protection services to the site.
- Police: The Nevada County Sheriff Department provides law enforcement services.
- Schools: The project site is within the Pleasant Ridge Union School District.
- Parks: The project is within the Bear River Recreation District.
- Water: Water is provided by on-site wells.

Sewer: The site will be served by a septic system.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following the public services:					
i) Fire protection?		✓			A, H
ii) Police protection?		✓			A
iii) Schools?			✓		A
iv) Parks?			✓		A
v) Other public services or facilities?			✓		A

**Impact Discussion:**

15a The project proposes facilities to teach craft skills and accommodate overnight guests, along with occasional special events. The existing services are sufficient to services to the proposed project. Though there may be some increased risk of fire hazards due to cooking facilities and craft equipment that utilizes heat, these will be substantially mitigated by California Building Code standards and are unlikely to cause an increased need for fire protection services. Events may also on rare occasion elicit need for police protection, but given that the events are capped at 150 guests and limited to two per month, this is highly unlikely to cause any significant increase in service needs. In order to create a high level of transparency and accountability, **Mitigation Measure 13D** requires the applicant to send notices with event details to surrounding property owners within 500 feet as well as the Sheriff and local fire protection district. These notices will also contain contact information for a responsible person on-site at the event, so that should concerns arise, neighbors can call them first before reaching out to local law enforcement. This noticing is expected to decrease service calls to the Sheriff. Guests, employees, and residents on the site may cause very marginal increased need for schools, parks and other public services and facilities, but these needs can be accommodated with existing public services. Due to the limited scope of the project, and with the required noticing to neighbors, the Sheriff and local fire protection district, impacts related to public services are *less than significant with mitigation*.

**Mitigation Measures:** See **Mitigation Measure 13D**.

## 16. Recreation

**Existing Setting:** The project is located within the County’s Bear River Recreation Benefit Zone. The Bear River Recreation and Park District’s mission is to provide a wide variety of year-round recreation programs, facilities, and park areas which respond to the needs and desires of all residents of the Bear River Recreation and Park district. The nearest recreational sports facilities are approximately 2 miles east of the project site. There are also public trails near the Lake of the Pines Village Center commercial facility approximately 1 mile east.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓		A
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?			✓		A
c. Conflict with established recreation uses of the area, including biking, equestrian and/or hiking trails?				✓	A

**Impact Discussion:**

16a,c Guests to this project, once operational, may become users of the nearby trails at the commercial center approximately 1 mile away. The number of guests, the distance to the start of the trail, plus the abundance of recreational opportunities available onsite makes impacts to these facilities less than significant. The trails are in good condition and unlikely to become deteriorated in any substantial way by the relatively small number of increased potential users from this project. Likewise, the recreational facilities offered by the Bear River Recreation and Park District are not within immediate reach of the project site, and cater more to local residents. Visitors to the project are unlikely to seek off-site recreation opportunities during their stay. Neither the construction nor the operation of this project will hinder use of the nearby trails or sports facilities. Therefore, impacts to existing recreational facilities will be **less than significant**.

16b The project proposes facilities to teach crafts and provide overnight accommodations. This is a private recreational use, whose potential adverse physical effects on the environment have been evaluated throughout this document. No additional recreational facilities are required as a part of this project. Therefore, impacts related to construction nor expansion of recreational facilities will be **less than significant**.

**Mitigation Measures:** None.

## 17. Transportation

**Existing Setting:** The project is in a rural region of Western Nevada County, approximately one half mile from the Lake of the Pines Village Center and Lake of the Pines Community Region. Adjacent land uses include residential and agricultural development, and the commercial corridor at the intersection of Wolf Road and Highway 49, approximately one driving mile from the project site.

As described in the Traffic Impact Study prepared by TJKM Transportation Consultants (Appendix H), there are four relevant roadways in the project vicinity. SR-49/Golden Chain Highway is a Principal Arterial north-south, two- to four-lane highway that connects the project vicinity to the City of Grass Valley to the north and the City of Auburn to the south. The posted speed limit is 55 miles per hour (mph) north of Wolf Road/Combie Road and 65 mph to the south. Wolf Road, a Major Collector, is a generally northwest-southeast, two-lane major collector road that provides direct access to the project site. Wolf Road extends west from SR-49/Golden Chain Highway

and curves northward. The posted speed limit in the project vicinity is 40 mph. East of SR-49/Golden Chain Highway, Wolf Road changes designation to Combie Road. Combie Road is an east-west, two- to four-lane minor arterial road that extends east from SR-49/Golden Chain Highway. Combie Road, a Minor Arterial, forms the major route through the community of Higgins Corner. The posted speed limit on Combie Road is 40 mph. Higgins Road is a north-south, two lane local road located to the east of SR-49/Golden Chain Highway. Higgins Road provides access to the nearest shopping and services in the project vicinity. There is no posted speed limit on Higgins Road.

As the project location is rural in character, there are no pedestrian facilities in the immediate project vicinity. To the southeast, there are limited sidewalks, walkways, and crosswalks provided in and around the intersection of SR-49 & Wolf Road/Combie Road, providing connectivity to the adjacent shopping centers. It should be noted that along Wolf Road, there is insufficient continuous shoulder width for pedestrians to safely walk outside of travel lanes without crossing at locations with limited visibility. There are no bicycle facilities in the immediate project vicinity. To the southeast, there are marked bike lanes on Combie Road east of SR-49.

In the project vicinity, transit services are provided by Nevada County Connects, operated by Nevada County. Route 5, operating between Auburn and Grass Valley, serves one stop in the project vicinity, located on Higgins Road at Combie Road. Route 5 operates with varying headways of 1-4 hours on weekdays only.

Chapter 4: Circulation Element of the Nevada County General Plan discusses the Level of Service (LOS) throughout the county. It notes that the worst level of service in the County is on Highway 49 south of Grass Valley, which is in the project vicinity. Policy LU-4.1.2 specifies that the minimum acceptable level of service (LOS) for areas identified as Community Regions in the General Plan, such as the nearby Lake of the Pines Community Region, shall be LOS D, except where the existing LOS is less than D. In those situations, the LOS shall not be allowed to drop below the existing LOS. Level of service shall be based on the typical highest peak hour of weekday traffic. The minimum level of service allowable in the Rural Regions of the County, as identified in the General Plan and including the project parcel, shall be level of service (LOS) C, except where the existing LOS is less than C. In those situations, the LOS shall not be allowed to drop below the existing LOS. Level of service shall be based on the typical highest peak hour of weekday traffic. Special events may be permitted which temporarily exceed this minimum LOS.

The Traffic Impact Study reports that the existing Intersection Level of Service (LOS) at Wolf Road and the Project Driveway is Level A, indicating free flow with low volumes and no delays. This intersection is a one-way stop control. The existing LOS at SR-49 and Wolf Road/Combie Road, a signalized intersection, is Level D, indicating a stable flow where speeds are considerably affected by change in operation conditions. High density traffic can restrict maneuverability and the volume is near capacity. The average delay at this intersection is 41.4 seconds during the AM peak hour, and 46.2 seconds at the PM peak hour. LOS values are based on peak volume conditions.

The Nevada County Regional Transportation Plan (RTP) has been developed by the Nevada County Transportation Commission (NCTC) to document the transportation policy, actions, and funding recommendations that will meet the short- and long-term access and mobility needs of Nevada County residents over the next twenty years. The document is designed to guide the systematic development of a comprehensive multi-modal transportation system for Nevada County. The goals of the RTP are:

1. Provide for safe and efficient movement of all people, goods, and services on the roadway network.
2. Create and maintain a comprehensive, multi-modal transportation system to serve the needs of the County.
3. Reduce adverse impacts on the natural, social, cultural, and historical environment and the quality of life.

4. Develop an economically sustainable transportation system.

The Nevada County Regional Transportation Plan and the General Plans for Nevada County and the cities of Grass Valley, Nevada City, and Truckee each have goals supporting increases in bicycling and walking. The California Transportation Plan and the California State Bicycle and Pedestrian Plan also have specific goals and policies for increasing biking and walking. The Nevada County Active Transportation Plan identifies the following goals:

1. Enable all to move safely on the bicycle and pedestrian networks.
2. Increase walking and biking.
3. Improve bicycle and walking mobility for residents and visitors by connecting destinations to the bicycling and pedestrian networks.
4. Keep bicycle and pedestrian networks well-maintained.

CEQA Section 15064.3 - Determining the Significance of Transportation Impacts describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle or pedestrian facilities?			✓		A, D, 14, 15, 22
b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?			✓		A, D, 16, 22
c. Substantially increase hazards due to a geometric design feature (e.g., a sharp curve or dangerous intersection) or incompatible uses (e.g., farm equipment)?		✓			A, D, 22
d. Result in inadequate emergency access?		✓			A, D
e. Result in an increase in traffic hazards to motor vehicles, bicyclists, or pedestrians, including short-term construction and long-term operational traffic?		✓			A, D

**Impact Discussion**

17a The Nevada County Regional Transportation Plan (RTP) has been developed by the Nevada County Transportation Commission (NCTC) to document the transportation policy, actions, and funding recommendations that will meet the short- and long-term access and mobility needs of Nevada County residents over the next twenty years. The RTP discusses future improvements along the State Highway 49 corridor in the area near the project site. These improvements include widening of the highway and intersection improvements. The proposed project would not have a direct or significant impact on State Highway 49. Though the project will contribute minor vehicle traffic to State Highway 49, this development will not hinder future improvements to State Highway 49. Caltrans reviewed the project and determined that the proposed development will not have a significant impact on the SR 49 corridor.

The RTP and the Nevada County Active Transportation Plan (ATP) both encourage development of multimodal infrastructure that accommodates pedestrians and bicycles. Due to the rural location of the project and its relatively small number of guests and employees, no mitigation is required to ensure

compliance with these plans. The project includes a bicycle rack with four spaces to accommodate any guests/employees arriving by bicycle. Pursuant to California Building Code, all interior pedestrian paths shall meet accessibility requirements.

In addition, the project applicant shall be required by the Department of Public Works to pay traffic mitigation fees based on 53 average daily trips as recommended by the Traffic Impact Study (Appendix H).

TKJM's Traffic Impact Study (Appendix H) concludes that there would be no change in the LOS at the Highway 49 and Wolf Road/Combie Road intersection. The amount of project traffic added to CA-49 & Wolf Road/Combie Road is sufficiently small that there would be no increase in average delay during either peak hour. The LOS at Wolf Road and the Project Driveway is anticipated to change from Level A which is a free flow with free flow with low volumes and no delays, to Level B which is a stable flow where speeds are restricted by travel conditions and may cause minor delays. The project would be consistent with level of services standards set forth under the Nevada County General Plan and no further mitigation is required.

Therefore, the conflict with program plans, ordinances, or policies addressing the circulation system is ***less than significant***.

17b CEQA Section 15064.3(b) describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" (VMT) refers to the amount and distance of automobile travel attributable to a project. According to the Senate Bill 743 Vehicle Miles Traveled Implementation, adopted by the Nevada County Transportation Commission, a project's or plan's VMT impact may be considered less than significant if "the project or plan total weekday VMT per service population is equal to or less than "X" percent below the subarea mean under baseline conditions" and "the project or plan is consistent with the jurisdiction's general plan and the Nevada County Regional Transportation Plan."

A specific reduction "X" below subarea baseline VMT may be selected by each jurisdiction based on key factors such as the setting (as noted in CEQA Guidelines Section 15064(b)(1)), evidence related to VMT performance, and policies related to VMT reduction.) However, analysis of smaller, less complex projects can be simplified by using screening criteria. The Office of Planning and Research suggests that screening thresholds may be used to identify when land use projects should be expected to cause a less than-significant impact without conducting a detailed study. Screening thresholds identified by the Nevada County Transportation Commission (NCTC) Senate Bill 743 Vehicle Miles Traveled Implementation document include projects in western Nevada County consistent with a Regional Transportation Plan (RTP) or General Plan that generate less than 630 VMT per day. This value is based on the CEQA exemptions allowed for projects up to 10,000 square feet as described in CEQA Guidelines Sections 15303. The specific VMT estimate relies on the vehicle trip generation rate contained in the OPR Technical Advisory for small project screening and average vehicle trip lengths for western Nevada County using the travel forecasting model.

A Traffic Impact Study was prepared by TJKM Transportation Consultants and is included as Appendix H. The project is estimated to generate 53 total daily trips, and less than 630 VMT. Given that this average VMT is less than the threshold of 630 VMT per day, this project would have a ***less than significant*** impact related to VMT.

17c,e The project will result in increased entries and exits to the driveway at Wolf Road. TJKM Transportation Consultants estimates 53 total daily trips related to the project. Though there are no buildings directly adjacent to the driveway, landscaping is proposed. Also, the existing tree immediately north and the bushes to the south of the driveway provide slight screening, and the vegetation along the eastern side of the road to both the north and south have the potential to block sight lines. In order to ensure that any hazards are **less than significant with mitigation**, **Mitigation Measure 17B** requires that sight distance be maintained by designing, installing, and maintaining all landscaping in the vicinity of the driveway and trimming all vegetation between the roadway and fence.

There is also an existing W2-2 sign to alert drivers to the driveway on the left just north of the project driveway. The property on the left was previously operated as a school. In order to alert drivers to the project driveway on the right, **Mitigation Measure 17C** requires the W2-2 sign to be replaced with a W2-7R sign as shown in Figure 7 below. Though it is anticipated that the majority of traffic will approach the site from Highway 49 to the south, **Mitigation Measure 17E** requires installation of a new left turning lane and striping so that vehicles can safely enter the driveway when approaching from the north. This will help reduce hazards related to increased driveway use on a rural road to **less than significant with mitigation**.



Figure 7 - W2-75 Sign

17d The project proposes on-site roadways with grades up to 20%. Nevada County Code Section 16.10.040 stipulates that the maximum grade for a Fire Standard Access Road is 16%. However, Section 16.10.120 allows for a modification of the required standard upon approval of a Petition for Exception. A Petition for Exception must demonstrate that the proposed alternative will provide the same practical effect of fire protection and is supported by both the Fire Marshal and the Department of Public Works (DPW). The applicant has achieved approval from both the Fire Marshal and DPW for roadways up to 20% grade, given the provisions in **Mitigation Measure 17D**, which requires increased paving and compaction standards for road grades in excess of 10% and curve widening. These requirements ensure that emergency vehicles such as fire engines can safely and adequately services the site in the case of an emergency. With these additional requirements, the impact to inadequate emergency access is **less than significant with mitigation**.

17e The project proposes constructing improvements to the driveway encroachment at Wolf Road. This work has the potential to disrupt traffic on Wolf Road and increase short-term construction traffic hazards because of the presences of equipment, vehicles, and workers. In order to ensure that the increase to traffic hazards is **less than significant with mitigation**, the applicant shall be required to implement a construction traffic management plan. As described in **Mitigation Measure 17A**, this plan will include provisions such as warning sign and traffic control measures on Wolf Road.



Potential traffic impacts related to long term operations are mitigated with **Mitigation Measures 17B, 17C, and 17E** which maintain adequate site distance on the project driveway, add a warning sign to alert drivers of the driveway, and require a new left turning lane for traffic approaching from the north.

**Mitigation Measures:**

**Mitigation Measure 17A: Implement a Construction Traffic Control Plan.** Prior to issuance of grading and improvement permits, the applicant shall submit a Construction Traffic Control Plan to the Department of Public Works for review and approval. The plan shall showing all public roadways where work is to be performed and indicates each stage of work, closure dates for street and section of closure (if necessary and otherwise allowed by local jurisdiction), signage, flaggers, and any other pertinent information. Relevant measures shall be noted on all construction plans prior to issuance of permits.

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

**Mitigation Measure 17B: Sight Distance Maintenance.** The following note shall appear on all landscaping plans: Landscaping and all other improvements shall be designed, installed, and maintained to ensure that driver sight distance is sufficient. All existing vegetation between the roadway and fence shall also be trimmed to ensure adequate sight distance.

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

**Mitigation Measure 17C: Driveway Warning Traffic Sign.** The existing W2-2 sign south of the project site shall be replaced with a W2-7R sign to alert northbound drivers of the project's driveway on the right. This scope shall be included in the encroachment permit with the Department of Public Works for the project's driveway improvements at Wolf Road.

**Timing:** Prior to issuance of encroachment permit

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

**Mitigation Measure 17D: Fire Safe Road Standards.** Road grades in excess of 10% shall have a structural section of 3" asphalt concrete (AC) paving over 6" aggregate base (AB) compacted to 95% relative compaction over subgrade compacted to 95%. Grades of roads or driveways shall not exceed 20%. No road or roadway structure shall have an inside radius of less than 50 feet. In cases where the centerline radius of a road is less than or equal to 200 feet, the inside edge of pavement shall be widened by four feet. In cases where the centerline radius is 100 to 200 feet, the inside edge of pavement shall be widened by two feet. A letter from a licensed engineer affirming installation of the road to the above standards shall be provided to the Department of Public Works and the roadways shall be inspected by the Fire Marshal prior to final building inspection. This note shall appear on all grading and building permits.

**Timing:** Prior to issuance of grading and improvement permits; prior to final building inspection

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works / Fire Marshal

**Mitigation Measure 17E: Left Turning Lane.** The applicant shall install a new left turning lane into the proposed driveway to ensure safe driveway access from the north. This scope of work shall be subject to an Encroachment Permit from the Department of Public Works.

**Timing:** Prior to issuance of encroachment permit

**Reporting:** Permit issuance

**Responsible Agency:** Department of Public Works

## 18. Tribal Cultural Resources

**Existing Setting:** Assembly Bill 52 (Chapter 532, Statutes 2014) required an update to Appendix G (Initial Study Checklist) of the CEQA Guidelines to include questions related to impacts to tribal cultural resources. Changes to Appendix G were approved by the Office of Administrative Law on September 27, 2016. Tribal Cultural Resources include sites, features, and places with cultural or sacred value to California Native American Tribes.

AB 52 consultation on this project was undertaken with the United Auburn Indian Community (UAIC). The United Auburn Indian Community (UAIC) is a federally recognized Tribe comprised of both Miwok and Maidu (Nisenan) Tribal members who are traditionally and culturally affiliated with the project area. The Tribe has deep spiritual, cultural, and physical ties to their ancestral land and are contemporary stewards of their culture and landscapes. The Tribal community represents a continuity and endurance of their ancestors by maintaining their connection to their history and culture. It is the Tribe’s goal to ensure the preservation and continuance of their cultural heritage for current and future generations.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: <ul style="list-style-type: none"> <li>i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or</li> <li>ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</li> </ul>		✓			F

## Impact Discussion:

18a UAIC conducted background research for the identification of Tribal Resources for this project which included a review of pertinent literature, historic maps, and a records search using UAIC's Tribal Historic Information System (THRIS). UAIC's THRIS database is composed of UAIC's areas of oral history, ethnographic history, and places of cultural and religious significance, including UAIC's Sacred Lands that are submitted to the Native American Heritage Commission (NAHC). The THRIS resources shown in this region also include previously recorded indigenous resources identified through the California Historic Resources Information System Center (CHRIS) as well as historic resources and survey data. In addition, a site visit was completed by UAIC Tribal Representatives. A tribal cultural resources was identified on the site.

The nearest proposed structure is approximately 50 feet from the resource. Construction of a bioretention area is proposed within about 5 feet of the resource. Due to the proximity of the resource to proposed construction areas, **Mitigation Measure 18A** will require protective fencing during construction to ensure no damage is done to the resource by equipment or personnel. The presence of a cultural resource on the site also increases the likelihood of further discoveries of tribal cultural resources. Therefore, **Mitigation Measure 18B** requires that a certified Tribal Monitor from the United Auburn Indian Community (UAIC) be present for any soil disturbing activities so they can monitor and take action to preserve any previously undiscovered resources. Furthermore, **Mitigation Measure 18C** lays out protocol for investigation and reporting of unanticipated discoveries to ensure their preservation. As detailed in **Mitigation Measure 18D**, all construction staff on site shall be trained for awareness and best practices in the context of a site with tribal cultural resources. During construction and also during on-going maintenance of the site, **Mitigation Measure 18E** requires all brush and vegetation clearance directly adjacent to the resource to be performed or monitored by a representative from UAIC to ensure no damage is incurred from tools or personnel during the clearing. These mitigation measures will ensure that impacts related to tribal cultural resources are **less than significant with mitigation**.

## Mitigation Measures:

**Mitigation Measure 18A: Install Protective Fencing During Construction.** The construction contractor(s), with a paid, certified UAIC Tribal Representative present, shall install protective fencing or other acceptable methods outside the site boundary, including a buffer area, before construction starts or restarts. Standard buffer areas are 100 feet, but may be increased or decreased if both the CEQA lead agency representative UAIC agree. The construction contractor(s) shall maintain the protection throughout construction to avoid the resource/area of sensitivity during all remaining phases of construction. The area will be demarcated as an "Environmentally Sensitive Area" on all building plans, and the protective fencing shall be depicted on all building plans. Prior to issuance of grading/building permits, the applicant shall submit a copy of a contract with UAIC for monitoring of fence installation to the Planning Department.

**Timing:** *Prior to issuance of grading and improvement permits; prior to start of construction; during construction.*

**Reporting:** *Permit issuance*

**Responsible Agency:** *UAIC; Planning Department*

**Mitigation Measure 18B: Ground Disturbance Monitoring.** A minimum of seven days prior to beginning earthwork, clearing and grubbing, or other soil disturbing activities, the applicant shall notify lead agency of the proposed earthwork start-date. The lead agency shall contact the United Auburn Indian Community (UAIC) Tribal Historic Preservation Officer (THPO) ([thpo@auburnrancheria.com](mailto:thpo@auburnrancheria.com)) with the

proposed earthwork start-date and a paid, UAIC certified Tribal Monitor shall be contracted to monitor the ground disturbance at the project site, including clearing, grubbing, inspecting any soil piles, trenches, or other disturbed areas, within the first five days of groundbreaking activity, or as appropriate for type of earth moving activities occurring at the project. During or prior to this monitoring, a UAIC Tribal Representative or Tribal Monitor may provide an on-site meeting for construction personnel information on TCRs and workers awareness brochure.

If any TCRs are encountered during this initial inspection, or during any subsequent construction activities, work shall be suspended within 100 feet of the find, or a distance that is agreed upon based on the nature of the find, and the measures included in the Unanticipated Discoveries Mitigation Measure (Mitigation Measure 18C) shall be implemented. Preservation in place is the preferred alternative under CEQA and UAIC protocols, and every effort must be made to preserve the resources in place, including through project redesign.

The contractor shall implement any measures deemed by CEQA lead agency to be necessary and feasible to preserve in place, avoid, or minimize significant effects to the resources, including the use of a paid Native American Monitor during ground disturbing activities. These requirements shall be included on all grading and building permit plans prior to issuance of permits, and a copy of the contract with UAIC for monitoring services shall be submitted to the Planning Department prior to issuance of grading permits.

**Timing:** *Prior to issuance of grading and improvement permits; during ground disturbing activities*

**Reporting:** *Permit issuance*

**Responsible Agency:** *UAIC; Planning Department*

**Mitigation Measure 18C: Unanticipated Discoveries.** The following mitigation measure is intended to address the evaluation and treatment of inadvertent/unanticipated discoveries of potential tribal cultural resources (TCRs), archaeological, or cultural resources during a project's ground disturbing activities. The requirement shall appear on all grading and building permit plans prior to issuance of permits.

If any suspected TCRs are discovered during ground disturbing construction activities, all work shall cease within 100 feet of the find, or an agreed upon distance based on the project area and nature of the find as determined by a UAIC Tribal Representative. A UAIC Tribal shall be immediately notified and shall determine if the find is a TCR (PRC §21074). The Tribal Representative will make recommendations for further evaluation and treatment as necessary.

When avoidance is infeasible, preservation in place is the preferred option for mitigation of TCRs under CEQA and UAIC protocols, and every effort shall be made to preserve the resources in place, including through project redesign, if feasible. Culturally appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, or returning objects to a location within the project area where they will not be subject to future impacts. Permanent curation of TCRs shall not take place unless approved in writing by UAIC.

The contractor shall implement any measures deemed by the CEQA lead agency to be necessary and feasible to preserve in place, avoid, or minimize impacts to the resource, including, but not limited to, facilitating the appropriate tribal treatment of the find, as necessary. Treatment that preserves or restores the cultural character and integrity of a TCR may include Tribal Monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or cultural soil.

Work at the discovery location cannot resume until all necessary investigation and evaluation of the discovery under the requirements of the CEQA, including AB52, have been satisfied.

**Timing:** Prior to issuance of grading and improvement permits; during construction

**Reporting:** Permit issuance

**Responsible Agency:** UAIC; Planning Department

**Mitigation Measure 18D: Cultural Awareness Training.** The following mitigation measure is intended to address the cultural sensitivity of the project area by including a Worker Environmental Awareness Program for relevant project personnel and construction workers. The training shall be specified in the Standard Construction Specifications for the project prior to building/grading permit issuance.

1. The applicant/Contractor shall provide a tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]) for all personnel involved in project construction, including field consultants and construction workers, at their own expense. The WEAP shall be developed in coordination with UAIC.
2. The WEAP shall be conducted before any project-related construction activities begin at the project site. The WEAP shall include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP shall also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values. The training may be done in coordination with the project archaeologist.
3. All ground-disturbing equipment operators shall be required to receive the training and sign a form that acknowledges receipt of the training and the date. Records of the training shall be submitted to the Planning Department upon completion and no later than prior to final building permit inspection.

**Timing:** Prior to issuance of grading and improvement permits; prior to start of construction

**Reporting:** Permit issuance; final permit inspection

**Responsible Agency:** UAIC; Planning Department

**Mitigation Measure 18E: Brush/Vegetation Clearance near Resource.** Applicant shall contract with United Auburn Indian Community (UAIC) to monitor clearance within 20 feet of the environmentally sensitive area (ESA) to ensure that the resource is preserved and not damaged by equipment or personnel, or obtain written clearance from UAIC to self-perform the work. An executed contract for the clearance work or written letter from UAIC authorizing the applicant to perform brush/vegetation clearance shall be submitted to the Planning Department prior to issuance of grading/building permits.

**Timing:** Prior to issuance of grading and improvement permits

**Reporting:** Permit issuance

**Responsible Agency:** UAIC; Planning Department

## 19. Utilities and Service Systems

**Existing Setting:** The project is in unincorporated Nevada County. The site is served by Pacific Gas & Electric (PG&E) for electricity needs. Solid waste needs of the community are handled by Waste Management and the McCourtney Road Transfer Station. Sewage disposal needs are served by a proposed on-site septic system.

Nevada Irrigation District serves the parcel with irrigation water and potable water will be provided by an on-site well.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Require or result in the relocation or the construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?			✓		A
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			✓		A, E
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓	A
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste goals?		✓			A
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?		✓			A

**Impact Discussion:**

- 19a The project proposes bioretention areas for stormwater drainage, electric service by PG&E, a centralized septic system, a Class 2 well, and propane tanks for fuel on site. No offsite construction, relocation, or expansion of utilities is anticipated in relationship to this project. Because utility improvements shall be contained on site and installed in accordance with building and environmental health permits, the environmental effects related to utilities is anticipated to be **less than significant**.
- 19b The project proposes use of a Class 2 well for potable water to serve the students, campers, event guests, and food preparation activities on site. Class 2 wells require a Small Domestic Water Supply permit from Environmental Health and must meet the requirements for new public water wells including a well capacity test. The majority of the landscaping proposed on site will be native and/or drought tolerant. There are several perennial and seasonal watercourses on the property that will aid in keeping the required landscaping healthy. Water fixtures in the structures shall be required to be low-flow in compliance with California Building Code. Because the project will comply with all state and local regulations related to water conservation and is not anticipated to consume an egregious amount of water, the impacts related to sufficient water supplies are anticipated to be **less than significant**.
- 19c The proposed project is not and will not be served by a wastewater treatment provider, and instead will be served by an on-site septic. As such, **no impacts** are anticipated to wastewater treatments facilities.

19d,e The operational phase of the proposed project has the potential to result in a temporary, periodic increase in the production of solid waste from baseline conditions due to the increased capacity of the special events venue, because the proposed project would allow for up to 150 guests up to 24 times per year. This temporary, periodic increase in capacity is not anticipated to impact the attainment of solid waste goals. In addition, the regular operations of the craft school may include waste such as sawdust or other chemicals that cannot be disposed of with standard waste but are still acceptable materials at the McCourtney Road transfer station. Construction activities, however, could produce solid waste in the form of construction materials or industrial toxic waste like glues, paint, and petroleum products. Construction of the proposed project could thus result in potentially adverse landfill and solid waste disposal impacts. In order to ensure that solid waste is being disposed of and taken care of properly, a condition of approval for the applicant to provide trash enclosures consistent with Sec. L-II 4.2.13 of the Nevada County LUDC is required. Therefore, with the implementation of the condition of approval that requires trash enclosures consistent with Sec. L-II 4.2.13 of the Nevada County LUDC and the implementation of **Mitigation Measure 19A**, which requires that all toxic waste not accepted by the regional landfill shall be properly disposed of in compliance with existing regulations and facilities, impacts are expected to be **less than significant with mitigation**.

#### **Mitigation Measure:**

**Mitigation Measure 19A: Appropriately Dispose of Toxic Waste:** Industrial toxic waste (petroleum and other chemical products) is not accepted at the McCourtney Road transfer station and if encountered, shall be properly disposed of in compliance with existing regulations and facilities. This mitigation measure shall be included as a note on all improvement plans, which shall be reviewed and approved by the Planning Department prior to permit issuance.

**Timing:** *Prior to issuance of grading or improvement permits and during construction*

**Reporting:** *Agency approval of permits or plans*

**Responsible Agency:** *Planning Department*

## 20. Wildfire

**Existing Setting:** The project parcel is within the Higgins Fire Protection District. The parcel is designated as a High Fire Hazard Severity Zone by CalFire. The Safety Element of the Nevada County General Plan addresses wildfire hazards in Nevada County and has several policies to improve fire safety. Nevada County has also adopted a Local Hazard Mitigation Plan (LHMP) that was updated in May 2018. In addition, there is a Community Wildfire Protection Plan for Nevada County that was updated in April 2016.

The Nevada County Office of Emergency Services published a Wildfire Evacuation Preparedness Action Plan in 2020. The plan highlights five initiatives to reduce wildfire risk in Nevada County:

1. Create safer evacuation routes countywide to save lives.
2. Improve early warning systems and emergency communications to reach everyone.
3. Establish defensible space around our homes and neighborhoods by reducing hazardous vegetation and encouraging voluntary compliance with defensible space standards.
4. Provide a coordinated approach to wildfire response preparedness through planning, community engagement, and project implementation.
5. Enhance critical infrastructure needed to respond to wildfires such as evacuation route improvements, water storage, fire hydrants, communication systems, and green waste facilities.

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?		✓			A, 14
b. Due to slope, prevailing winds, or other factor, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire?			✓		A
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			✓		A, H
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			✓		A, G, 20

**Impact Discussion**

20a The project includes a craft school and community event center, and will host around 50 people for regular operations and around 150 people for special events. In the case of a wildfire requiring evacuation in the area, Wolf Road would serve as a major route for many parcels to the north and west of the project site. Highway 49 is the primary corridor for the Grass Valley/Nevada City/Auburn region running north to south. While the project would add people and vehicles to the area that would need to evacuate, both during construction and operation, the project site is less than one driving mile to Highway 49 along Wolf Road and would not significantly hinder the flow of traffic during an evacuation. The project proposes to improve driveway and encroachment access onto Wolf Road, and would not pose any substantial increase in difficulty in exiting the area in the case of an emergency. However, the Nevada County Office of the Fire Marshal is requiring development of an evacuation plan to ensure that occupants of the site can exit safely in case of an emergency. This is included as **Mitigation Measure 9A**. Therefore, there are **less than significant impacts with mitigation** related to impairment of an adopted emergency response plan or emergency evacuation plan.

20b Though the project is located in a high fire hazard severity zone, all structures will be built to current California Building Code for fire safety including Wildland Urban Interface (WUI) standards and 100 foot defensible space/fuel reduction zones shall be created and inspected by CALFIRE to minimize risk of fire hazards to structures and project occupants. Much of Nevada County is considered very high or high fire hazard severity, and the project site is not exceptional in its fire risks. Therefore, there are **less than significant impacts** related to exposing project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire.

20c In order to serve the structures on site, fire water storage will be required along with a fire hydrant in the vicinity of the studios and workshops. All fire water infrastructure will be contained on site, and will not induce further environmental impacts, as the water will be sourced from the permitted well and/or Nevada Irrigation District (NID) water sources as permitted by the NID and the Fire Marshal. All driveways and roads will meet the County’s adopted standards or an approved petition for exceptions to these standards for width, grade, and vegetation clearance, which help to increase fire safety and access for



emergency vehicles. No extra road infrastructure is required beyond County code. Therefore, the environmental impacts related to fire prevention infrastructure are **less than significant**.

20d Should the area be subjected to a wildfire, the proposed project would not increase the risks to structures or people to post-fire runoff, slope instability, or drainage changes. All structures and grading done on the site require building and grading permits which include standard drainage and erosion control measures. A preliminary drainage report was prepared for this project. The report concludes that there will be no net increase in peak runoff for a 10-year and 100-year storm event, so no impacts related to drainage changes are anticipated. The proposed landscaping, which includes bioretention swales, will also help to retain water and soil and prevent erosion after a wildfire event. Therefore, the impact related to exposure of people or structures to significant risk related to downslope or downstream flooding or landslides is **less than significant**.

**Mitigation:** See **Mitigation Measure 9A**.

## 21. Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of major periods of California's history or prehistory?		✓			A
b. Does the project have environmental effects that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of the project are considered when viewed in connection with the effects of past, current, and probable future projects.)			✓		A
c. Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?		✓			A

### Impact Discussion:

21a This draft Initial Study/Mitigated Negative Declaration evaluates the potential impact the proposed low intensity camp and event center project could have on the environment. Compliance with existing federal, state, and local regulations and mitigation measures identified in this Initial Study would reduce all potential impacts of the proposed project to a less than significant level. As discussed in the Biological Resources section, the project will have less than significant impacts with mitigation on the habitat and populations of protected plant and animal species. The Cultural Resources, Geology and Soils, and Tribal Cultural Resources sections find that impacts to important examples of major periods of California's

history or prehistory will also be less than significant with mitigation. With the proposed mitigation measures, this project will have a **less than significant impact with mitigation** to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of major periods of California's history or prehistory.

- 21b The objectives of the project are to provide workshops on craft skills such as woodworking, metalsmithing, fiber crafts, and ceramics along with overnight accommodations, food services, administrative space and retail to serve participants of the workshops. Additionally, the project seeks to act as a venue for community meetings and social events such as weddings. The project site also includes residential and agricultural uses such as crop and animal raising. The project is intended to serve local and out-of-town guests. This project does not increase allowed density, change allowed uses, or concurrently permit any other scope of work. No are no known probable future projects related to this project. Therefore, the project's cumulatively considerable impacts are **less than significant**.
- 21c The project would not result in any substantial adverse effects to human beings, directly or indirectly, since each potentially significant impact can be reduced to a less than significant level with adherence to the mitigation measures outlined in this report and compliance with existing federal, state, and local regulations. Therefore there would be no substantial adverse effects to human beings as a result of the project, resulting in impacts that would be **less than significant with mitigation**.

**Mitigation Measures:** To offset potentially adverse impacts to aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, transportation, tribal cultural resources, and utilities and service systems, **Mitigation Measures** have been included and can be found the above-referenced sections.

# Recommendation of the Project Planner

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a "potentially significant impact" or a "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Marie Maniscalco, Associate Planner

Date:

## Recommendation of the Project Planner

On the basis of this initial evaluation:

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



Marie Maniscalco, Associate Planner

Date: 5/31/2024

# Appendix A – Reference Sources

- A. Nevada County Planning Department
  - B. Northern Sierra Air Quality Management District
  - C. Nevada County Geographic Information Systems
  - D. Nevada County Department of Public Works
  - E. Nevada County Environmental Health Department
  - F. United Auburn Indian Community
  - G. Nevada County Building Department
  - H. Nevada County Fire Marshal
- 
1. California Department of Conservation. California Important Farmland Finder. Accessed March 2024. Retrieved from <https://maps.conservation.ca.gov/DLRP/CIFF/>
  2. California Department of Conservation. *Important Farmland Categories*. Retrieved from <https://www.conservation.ca.gov/dlrp/fmmp/Pages/Important-Farmland-Categories.aspx>
  3. Nevada County. *Williamson Act Parcels - Nevada County*. Retrieved from <https://nevcounty.maps.arcgis.com/apps/instant/minimalist/index.html?appid=5984795b1d8f4d2bb2e5687fa4e7690d>
  4. Nevada County. *Nevada County, California County Code*. Retrieved from Title 3 Land Use and Development Code, Chapter II: Zoning Regulations: [https://library.qcode.us/lib/nevada\\_county\\_ca/pub/county\\_code/item/title\\_3-chapter\\_ii](https://library.qcode.us/lib/nevada_county_ca/pub/county_code/item/title_3-chapter_ii)
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  11. US Environmental Protection Agency. Current Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. January 31, 2022. Accessed December 20, 2023. Available at: [https://www3.epa.gov/airquality/greenbook/anayo\\_ca.html](https://www3.epa.gov/airquality/greenbook/anayo_ca.html).
  12. California Air Resources Board. Maps of State and Federal Area Designations. 2022. Accessed March 2024. Available at: <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>.
  13. California Air Pollution Control Officers Association. California Emissions Estimator Model (CalEEMod) Version: CalEEMod.2022.1.1.21. April 2024.
  14. Nevada County Transportation Commission. *Nevada County Regional Transportation Plan 2015-2035*. [https://www.nctc.ca.gov/documents/RTP/Final%20Nevada%20Co%20RTP%2017\\_18.pdf](https://www.nctc.ca.gov/documents/RTP/Final%20Nevada%20Co%20RTP%2017_18.pdf)
  15. Nevada County Transportation Commission. *Nevada County Active Transportation Plan*. July 2018. [https://www.nctc.ca.gov/documents/Projects/ATP/NevadaCountyATP\\_Final\\_190703\\_full\\_red.pdf](https://www.nctc.ca.gov/documents/Projects/ATP/NevadaCountyATP_Final_190703_full_red.pdf)

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# **Appendix B – Site Plan**

**OWNER/APPLICANT**

LESLIE BARBAZETTE  
1200 STANNAGE AVENUE  
BERKELEY, CA 94706  
PHONE: (510) 681-1034  
EMAIL: lesliebarbazette@gmail.com

**PROPERTY ADDRESS**

10734 WOLF ROAD  
GRASS VALLEY, CA 95949

**PREPARED BY**

MILLENNIUM PLANNING & ENGINEERING  
471 SUTTON WAY, SUITE 210  
GRASS VALLEY, CALIFORNIA 95945  
(530) 446-6765  
CONTACT: MICHELLE LAYSHOT, P.E.

**ASSESSORS PARCEL NUMBER**

057-030-011

**ZONING**

AG-10

**LOT AREA**

15.77 ACRES

**PROJECT DESCRIPTION**

THIS PROJECT PROPOSES THE CONSTRUCTION OF A CRAFT SCHOOL WHICH CONTAINS 1 NEW BARN, 1 CAFE, 5 CLASSROOM RELATED STRUCTURES, 1 OFFICE, 1 RESIDENCE, 11 TENT CABINS, AND 4 TENT CAMPING PLATFORMS. THIS PROJECT ALSO PROPOSES THE CONSTRUCTION OF 2 DRIVEWAYS AND PARKING AREAS WITH ASSOCIATED DRAINAGE NETWORK AND TREATMENT AREAS. LASTLY, THIS PROJECT PROPOSES UTILITY IMPROVEMENTS TO SUPPORT THE PROPOSED PROJECT.

**WATER**

NID WATER - ZONE 3.0 & WELL

**SEWER**

ONSITE SEPTIC

**ELECTRICAL**

PO&E

**FIRE**

HIGGINS FIRE DEPARTMENT  
10106 COMBIE ROAD  
GRASS VALLEY, CA 95602

PRELIMINARY PLANS FOR:  
**WOLF CRAFT COLLECTIVE USE-PERMIT**  
GRASS VALLEY, CALIFORNIA  
JANUARY, 2024

**SITE STATISTICS**

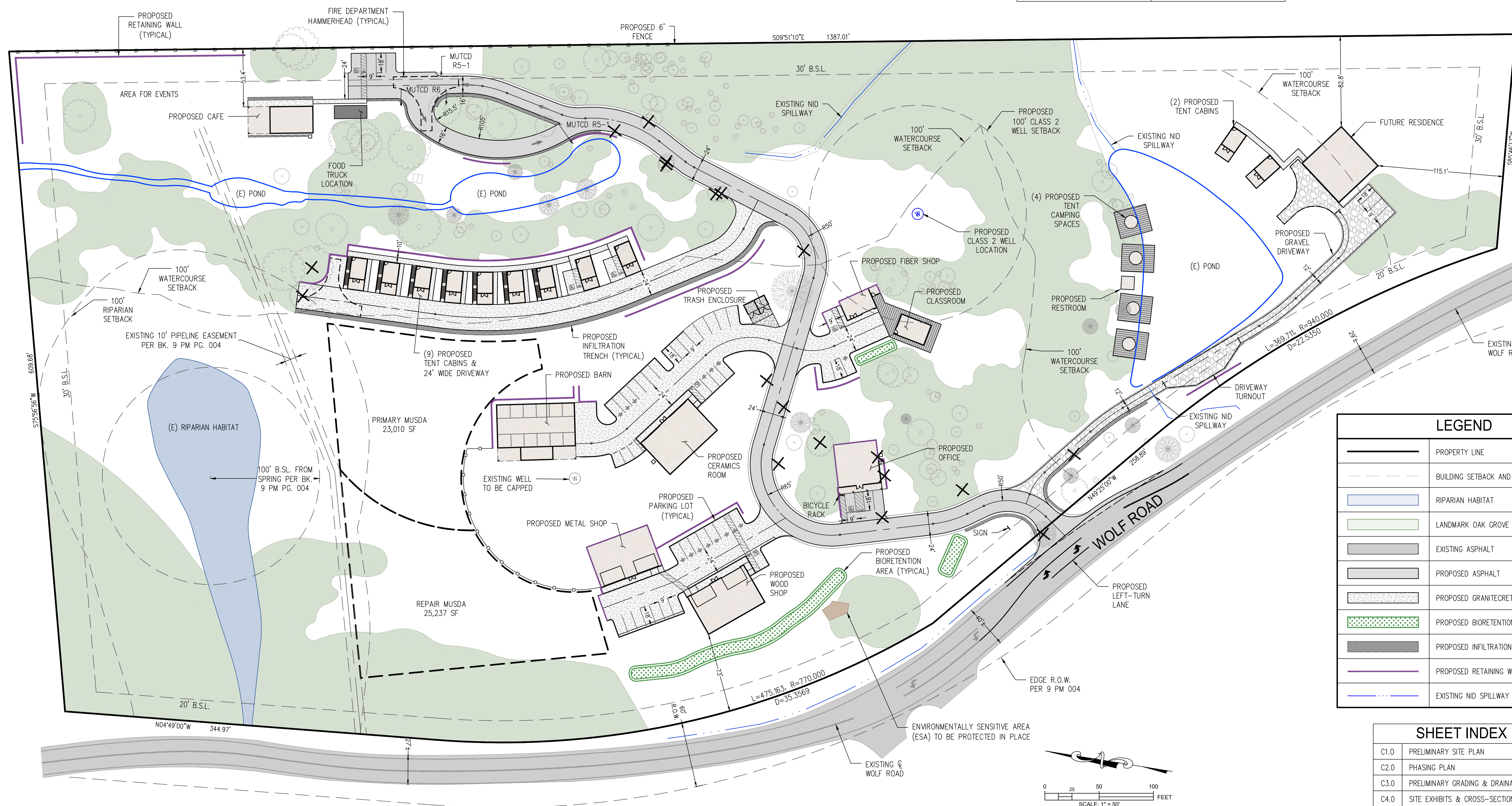
	AREA (SF)	AREA (%)
ASPHALT PAVEMENT	26,000 SF	4%
GRANITECRETE (CONCRETE)	36,194 SF	5%
BUILDING (FOOTPRINT)	26,337 SF	4%
LANDSCAPED AREA	5,000 SF	1%
GRAVEL	10,656 SF	1%
OPEN SPACE	582,754 SF	85%
TOTAL	686,941 SF	100%

**PARKING STATISTICS**

ADA SPACES	7
STANDARD SPACES	37
EV	14
COMPACT	3
TOTAL	61

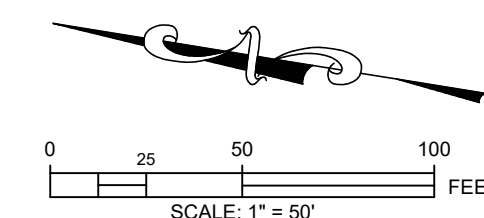


**VICINITY MAP**  
NOT TO SCALE



LEGEND	
	PROPERTY LINE
	BUILDING SETBACK AND PRIVATE EASEMENT
	RIPARIAN HABITAT
	LANDMARK OAK GROVE CANOPY
	EXISTING ASPHALT
	PROPOSED ASPHALT
	PROPOSED GRANITECRETE
	PROPOSED BIORETENTION AREA
	PROPOSED INFILTRATION TRENCH
	PROPOSED RETAINING WALL
	EXISTING NID SPILLWAY

SHEET INDEX	
C1.0	PRELIMINARY SITE PLAN
C2.0	PHASING PLAN
C3.0	PRELIMINARY GRADING & DRAINAGE PLAN
C4.0	SITE EXHIBITS & CROSS-SECTIONS



**MILLENNIUM**  
PLANNING & ENGINEERING  
471 SUTTON WAY, SUITE 210, GRASS VALLEY, CA 95945 (530) 446-6765

DATE	DESCRIPTION

**WOLF CRAFT COLLECTIVE**  
10734 WOLF ROAD  
GRASS VALLEY, CA 95949  
PRELIMINARY SITE PLAN

REGISTERED PROFESSIONAL ENGINEER  
LILLIAN A. SPARKS  
No. C95724  
PRELIMINARY  
CIVIL  
STATE OF CALIFORNIA

DESIGNED BY: LAS  
DRAWN BY: LAS  
PROJECT NO: 21-0103  
DATE: 1/23/2024  
SHEET NUMBER:  
**C1.0**



PROJECT PHASING		
PHASE 1	<ul style="list-style-type: none"> <li>MAIN ROADWAY CONSTRUCTION</li> <li>CERAMICS BUILDING &amp; BARN WITH PARKING LOT AND ASSOCIATED UTILITIES</li> <li>(2) CLASSROOMS WITH ASSOCIATED PARKING AREA AND ASSOCIATED UTILITIES</li> <li>OFFICE BUILDING WITH PARKING AND ASSOCIATED UTILITIES</li> <li>(9) TENT CABINS WITH ROADWAY WITH ASSOCIATED UTILITIES</li> <li>(4) TRADITIONAL TENT AREAS WITH DECKS BY POND &amp; RESTROOM</li> <li>FOOD TRUCK WITH PARKING AREA AND UTILITIES FOR FUTURE CAFE</li> <li>GRADING FOR EVENT AREA</li> <li>TRASH ENCLOSURE</li> <li>SEPTIC SYSTEM</li> <li>STORM WATER TREATMENT AREAS</li> <li>FENCING AT EASTERN PROPERTY BOUNDARY</li> <li>MONUMENT SIGN</li> <li>WOLF ROAD IMPROVEMENTS</li> </ul>	2024-2026
PHASE 2	<ul style="list-style-type: none"> <li>CONVERT CLASSROOM TO FIBER CLASSROOM</li> <li>METAL SHOP &amp; WOOD SHOP WITH PARKING LOT AND ASSOCIATED UTILITIES</li> <li>(2) TENT CABINS FOR TEACHER HOUSING</li> <li>RESIDENCE WITH DRIVEWAY AND ASSOCIATED UTILITIES</li> </ul>	2027-2028
PHASE 3	<ul style="list-style-type: none"> <li>REPLACE FOOD TRUCK WITH COMMERCIAL CAFE</li> <li>CAFE STORM WATER TREATMENT AREA</li> <li>CABINS TO REPLACE (9) TENT CABINS</li> </ul>	2029-2030

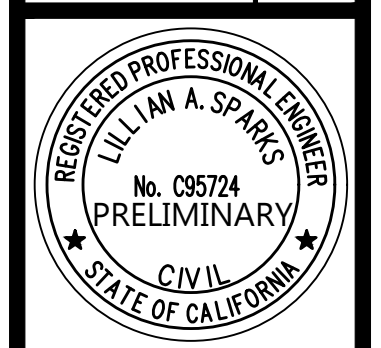
NOTE: TIMING OF CONSTRUCTION PHASING IS APPROXIMATE. COMPLETION OF CONSTRUCTION WILL IN NO CASE EXCEED SEVEN YEARS FROM THE DATE OF LAND USE PERMIT APPROVAL.

LEGEND	
	PROPERTY LINE
	BUILDING SETBACK AND PRIVATE EASEMENT
	NID DITCH
	PROPOSED FENCE
	PROPOSED GRANITECRETE
	PROPOSED ASPHALT
	PROPOSED BIORETENTION
	PROPOSED INFILTRATION TRENCH
	PROPOSED CONSTRUCTION STAGING AREA

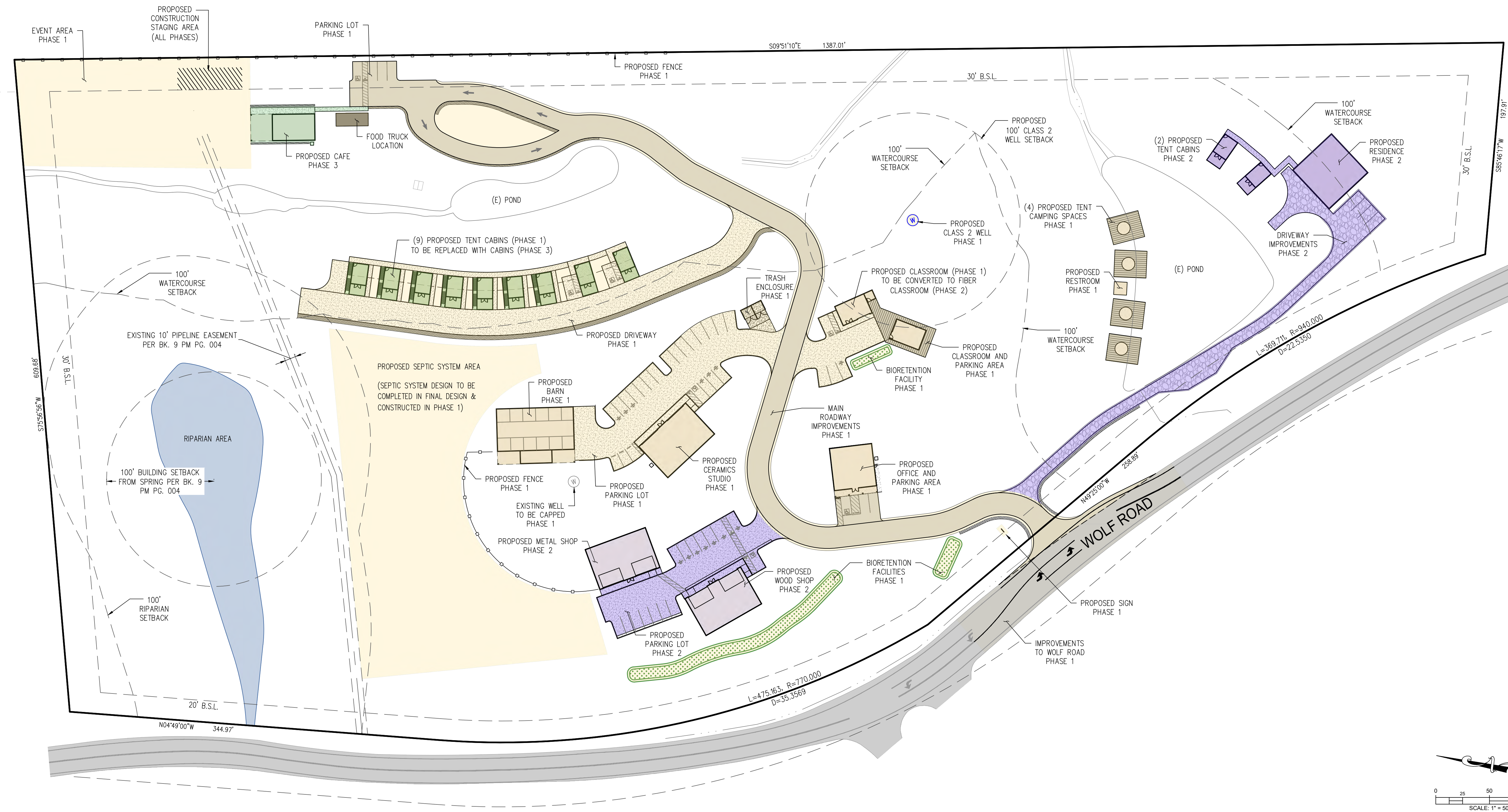


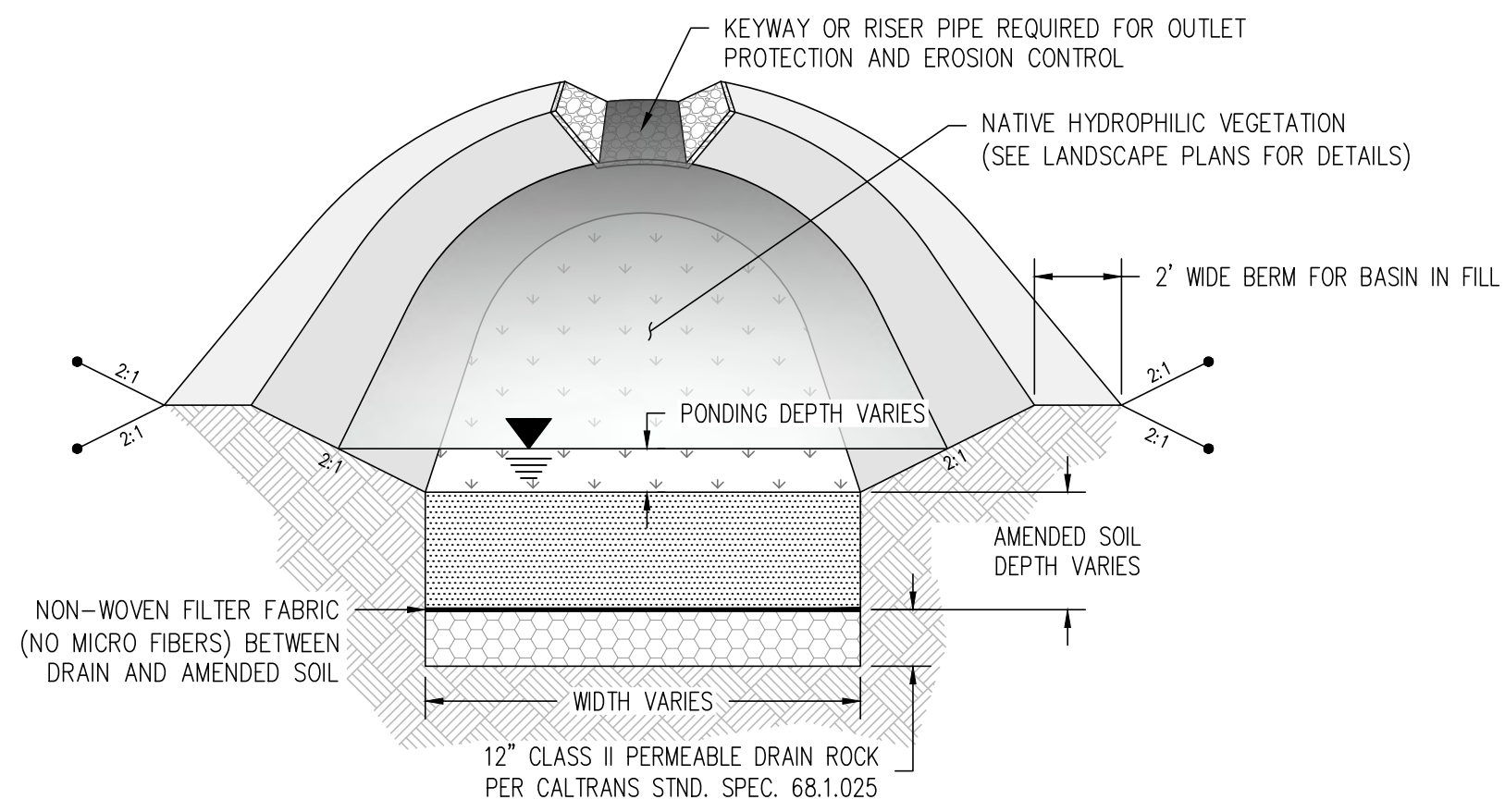
DATE	DESCRIPTION	REV.

**WOLF CRAFT COLLECTIVE**  
 10734 WOLF ROAD  
 GRASS VALLEY, CA 95949  
**PHASING PLAN**



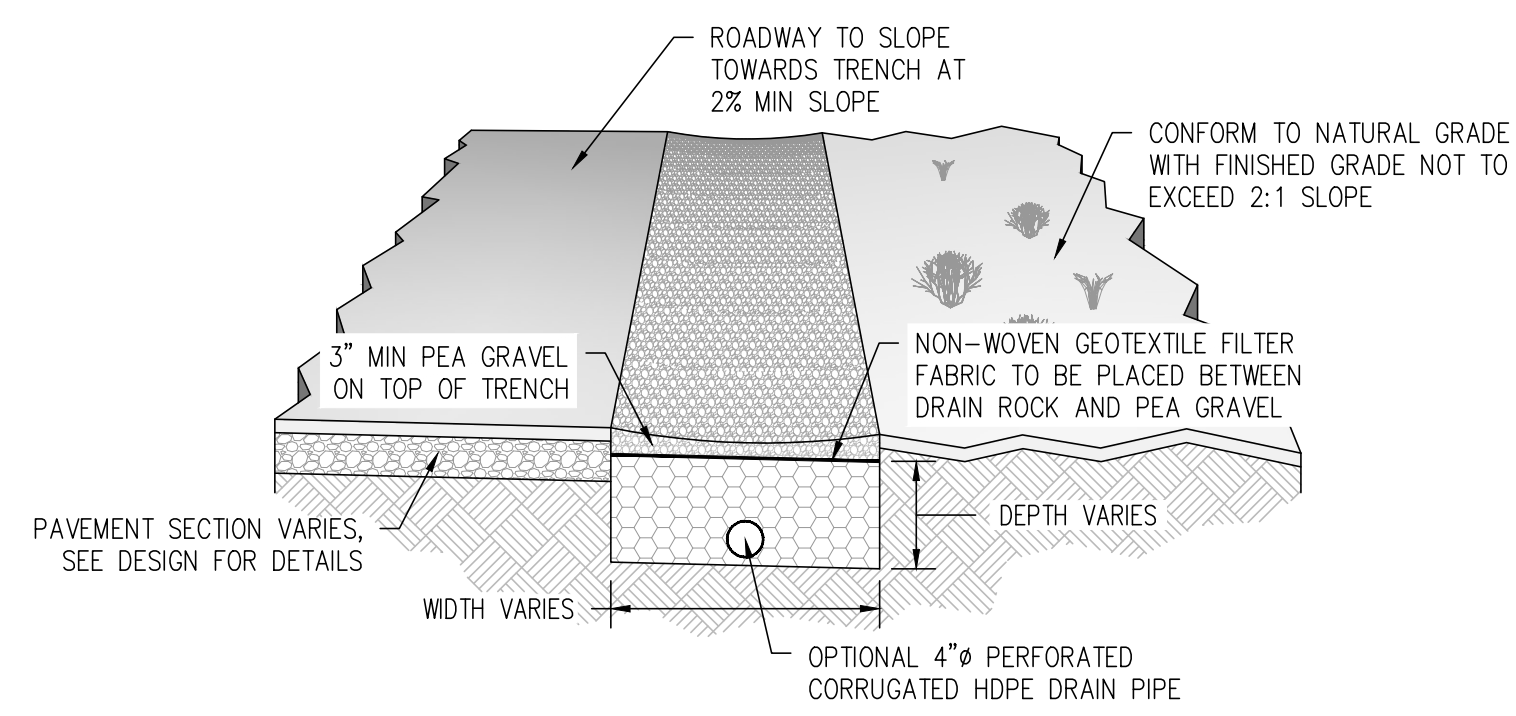
DESIGNED BY: LAS  
 DRAWN BY: LAS  
 PROJECT NO: 21-0103  
 DATE: 1/23/2024  
 SHEET NUMBER:  
**C2.0**





BIORETENTION TYPICAL SECTION DETAIL

NTS



ROADSIDE INFILTRATION TRENCH DETAIL

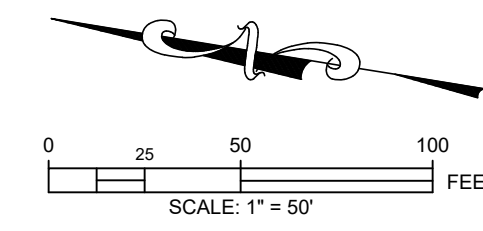
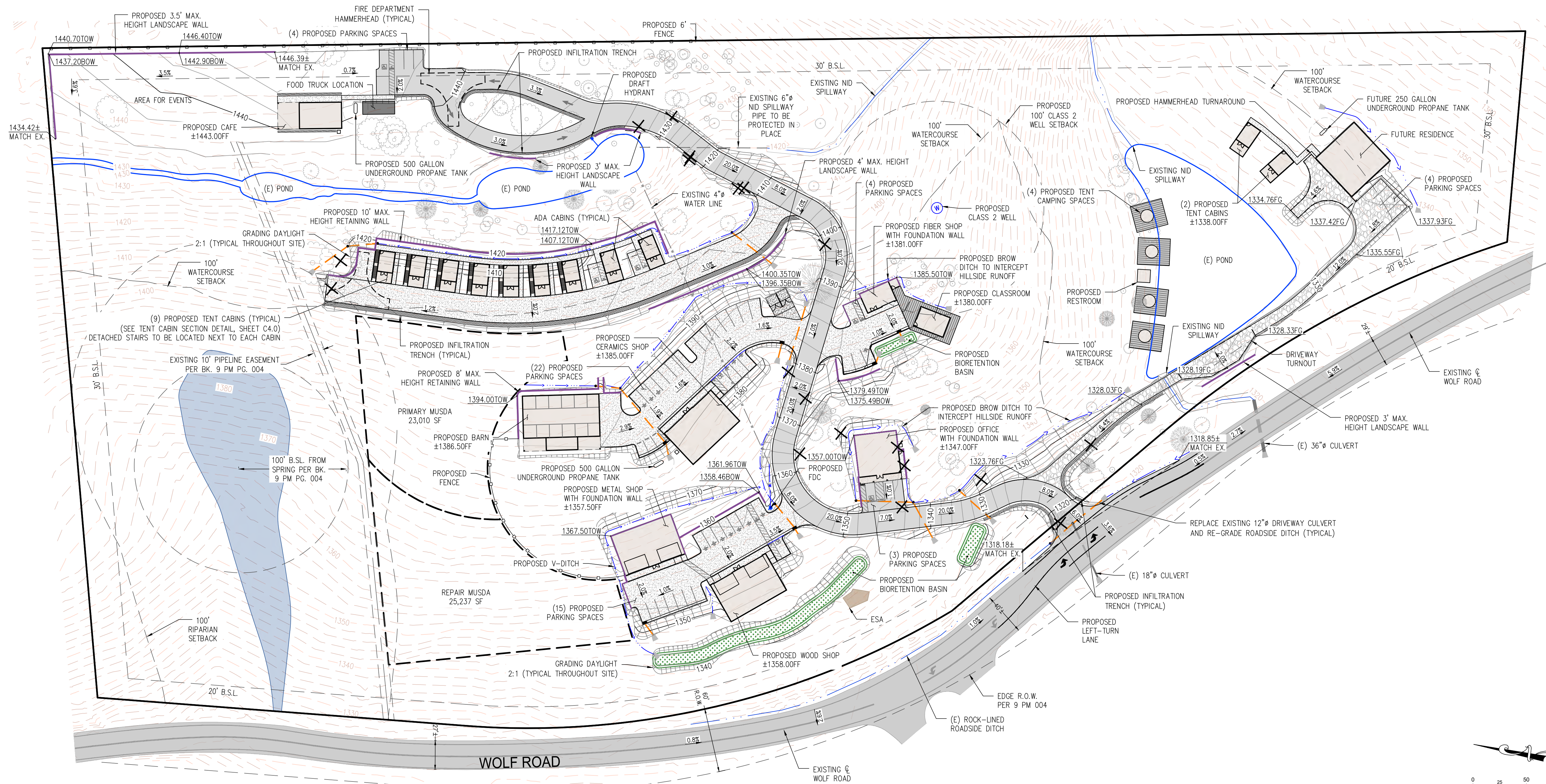
NTS

LEGEND			
	PROPERTY LINE		PROPOSED RETAINING WALL
	BUILDING SETBACK AND PRIVATE EASEMENT		EXISTING NID SPILLWAY
	PROPOSED V-DITCH		EXISTING STORM DRAIN PIPE
	PROPOSED HDPE STORM DRAIN PIPE		EXISTING WATER LINE
	EXISTING ASPHALT		PROPOSED WATER LINE
	PROPOSED ASPHALT		PROPOSED DRAFT HYDRANT & FDC
	PROPOSED GRANITECTRETE		PROPOSED AREA DRAIN
	PROPOSED BIORETENTION AREA		PROPOSED ROCK OUTLET PROTECTION
	PROPOSED INFILTRATION TRENCH		PROPOSED STORM DRAIN MANHOLE

**EARTHWORK QUANTITIES:**

CUT: 12,250 CUBIC YARDS  
 FILL: 4,240 CUBIC YARDS  
 NET: 8,010 CUBIC YARDS EXPORT\*

\* GRADING IS ESTIMATED AND CAN VARY SIGNIFICANTLY UPON FINAL DESIGN.



DATE	DESCRIPTION

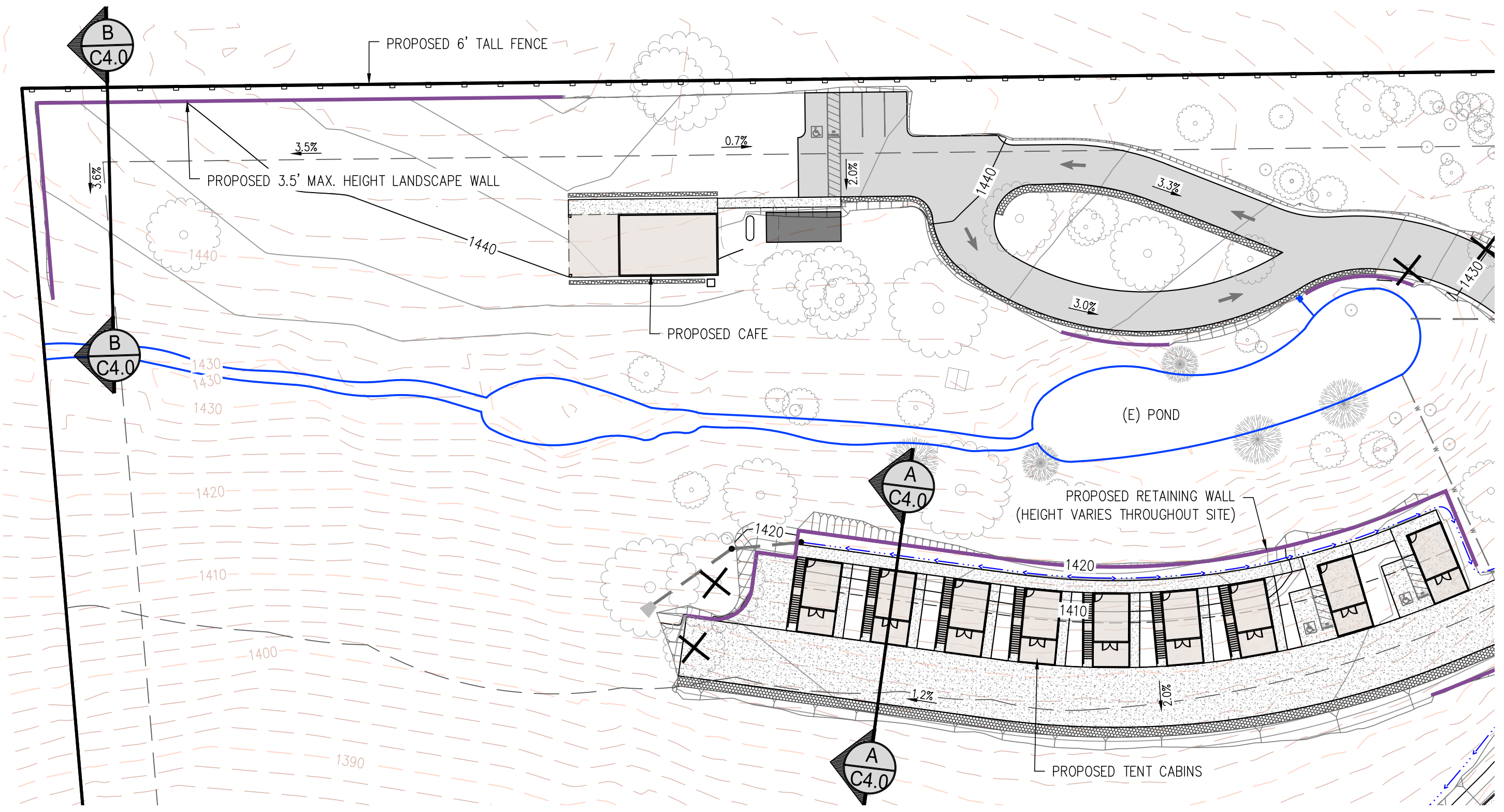
REV.	DESCRIPTION

**WOLF CRAFT COLLECTIVE**  
 10734 WOLF ROAD  
 GRASS VALLEY, CA 95949  
**PRELIMINARY GRADING & DRAINAGE PLAN**

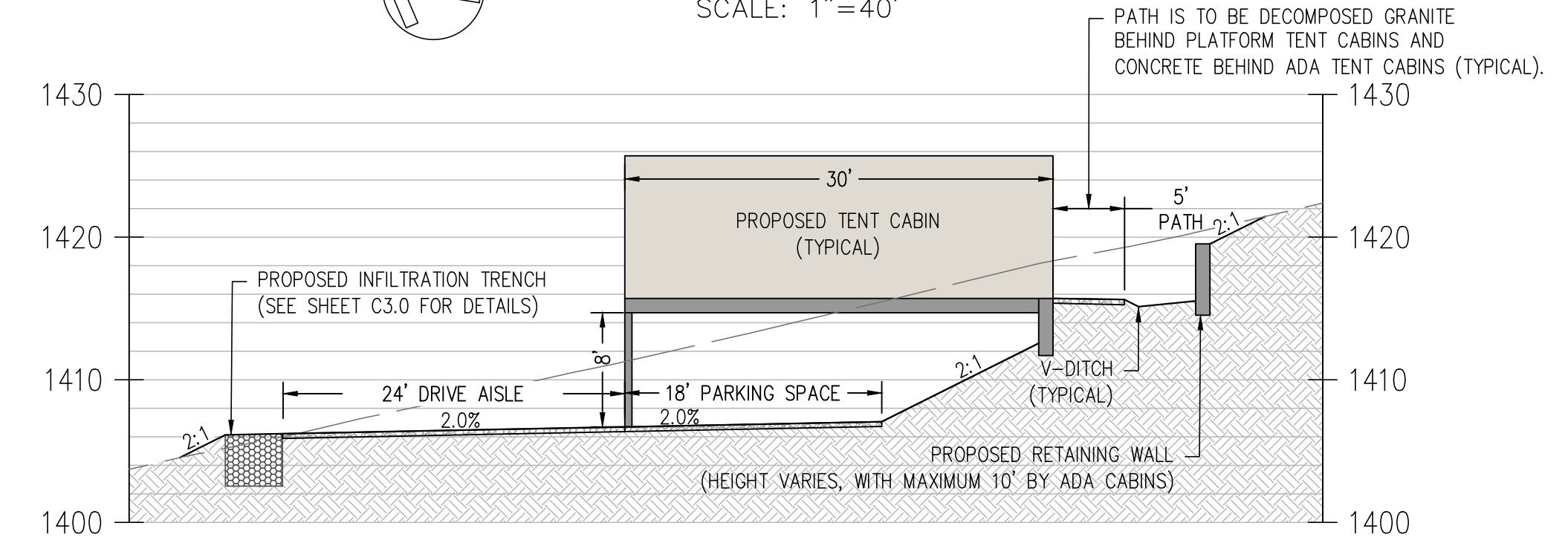


DESIGNED BY: LAS  
 DRAWN BY: LAS  
 PROJECT NO: 21-0103  
 DATE: 1/23/2024  
 SHEET NUMBER:

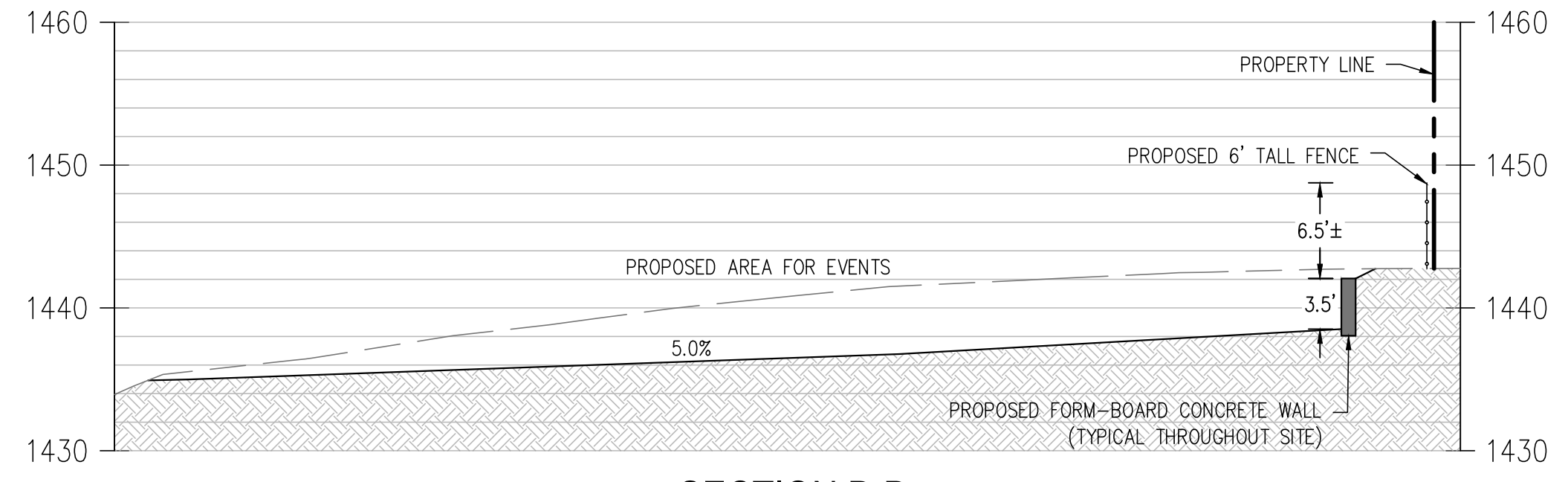
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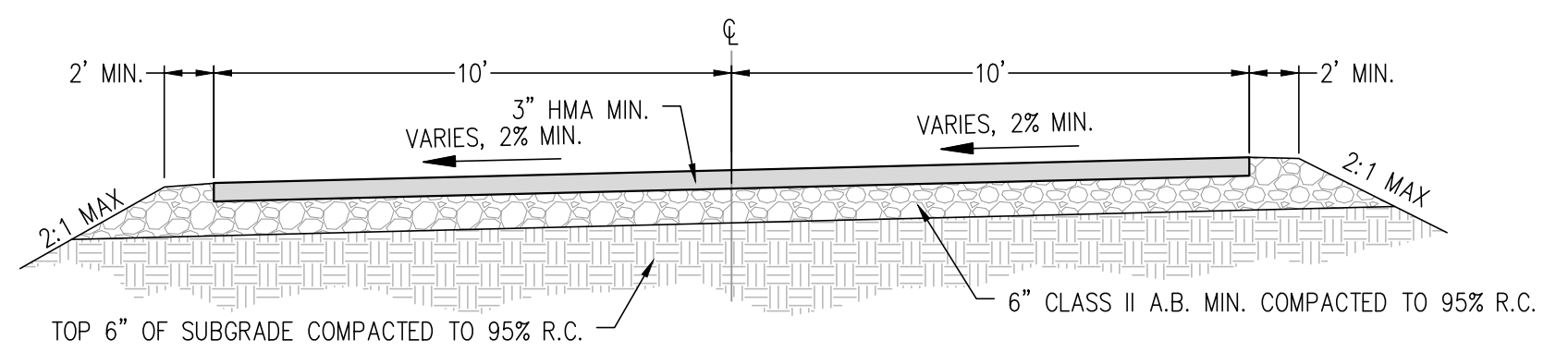
**CROSS-SECTION PLAN VIEW**  
SCALE: 1"=40'



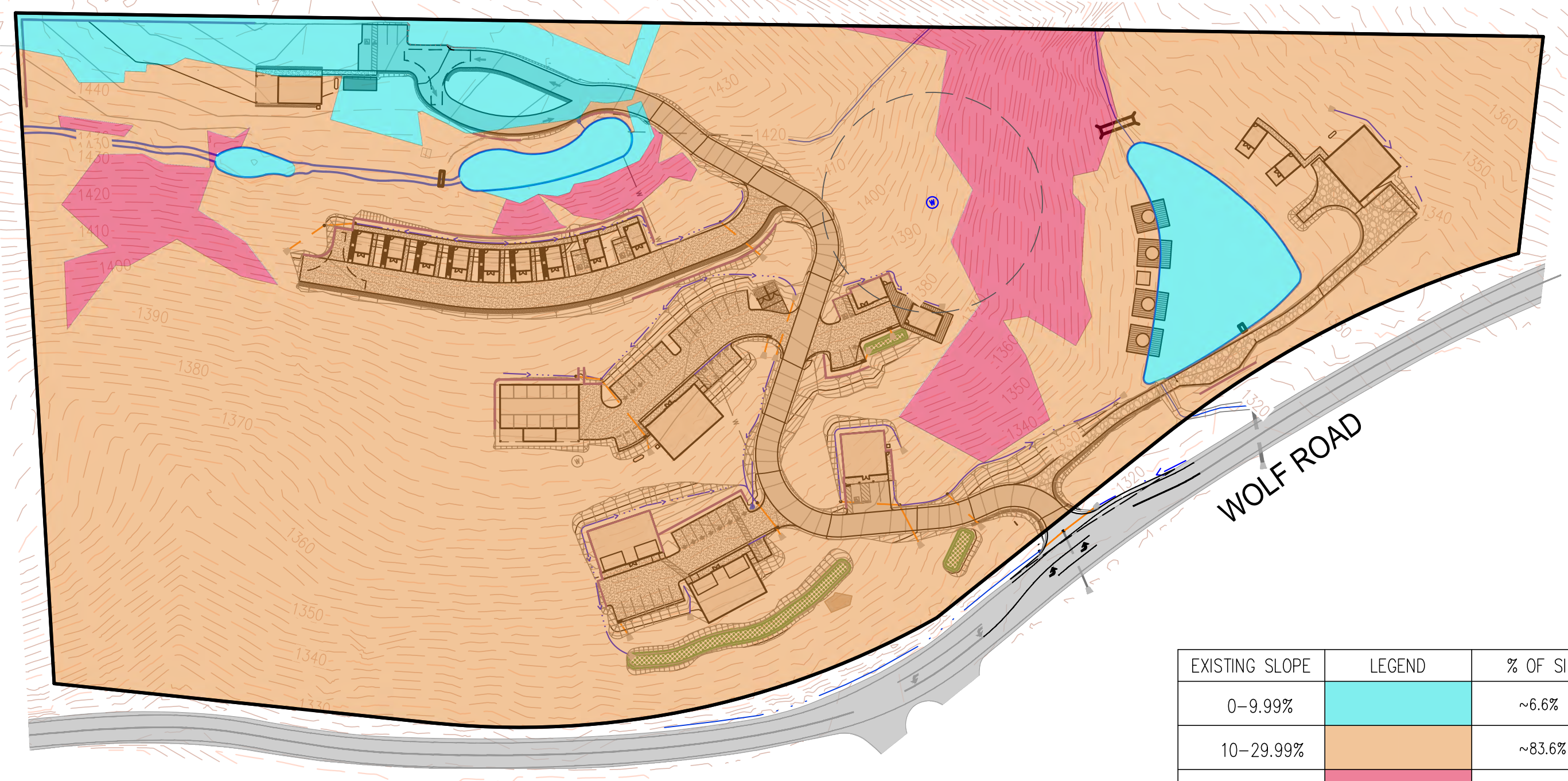
**SECTION A-A**  
SCALE: 1" = 10' HORIZ.  
1" = 10' VERT.



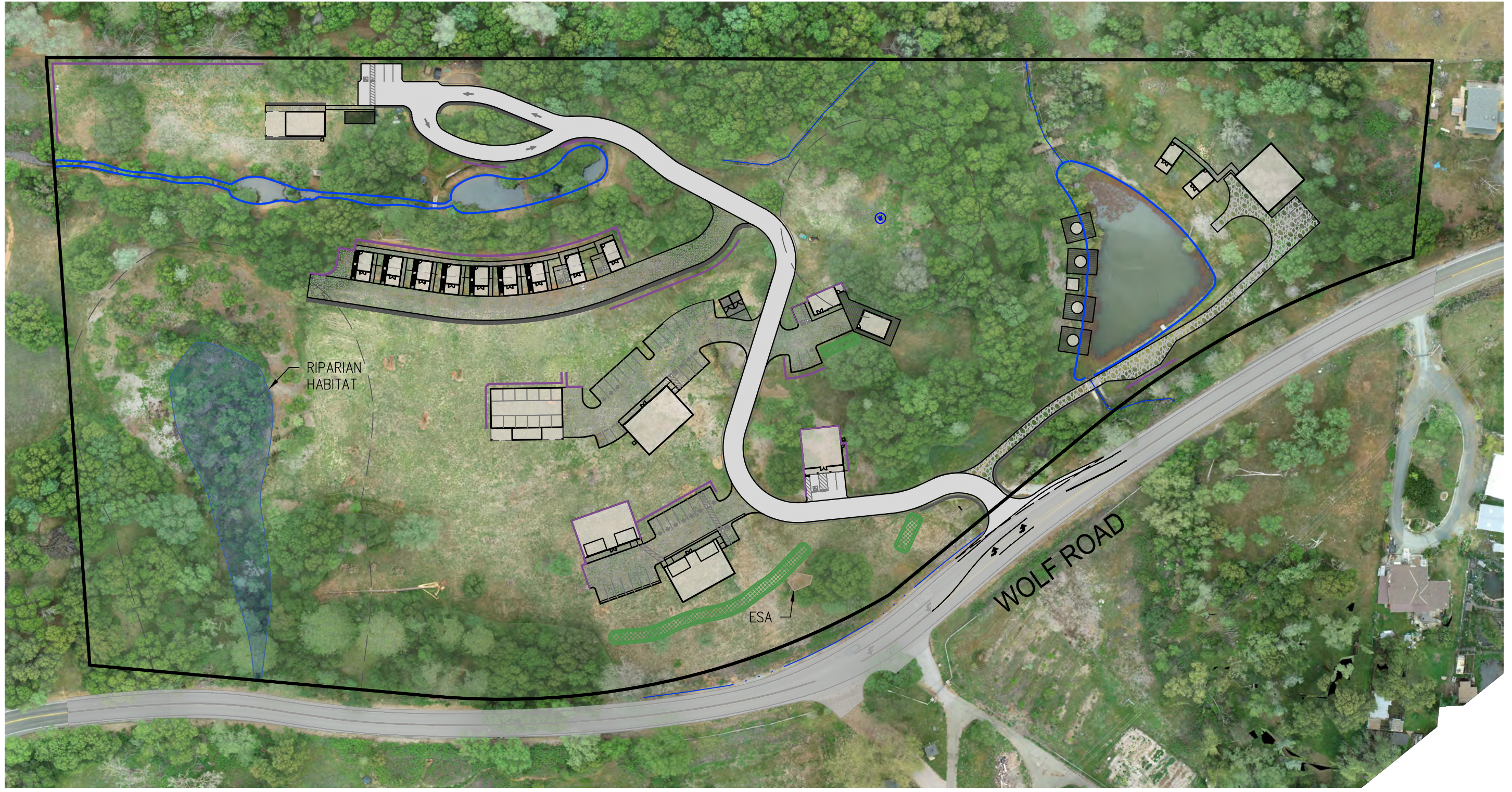
**SECTION B-B**  
SCALE: 1" = 10' HORIZ.  
1" = 10' VERT.



**TYPICAL ROADWAY SECTION**  
NTS



**SLOPE EXHIBIT**  
SCALE: 1"=100'



**AERIAL PHOTO OVERLAY**  
SCALE: 1"=100'

REV.	DESCRIPTION	DATE

**WOLF CRAFT COLLECTIVE**  
10734 WOLF ROAD  
GRASS VALLEY, CA 95949

**SITE EXHIBITS & CROSS-SECTIONS**



DESIGNED BY: LAS  
DRAWN BY: LAS  
PROJECT NO: 21-0103  
DATE: 1/23/2024

SHEET NUMBER:  
**C4.0**

# **Appendix C – Landscape Plan**

# WOLF CRAFT COLLECTIVE

## USE PERMIT RE-SUBMITTAL

### GENERAL NOTES

- THE GRADING PLAN FOR THE PROJECT HAS BEEN DESIGNED FOR NO GRADING TO OCCUR WITHIN THE DRIPLINE OF ANY TREE TO BE PRESERVED UNLESS SPECIFICALLY APPROVED BY THE PLANNING DEPARTMENT AND SHOWN ON THESE PLANS. NO GRADES SHALL BE MODIFIED WITHOUT THE APPROVAL OF THE CIVIL ENGINEER AND THE CITY OF GRASS VALLEY.
- EACH TREE OR GROUP OF TREES TO BE SAVED SHALL BE FENCED IN ACCORDANCE WITH THE "TREE PROTECTION" DETAIL PRIOR TO ANY GRADING OR MOVEMENT OF HEAVY EQUIPMENT.
- NO TRENCHING SHALL OCCUR BENEATH THE DRIPLINE OF ANY TREE TO BE SAVED UNLESS STATED ON THESE PLANS "TRENCHING UNDER THIS TREE IS APPROVED". NO MECHANICAL TRENCHING WHATSOEVER SHALL BE ALLOWED WITHIN THE DRIPLINE OF TREES TO BE PRESERVED.
- THE CONTRACTOR SHALL NOT ALLOW STACKING OF CONSTRUCTION MATERIALS, PARKING OF CONSTRUCTION EQUIPMENT AND VEHICLES, GRADING, TRENCHING, CUTTING OR FILLING WITHIN A TREE DRIPLINE UNLESS OTHERWISE SHOWN ON THESE PLANS.
- INSTALL ALL IMPROVEMENTS IN ACCORDANCE WITH CITY OF GRASS VALLEY REQUIREMENTS. IN CASE OF DISCREPANCY BETWEEN THESE PLANS AND THE CITY OF MALIBU REQUIREMENTS, THE MOST STRINGENT REQUIREMENTS WILL APPLY.
- CONSTRUCTION DOCUMENTS INCLUDE PROVISIONS NOTED HEREIN FOR BOTH THESE CONTRACT DRAWINGS AND ASSOCIATED CONTRACT SPECIFICATIONS. THE CONSTRUCTION DRAWINGS ARE GRAPHIC AND DIAGRAMMATIC, CONVEYING THE DESIGN INTENT OF THE CONSTRUCTION CONTRACT.
- THE CONSTRUCTION DOCUMENTS ARE AN INSTRUMENT OF SERVICE AND PROPERTY OF THE LANDSCAPE ARCHITECT. THEY ARE NOT TO BE REPRODUCED WITHOUT THE LANDSCAPE ARCHITECT'S PERMISSION. ANY REPRODUCTION THAT IS GRANTED MUST CARRY THE LANDSCAPE ARCHITECT'S NAME. ALL DESIGN AND OTHER INFORMATION SHOWN WITHIN THE CONSTRUCTION DOCUMENTS IS FOR USE ON THE SPECIFIED PROJECT ONLY AND SHALL NOT BE USED OTHERWISE WITHOUT WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT.
- THE INTENTION OF THESE DOCUMENTS SHALL INCLUDE ALL LABOR, SERVICES, MATERIALS, DEVICES, SUPPLIES, EQUIPMENT, TRANSPORTATION, ETC. AND OTHER FACILITIES NECESSARY FOR AND INCIDENTAL TO THE PROPER EXECUTION AND COMPLETION OF WORK ON THE DRAWINGS, AND THE WORK THAT CAN BE REASONABLY INFERRED THEREFROM AS BEING NECESSARY TO PRODUCE THE INTENDED RESULTS.
- CONSTRUCTION DRAWINGS SHALL BE VALID FOR USE FOR CONSTRUCTION ONLY WHEN THEY HAVE BEEN SIGNED, STAMPED/SEALED, AND DATED BY THE LICENSED PROFESSIONAL WHO HAS OVERSEEN THEIR PREPARATION AND WHERE PERMITTING HAS BEEN GRANTED BY THE JURISDICTIONAL AUTHORITY.
- CONSTRUCTION DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF REMOVAL / CONSTRUCTION, INCLUDING SHORING AND TEMPORARY BRACING. CONTRACTOR SHALL UNDERTAKE ALL NECESSARY MEASURES TO ENSURE SAFETY OF ALL PERSONS AND STRUCTURES AT THE PROJECT SITE AND ADJACENT TO THE SITE. OBSERVATION VISITS TO THE SITE BY THE LANDSCAPE ARCHITECT DOES NOT INCLUDE REVIEW OF THESE MEASURES.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY FEES, LICENSES, AND INSPECTIONS NECESSARY FOR PROPER EXECUTION AND COMPLETION OF WORK, AND ALL FEDERAL, STATE, LOCAL AND ALL OTHER TAXES THAT ARE APPLICABLE TO THIS CONTRACT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME GENERALLY FAMILIAR WITH THE JOB SITE AND CONDITIONS PRIOR TO PROCEEDING WITH THE WORK. A SITE VISIT IS REQUIRED TO VERIFY DIMENSIONS AND THE CONDITIONS; REPORT ANY DISCREPANCIES UPON DISCOVERY TO THE LANDSCAPE ARCHITECT BEFORE PROCEEDING WITH WORK.
- DO NOT SCALE CONSTRUCTION DRAWINGS. USE DIMENSIONS AS INDICATED ON PLANS. WHERE LACK OF INFORMATION OR ANY DISCREPANCY SHOULD APPEAR IN THE CONTRACT DRAWINGS OR SPECIFICATIONS, CONTRACTOR SHALL REQUEST WRITTEN INTERPRETATION FROM THE LANDSCAPE ARCHITECT BEFORE PROCEEDING WITH THAT PORTION OF THE WORK.
- DO NOT WILLFULLY PROCEED WITH CONSTRUCTION WHEN IT IS OBVIOUS THAT OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT BEEN APPARENT DURING DESIGN.
- NO CHANGES, MODIFICATIONS OR DEVIATIONS SHALL BE MADE FROM THE CONTRACT DRAWINGS OR SPECIFICATIONS WITHOUT FIRST SECURING WRITTEN PERMISSION FROM THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL.
- EXTRA WORK OR TIME EXTENSIONS TO COMPLETE SCOPE SHALL BE APPROVED IN WRITING BY THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE ONLY.
- OBTAIN REVIEW OF SHOP DRAWINGS BY LICENSED PROFESSIONALS WHOSE WORK SCOPE IS AFFECTED BY SUCH DRAWINGS UNDER THIS CONTRACT PRIOR TO FABRICATION.
- WHERE A SYSTEM, MATERIAL, OR ASSEMBLY IS CALLED FOR, ALL NECESSARY PARTS AND MATERIALS REQUIRED FOR A COMPLETE INSTALLATION/SYSTEM SHALL BE PROVIDED AND INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, INSTRUCTIONS, AND SPECIFICATIONS.
- WORK PERFORMED SHALL COMPLY WITH THE MOST RECENT APPLICABLE FEDERAL, STATE, AND LOCAL BUILDING CODES AND REQUIREMENTS, INCLUDING THE MOST RECENT REQUIREMENTS OF THE ACCESSIBILITY CODES.
- CONTRACTOR SHALL PROVIDE ACCESS AT ALL TIMES TO OWNER, THEIR REPRESENTATIVES, AND LANDSCAPE ARCHITECT FOR THE PURPOSE OF REVIEW / OBSERVATION TO ALL PARTS OF THE WORK AND TO THE SHOPS WHEREIN THE WORK MAY BE IN PREPARATION.
- SUBMIT REQUESTS FOR MEETINGS, OBSERVATIONS, AND REVIEWS TO BE PERFORMED BY THE LANDSCAPE ARCHITECT A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO THE PROPOSED DATE AND TIME.
- MAINTAIN A SAFE AND SECURE SITE DURING ALL PHASES OF WORK. CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING A SAFE PLACE TO WORK AND MEETING THE REQUIREMENTS OF ALL APPLICABLE JURISDICTIONS. EXECUTE WORK TO ENSURE THE SAFETY OF PERSONS AND ADJACENT PROPERTY AGAINST DAMAGE BY FALLING DEBRIS AND OTHER HAZARDS IN CONNECTION WITH THE WORK.
- OWNER AND LANDSCAPE ARCHITECT SHALL HAVE THE RIGHT TO REJECT MATERIALS OR WORKMANSHIP WHICH ARE FOUND TO BE DEFECTIVE, NOT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, OR REQUIRE THEIR CORRECTION. REJECTED WORKMANSHIP SHALL BE SATISFACTORILY CORRECTED. REJECTED MATERIALS SHALL BE PROMPTLY REMOVED FROM THE PROJECT SITE WITHOUT CHARGE TO THE OWNER. IF CONTRACTOR DOES NOT CORRECT SUCH REJECTED WORK WITHIN A REASONABLE TIME, FIXED BY WRITTEN NOTICE, OWNER MAY CORRECT SUCH WORK AND BACK-CHARGE THE FULL EXPENSE TO CONTRACTOR.
- CONTRACTOR AT ALL TIMES IS RESPONSIBLE TO KEEP THE SITE PREMISES FREE FROM THE ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY HIS OPERATIONS. AT THE COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL TEMPORARY ITEMS, WASTE MATERIALS, TRASH, DEBRIS, AND RUBBISH FROM AND ABOUT THE PROJECT AREA, INCLUDING CONSTRUCTION EQUIPMENT, TOOLS, MACHINERY, AND SURPLUS MATERIALS. FINAL CLEANING SHALL INCLUDE REMOVAL OF ALL TRACES OF SOIL, WASTE MATERIALS, AND OTHER FOREIGN MATTER FROM SURFACES. ENTIRE PROJECT SITE SHALL BE DELIVERED IN A NEAT, CLEAN, AND ACCEPTABLE CONDITION.

DIRECT ANY QUESTIONS REGARDING THESE PLANS TO :  
LISA NASCA  
1032 32ND STREET  
OAKLAND, CA 94608

### ABBREVIATIONS

&	AND	LB.	POUND
@	AT	L.F.	LINEAR FEET
#	NUMBER	L.O.W.	LIMIT OF WORK
%	PERCENT	LP	LOW POINT
A.C.	ASPHALTIC CONCRETE	MAX.	MAXIMUM
AD	AREA DRAIN	M.E.P.	MECHANICAL, ELECTRICAL, PLUMBING
ADJ.	ADJACENT	MIN.	MINIMUM
AM	APICAL MERISTEM	(N)	NEW
ARCH.	ARCHITECTURE	NAT.	NATURAL
ASTM	AMERICAN SOCIETY OF TESTING & MATERIALS	N.I.C.	NOT IN CONTRACT
BC	BOTTOM OF CURB	N.T.S.	NOT TO SCALE
BCR	BEGIN CURB RADIUS	O.C.	ON CENTER
BLDG.	BUILDING	O.D.	OUTSIDE DIAMETER
BS	BOTTOM OF STEP	OF/CI	OWNER FURNISHED/CONTRACTOR INSTALLED
BTH	BROWN TRUNK HEIGHT	P.A., PA	PLANTING AREA
BW	BOTTOM OF WALL	P.O.B.	POINT OF BEGINNING
C.I.P.	CAST IN PLACE	PP	POWER POLE
C.J.	CONSTRUCTION JOINT	PL	PROPERTY LINE
CL	CENTER LINE	PT	PRESSURE TREATED
CLR	CLEAR	PVC	POLY VINYL CHLORIDE
CMB	CRUSHED MISCELLANEOUS BASE	R.	RISER
CMU	CONCRETE MASONRY UNIT	R, RAD.	RADIUS
CONC.	CONCRETE	R.C.B.	ROOT CONTROL BARRIER
CONT.	CONTINUOUS	REINF.	REINFORCED
CORP.	CORPORATION	REP.	REPRESENTATIVE
d	PENNY (NAIL SIZE)	R.O.W.	RIGHT-OF-WAY
D.G.	DECOMPOSED GRANITE	S.C.	SAWCUT JOINT
D.I.	DRAIN INLET	SCH.	SCHEDULE
D.DIA.	DIAMETER	SF	SQUARE FEET
DWGS.	DRAWINGS	SIM.	SIMILAR
(E)	EXISTING	S.J.	SCORE JOINT
EA.	EACH	S.L.	SCORELINE
E.J.	EXPANSION JOINT	SQ.	SQUARE
EX.	EXISTING	SS	STAINLESS STEEL
ETC.	ETCETERA	STD.	STANDARD
E.W.	EACH WAY	T.	TREAD
F.D.C.	FIRE DEPARTMENT CONNECTIONS	T.B.D.	TO BE DETERMINED
FFE	FINISH FLOOR ELEVATION	TC	TOP OF CURB
FF	FINISH FLOOR	TF	TOP OF FOOTING
FG	FINISH GRADE	TG	TOP OF GRATE
FIN.	FINISH	TW	TOP OF WALL
FS	FINISH SURFACE	TYP.	TYPICAL
FTG.	FOOTING	VERT.	VERTICAL, VERTICALLY
GALV.	GALVANIZED	V.I.F.	VERIFY IN FIELD
H.B.	HEADEBOARD	W	WIDTH
H.HT.	HEIGHT	W/	WITH
HOR.	HORIZONTAL, HORIZONTALLY	WL	WATER LEVEL
HP	HIGH POINT	W.W.M.	WELDED WIRE MESH
L	LENGTH		

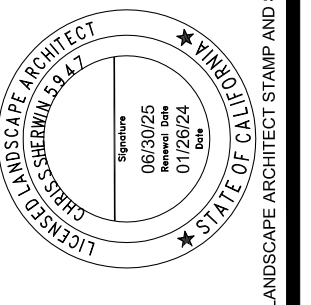
### SHEET INDEX

LEGEND		USE PERMIT	USE PERMIT	USE PERMIT
		RE-SUBMITTAL	RE-SUBMITTAL	RE-SUBMITTAL
SHEET NOT ISSUED	●			
ISSUED FOR INFORMATION AND COORDINATION	●			
SHEET DELETED	∅			
SHEET SCOPE COMPLETED PREVIOUSLY	□			
L0.00	COVER SHEET	●	●	●
L0.01	SITE ACCESSIBILITY PLAN	●	●	●
L0.02	FUEL MODIFICATION NOTES		●	∅
L0.03	FUEL MODIFICATION PLAN		●	∅
L1.00	TREE DISPOSITION NOTES & SCHEDULE		●	●
L1.01	TREE DISPOSITION PLAN	●	●	●
L2.00	MATERIALS SCHEDULE & IMAGERY	●	●	●
L2.01	CONCEPTUAL MATERIALS PLAN	●	●	●
L8.00A	PLANTING NOTES & SCHEDULE/PRELIMINARY IRRIGATION CALCULATIONS & NOTES	●	●	●
L8.00B	CONCEPTUAL PLANTING IMAGERY	●	●	●
L8.01	CONCEPTUAL PLANTING PLAN	●	●	●
L9.01	CONCEPTUAL LIGHTING PLAN, NOTES, & IMAGERY	●	∅	∅

### SYMBOLS

	PROPERTY LINE		ALIGN
	RIGHT-OF-WAY		POINT OF BEGINNING/ ORIGIN POINT OF LAYOUT
	LIMIT OF WORK LINE		DETAIL SECTION
	MATCHLINE REFER TO LXXX		KEYNOTE
	CENTER LINE		CALLOUT
	SECTION		
	ELEVATION		
	DETAIL		

NOT FOR CONSTRUCTION



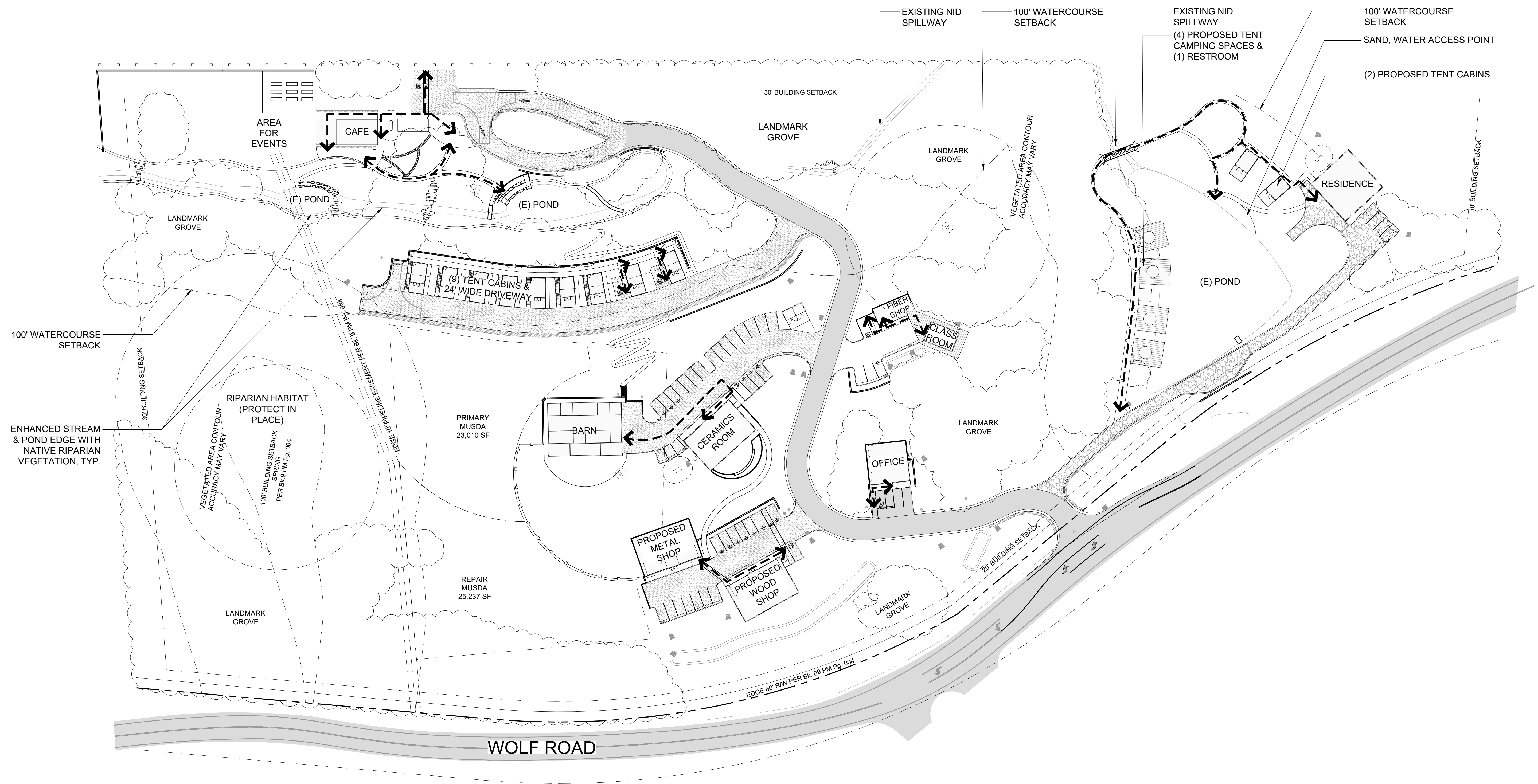
WOLF CRAFT COLLECTIVE  
10734 WOLF ROAD  
COVER SHEET

NEVADA COUNTY

REV.	DESCRIPTION	DATE
DESIGNED: LAS		
DRAWN: LAS		
PROJ. NO: 21-0103		
DWG. SEE DAYSTAMP		
DATE: JAN 26, 2024		

SHEET NUMBER

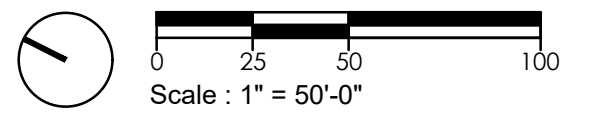
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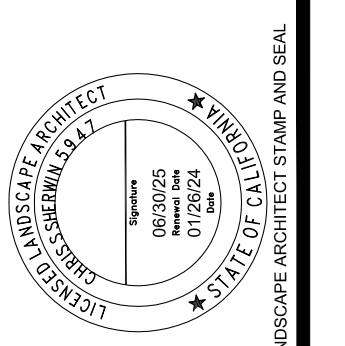
--- ACCESSIBLE PATH OF TRAVEL  
(CONNECTING SITE PROGRAM & ACCESSIBLE PARKING)

**ACCESSIBILITY NOTES**

1. ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER-FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL OF CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAX SLOPE, OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAX, AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE AND SLIP RESISTANT. GROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL AND ABOVE 27" AND LESS THAN 80". ARCHITECT OF RECORD SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.
2. SEE SITE PLAN FOR MORE INFORMATION ON PATH OF TRAVEL



NOT FOR CONSTRUCTION



**WOLF CRAFT COLLECTIVE**  
10734 WOLF ROAD  
SITE ACCESSIBILITY PLAN

REV	DESCRIPTION	DATE

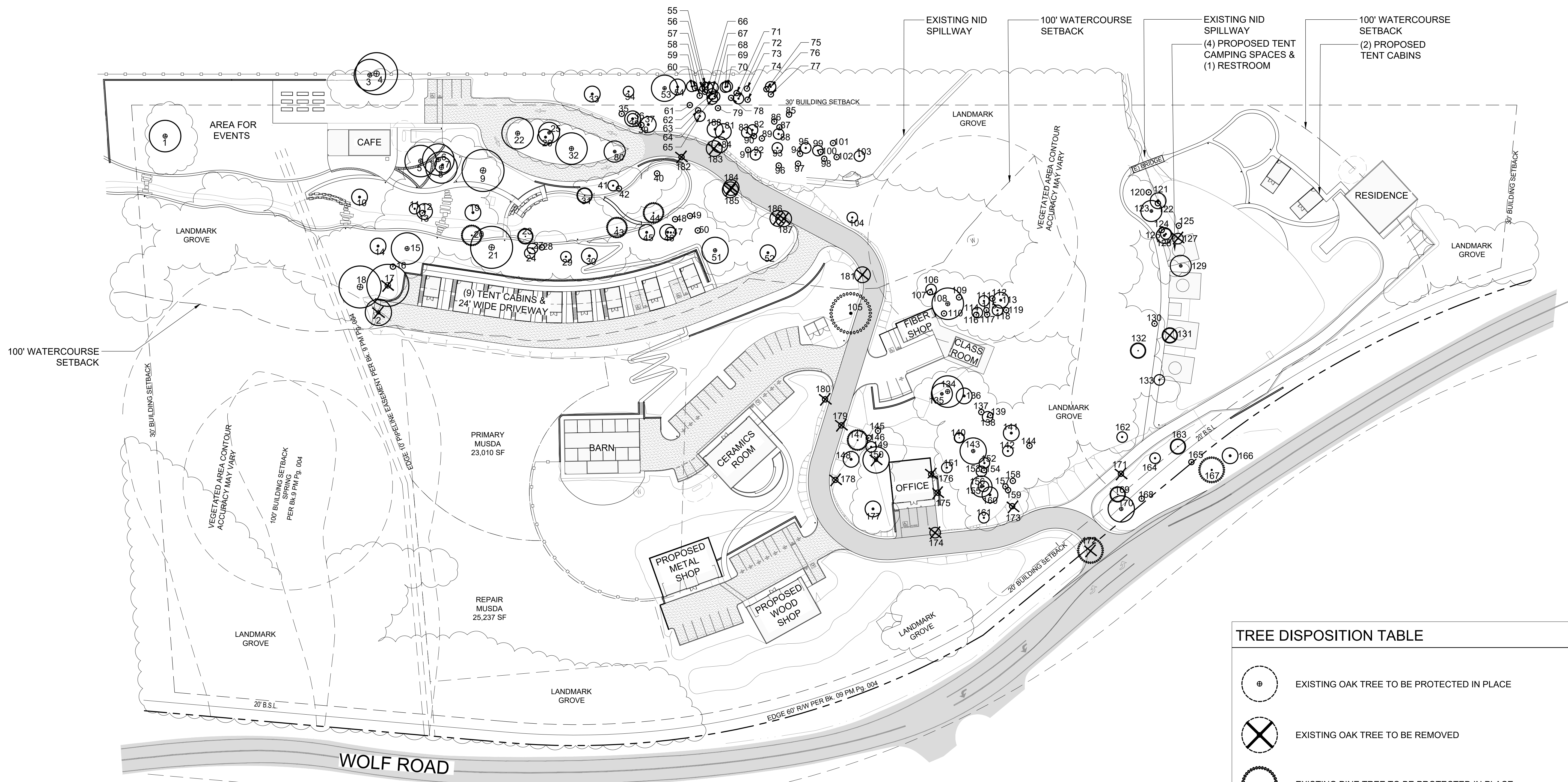
DESIGNED: LAS  
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PROJ. NO: 21-0103  
DWG. SEE DAYSTAMP  
DATE: JAN 26, 2024  
SHEET NUMBER  
**L0.01**

LANDSCAPE ARCHITECT  
STATE OF CALIFORNIA  
LANDSCAPE ARCHITECT STAMP AND SEAL

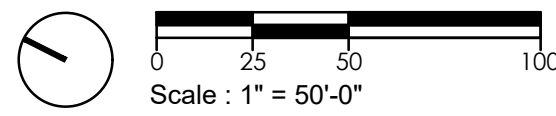
CALIFORNIA

NEVADA COUNTY



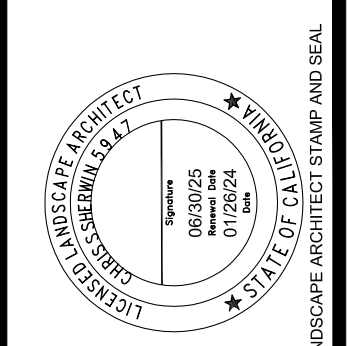


	EXISTING OAK TREE TO BE PROTECTED IN PLACE	159
	EXISTING OAK TREE TO BE REMOVED	19
	EXISTING PINE TREE TO BE PROTECTED IN PLACE	13
	EXISTING PINE TREE TO BE REMOVED	2
	TOTAL QUANTITY OF TREES TO BE REMOVED	17
	TOTAL QUANTITY OF TREES TO REMAIN	172
	TOTAL QUANTITY OF PROPOSED TREES (SEE PLANTING PLANS FOR SPECIES, BOX SIZE, AND LOCATION)	115



NOT FOR CONSTRUCTION

WOLF CRAFT COLLECTIVE  
10734 WOLF ROAD  
TREE DISPOSITION PLAN



CALIFORNIA

NEVADA COUNTY

REV	DESCRIPTION	DATE
DESIGNED: LAS		
DRAWN: LAS		
PROJ. NO: 21-0103		
DWG. SEE DAYSTAMP		
DATE: JAN 26, 2024		

SHEET NUMBER  
**L1.01**



## SITE FEATURES

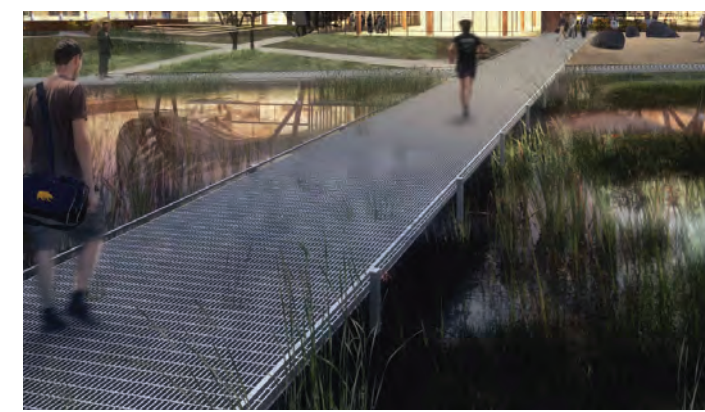
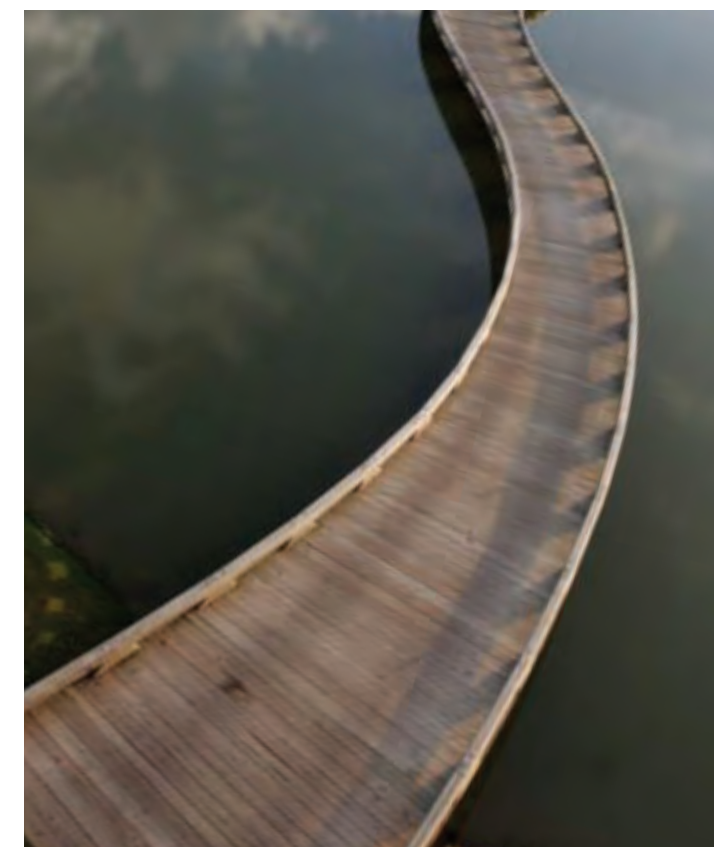
A-101 SITE BOULDERS



A-102 RAISED EDIBLE GARDEN BED



A-103 STREAM/ POND CROSSING WITH CANE DETECTION RAIL



A-104 BOULDER STREAM CROSSING



## PAVING

P-101 CONCRETE PAVING



P-102 PERMEABLE CONCRETE UNIT PAVERS



P-103 DRIVEWAY PAVING



P-104 STABILIZED DECOMPOSED GRANITE



P-105 TRUNCATED DOME PAVERS

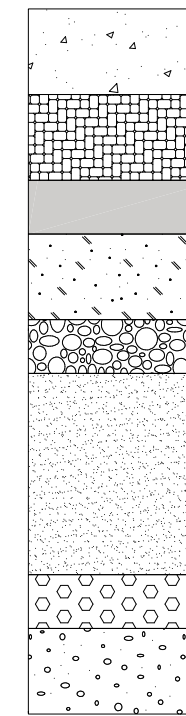
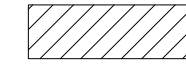


F-101 WOOD FENCE



## MATERIALS SCHEDULE

SYMBOL	DESCRIPTION	MODEL	FINISH	COLOR	MANUFACTURER	MATERIAL	REMARKS
AMENITIES							
A-101	SITE BOULDERS	SIZE VARIES: 6'-0" X 3'-0" X 2'-0"	NATURAL				SALVAGE BOULDERS FROM SITE PREPARATIONS WORK. SOURCE LOCAL SUPPLIER IF ADDITIONAL BOULDERS ARE NEEDED.
A-102	RAISED EDIBLE GARDEN BED	ALASKAN YELLOW CEDAR	SEALED	NATURAL		4X4 LUMBER	
AMENITIES							
A-103	STREAM/ POND CROSSING WITH CANE DETECTION RAIL						
A-104	BOULDER STREAM CROSSING						
A-105	MONUMENT SIGN AT ENTRANCE	-	TBD	TBD	CUSTOM	TBD	SEE SIGNAGE PACKAGE
A-106	DIRECTIONAL SIGNAGE	-	TBD	TBD	CUSTOM	TBD	SEE SIGNAGE PACKAGE
EDGING							
E-101	CONCRETE CURB	CAST-IN-PLACE CONCRETE	LIGHT BROOM	NATURAL GRAY			
E-102	METAL HEADER	DURAEDGE	PAINTED	BROWN	JD RUSSEL		1/4" THICK X 5" HIGH
FENCE							
F-101	WOOD FENCE	THERMORY	-	NATURAL	CUSTOM		FENCE HEIGHT NOT TO EXCEED 6' FROM NATURAL GRADE
PAVING							
P-101	CONCRETE PAVING	CAST-IN-PLACE CONCRETE	SEEDED AGGREGATE	INTEGRAL COLOR PALOMINO			4" THICKNESS FOR PEDESTRIAN USE.
P-102	PERMEABLE CONCRETE UNIT PAVERS	PRECAST CONCRETE	GRIND AND SHOT BLAST	CATINA BLEND	ACKERSTONE	4.5" X 9" / 9" X 9" / 9" X 13"	AQUA VIO TRIO PER CIVIL DWGS
P-103	ASPHALT DRIVEWAY PAVING	ASPHALT	-	-			PER CIVIL DWGS
P-104	STABILIZED DECOMPOSED GRANITE	DECOMPOSED GRANITE	STABILIZED	CALIFORNIA GOLD		FINES	
P-105	GRAVEL DRIVEWAY PAVING	GRAVEL	-	-			PER CIVIL DWGS
P-106	STABILIZED DECOMPOSED GRANITE (VEHICULAR)	DECOMPOSED GRANITE	WITH GRANICRETE STABILIZER ADMIXTURE	GOLD FINE 3/8" MINUS DG WITH GRANICRETE NATURAL COLOR BINDER	GRANICRETE		
P-107	TRUNCATED DOME PAVERS						
P-109	LOOSE AGGREGATE	1/2" CRUSHED AGGREGATE	-	TBD	TBD		3" LAYER
WALL							
W-101	CONCRETE BOARDFORM RETAINING WALL	C.I.P. CONCRETE	BOARD FORMED	TBD	TBD		
W-103	RECLAIMED LOG BENCH	RECLAIMED LUMBER	SMOOTH AND ROUGH SAWN	NATURAL	TBD		KILN DRIED



## FENCE/WALLS

W-101 CONCRETE BOARDFORM RETAINING WALL



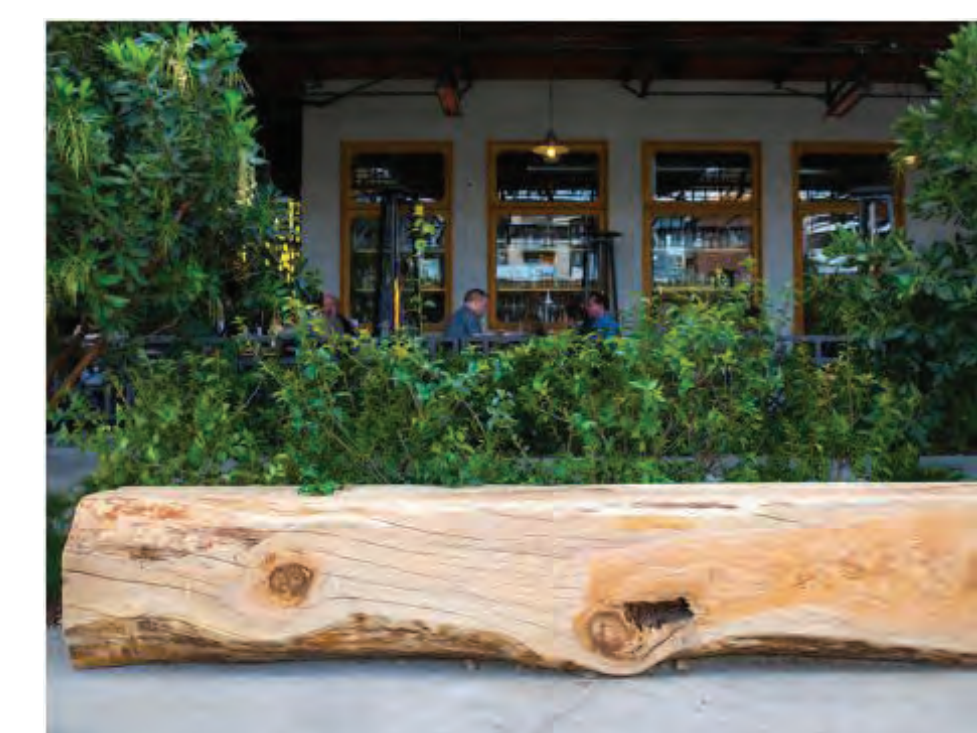
Vertical Extruded Joint (Light)

W-102 BOARD FORMED CONCRETE SEAT WALL

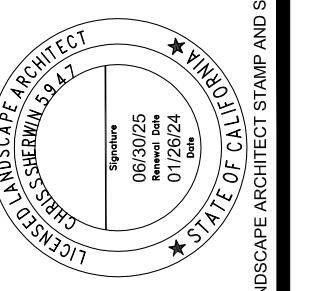


Articulated Extruded Joints

W-103 RECLAIMED LOG BENCH



NOT FOR CONSTRUCTION



WOLF CRAFT COLLECTIVE  
10734 WOLF ROAD  
MATERIALS SCHEDULE & IMAGERY

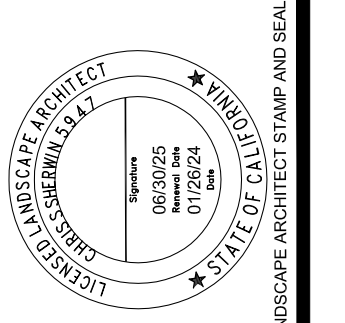
NEVADA COUNTY  
CALIFORNIA

DESIGNED: LAS	DATE
DRAWN: LAS	
PROJ. NO: 21-0103	
DWG. SEE DAYSTAMP	
DATE: JAN 26, 2024	

SHEET NUMBER

L2.00

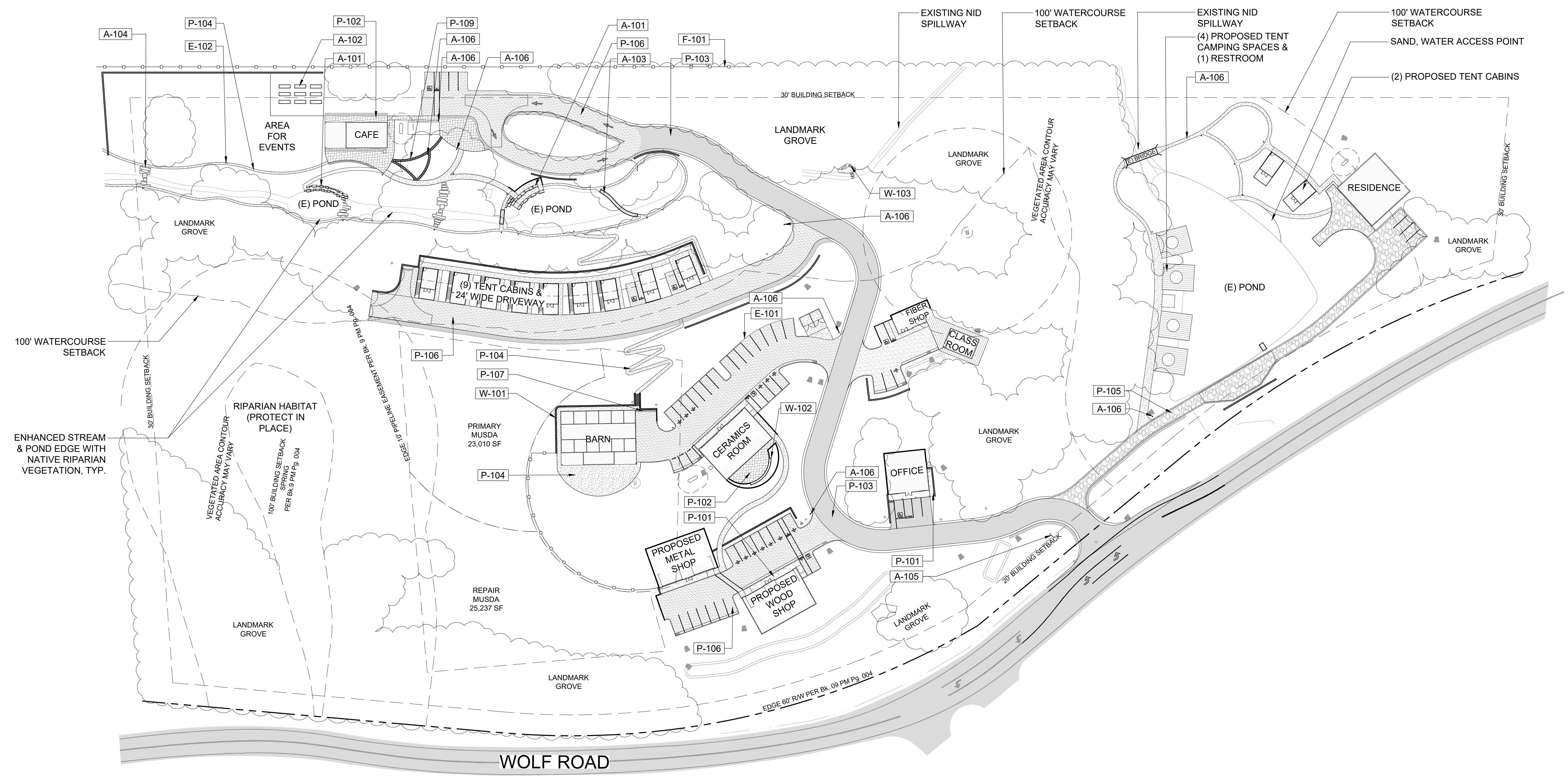
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CALIFORNIA

WOLF CRAFT COLLECTIVE  
10734 WOLF ROAD  
CONCEPTUAL MATERIALS PLAN

NEVADA COUNTY



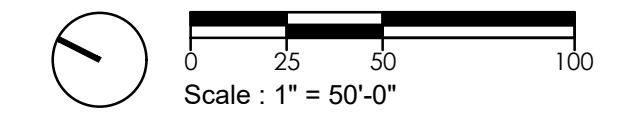
REFERENCE\_NOTES\_SCHEDULE

SYMBOL	DESCRIPTION
	AMENITIES
	DESCRIPTION
A-101	SITE BOULDERS
A-102	RAISED EDIBLE GARDEN BED
	DESCRIPTION
A-103	STREAM/ POND CROSSING WITH CANE DETECTION RAIL
A-104	BOULDER STREAM CROSSING
A-105	MONUMENT SIGN AT ENTRANCE
A-106	DIRECTIONAL SIGNAGE

SYMBOL	DESCRIPTION
E-101	CONCRETE CURB
E-102	METAL HEADER
	FENCE
	DESCRIPTION
F-101	WOOD FENCE

SYMBOL	DESCRIPTION
P-101	CONCRETE PAVING
P-102	PERMEABLE CONCRETE UNIT PAVERS
P-103	ASPHALT DRIVEWAY PAVING
P-104	STABILIZED DECOMPOSED GRANITE
P-105	GRAVEL DRIVEWAY PAVING
P-106	STABILIZED DECOMPOSED GRANITE (VEHICULAR)
P-107	TRUNCATED DOME PAVERS
P-109	LOOSE AGGREGATE

SYMBOL	DESCRIPTION
W-101	CONCRETE BOARDFORM RETAINING WALL
W-103	RECLAIMED LOG BENCH



REV	DESCRIPTION	DATE

DESIGNED: LAS  
DRAWN: LAS  
PROJ. NO: 21-0103  
DWG. SEE DAYSTAMP  
DATE: JAN 26, 2024

SHEET NUMBER  
**L2.01**

**PRELIMINARY PLANTING NOTES**

- PRELIMINARY LANDSCAPE DESIGN BASED ON THE PRELIMINARY SITE DESIGN. DURING THE CONSTRUCTION DRAWING PHASE, FURTHER COORDINATION AND DETAIL DEVELOPMENT MAY CAUSE CHANGES TO LANDSCAPE AREAS AND REQUIRE MODIFICATIONS TO THE PROPOSED DESIGN. PLANTING PLANS ARE DIAGRAMMATIC. CONTRACTOR TO VERIFY EXISTING SITE CONDITIONS, PLANT TYPES, SIZES, AND PLANT LOCATIONS AS SHOWN PRIOR TO INSTALLATION. ADVISE LANDSCAPE ARCHITECT WHERE CONFLICTS MAY BE PRESENT FOR RESOLUTION SO THE DESIGN'S INTENT IS NOT COMPROMISED.
- LANDSCAPE CONSTRUCTION, IRRIGATION, AND PLANTING PLANS SHALL CONFORM TO THE COUNTY'S LANDSCAPING ORDINANCE (LUDC SECTION L-II 4.2.7) AND STATE OF CALIFORNIA'S AB 1881. CONSTRUCTION DOCUMENTS SHALL BE SUBMITTED AFTER APPROVAL OF THE PRELIMINARY LANDSCAPE PLAN.
- TREE PROPOSED TO REPLACE MATURE SPECIMEN TREES. A TREE PROPOSED TO REPLACE AN EXISTING MATURE SPECIMEN TREE SHALL BE TRANSPLANTED FROM A MINIMUM 24-GALLON SIZE CONTAINER IN COMPLIANCE WITH THE CITY'S TREE PRESERVATION AND PROTECTION ORDINANCE.
- TREE SUPPORTS REQUIRED. ALL TREES SHALL BE ADEQUATELY SUPPORTED WHEN PLANTED. THE SUPPORTS SHALL BE MAINTAINED UNTIL THE TREES ARE CAPABLE OF WITHSTANDING THE FORCE OF WIND ON THEIR OWN.
- UTILIZATION OF NATIVE AND ADAPTIVE PLANT MATERIALS IN NEW LANDSCAPING
  - THE PROPOSED PLANTING PALETTE STRESSES NATIVE AND DROUGHT TOLERANT PLANT MATERIALS. THESE SPECIES WILL MINIMIZE THE USE OF EXTENSIVE WATER AND OTHER HIGH MAINTENANCE INTERVENTIONS. APPROPRIATE PLANTING WILL ALSO PROVIDE REPLACEMENT OF HABITAT FOR NATIVE BIRD, INSECT, AND ANIMAL POPULATIONS.
- LANDMARK OAK GROVE MANAGEMENT PLAN
  - 2:1 RATIO FOR PLANTING BLUE OAK ACORNS SHALL BE REQUIRED PER THE NEVADA COUNTY LAND USE AND DEVELOPMENT CODE FOR EACH TREE REMOVED AND BELONGING TO THE AREAS OF MAPPED LANDMARK GROVE
- PARKING LOT LANDSCAPING
  - LANDSCAPING SHALL BE EVENLY DISPERSED THROUGHOUT THE PARKING LOT AT A RATIO OF 45 SQUARE FEET OF LANDSCAPED AREA FOR EACH PROVIDED PARKING STALL.
  - EACH 45-SQUARE-FOOT UNIT OF LANDSCAPING FOR EVERY TEN PARKING STALLS SHALL INCLUDE AT LEAST FOUR TREES AND FIVE SHRUBS.
  - LANDSCAPED ISLANDS SHALL BE DESIGNED AND INSTALLED AT LEAST EVERY TEN LINEAR PARKING SPACES.
  - PARKING LOT LANDSCAPING SHALL INCLUDE SHADE TREES PLACED SO AS TO COVER 40% OF THE TOTAL PARKING AREA WITH TREE CANOPIES WITHIN 15 YEARS OF SECURING A BUILDING PERMIT
- USE OF SURFACE MULCH AND SOIL AMENDMENTS TO ENHANCE WATER RETENTION

**PRELIMINARY IRRIGATION NOTES**

- ALL PLANTING AREAS SHALL BE IRRIGATED WITH A FULLY AUTOMATED IRRIGATION SYSTEM DESIGNED DURING THE CONSTRUCTION DOCUMENTS PHASE. DRIP IRRIGATION SHALL BE USED TO THE EXTENT APPROPRIATE.
- PLANTS WITH SIMILAR WATER NEEDS SHALL BE GROUPED WITHIN HYDROZONES CONTROLLED BY SEPARATE IRRIGATION VALVES PER THE IRRIGATION PLAN DEVELOPED DURING THE CONSTRUCTION DOCUMENTS PHASE.
- ALL LOCAL MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR.
- ALL LANDSCAPED AREAS, EXCEPT THOSE APPROVED FOR MAINTENANCE WITH INTENTIONALLY UNIRRIGATED NATIVE PLANTS, SHALL INCLUDE AN AUTOMATIC IRRIGATION SYSTEM DESIGNED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING.
  - WATER-EFFICIENT SYSTEMS REQUIRED. WATER-EFFICIENT SYSTEMS (E.G., BUBBLER-TYPE, DRIP, MINI-SPRAY, OR SIMILAR SYSTEM) SHALL BE USED UNLESS INFEASIBLE. LOW-FLOW SPRINKLER HEADS WITH MATCHED PRECIPITATION RATES SHALL BE USED WHEN SPRAY OR ROTOR-TYPE HEADS ARE SPECIFIED FOR WATERING SHRUBS AND GROUND COVER LAWN OR TURF AREAS SHALL BE SIZED AND SHAPED SO THEY CAN BE EFFICIENTLY IRRIGATED. SPRAY OR RUNOFF ONTO PAVED AREAS SHALL BE AVOIDED.
  - DUAL OR MULTI-PROGRAM CONTROLLERS REQUIRED. DUAL OR MULTI-PROGRAM CONTROLLERS WITH SEPARATED VALVES AND CIRCUITS SHALL BE USED WHEN THE PROJECT CONTAINS MORE THAN ONE TYPE OF LANDSCAPE TREATMENT (GROUND COVER, LAWN OR TURF, SHRUB, TREE AREAS), OR A VARIETY OF SOLAR ASPECTS.
  - SOIL MOISTURE-SENSING DEVICES AND RAIN SENSORS SHALL BE USED ON LARGER PROJECTS (15,000 PLUS SQUARE FEET OF LANDSCAPED AREA) TO MINIMIZE OR ELIMINATE OVER-WATERING.
  - MINIMAL WIND CONFLICT AND EVAPORATION LOSS. WATERING SHALL BE SCHEDULED AT TIMES OF MINIMAL WIND CONFLICT AND EVAPORATION LOSS.
  - MATCHED PRECIPITATION RATES REQUIRED. SPRINKLER HEADS SHALL HAVE MATCHED PRECIPITATION RATES WITHIN EACH VALVE ZONE.
  - CHECK VALVES REQUIRED. CHECK VALVES ARE REQUIRED WHERE ELEVATION DIFFERENTIAL MAY CAUSE LOW HEAD DRAINAGE.

SYMBOL	CODE	BOTANICAL / COMMON NAME	CONT	WATER USE	SPACING	QTY
<b>SHRUB AREAS</b>						
		MEADOW				44,798 SF
	ESC CAL	ESCHSCHOLZIA CALIFORNICA / CALIFORNIA POPPY	5 GAL	LOW	5% @ 60" o.c.	93
	ACH MIL	ACHILLEA MILLEFOLIUM / COMMON YARROW	15 GAL	LOW	5% @ 48" o.c.	145
	ASC ERI	ASCLEPIAS ERIOCARPA / INDIAN MILKWEED	15 GAL	LOW	5% @ 60" o.c.	93
	COR GIG	COREOPSIS GIGANTEA / GIANT COREOPSIS	15 GAL	LOW	5% @ 48" o.c.	145
	HEL GRA	HELIANTHUS GRACILENTUS / SLENDER SUNFLOWER	5 GAL	LOW	5% @ 96" o.c.	37
	LAS CAL	LASTHENIA CALIFORNICA / CALIFORNIA GOLDFIELDS	5 GAL	LOW	5% @ 60" o.c.	93
	LAY PLA	LAYIA PLATYGLOSSA / TIDY TIPS	5 GAL	LOW	5% @ 96" o.c.	37
	LOT SCO	LOTUS SCOPARIUS / DEERWEED	15 GAL	LOW	5% @ 72" o.c.	65
	MIM AUR	MIMULUS AURANTIACUS / STICKY MONKEYFLOWER	1 GAL	LOW	5% @ 96" o.c.	37
	PEN PAL	PENSTEMON PALMERI / PALMER'S PENSTEMON	5 GAL	LOW	5% @ 48" o.c.	146
	PHA CI2	PHACELIA CICUTARIA / CATERPILLAR PHACELIA	5 GAL	LOW	5% @ 96" o.c.	37
	ROM COU	ROMNEYA COULTERI / MATILJA POPPY	15 GAL	LOW	5% @ 120" o.c.	23
		RIPARIAN				14,285 SF
	BAC SAL	BACCHARIS SALICIFOLIA / MULEFAT	15 GAL	LOW	5% @ 48" o.c.	46
	EPI HUM	EPILOBIUM CANUM / CALIFORNIA FUCHSIA	5 GAL	VERY LOW	10% @ 24" o.c.	370
	JUN PAT	JUNCUS PATENS / CALIFORNIA GRAY RUSH	15 GAL	LOW	10% @ 36" o.c.	165
	LEP FRA	LEPECHINIA FRAGRANS / ISLAND PITCHERSAGE	5 GAL	LOW	10% @ 48" o.c.	92
	MUH RIG	MUHLENBERGIA RIGENS / DEER GRASS	5 GAL	LOW	10% @ 48" o.c.	92
	MYR CAL	MYRICA CALIFORNICA / PACIFIC WAX MYRTLE	15 GAL	LOW	5% @ 120" o.c.	7
	SYM ALB	SYMPHORICARPOS ALBUS / COMMON WHITE SNOWBERRY	15 GAL	LOW	10% @ 72" o.c.	42
<b>GROUND COVERS</b>						
	TUR HYD	TURF HYDROSEED / DROUGHT TOLERANT FESCUE BLEND	SEED	LOW		17,898 SF

**PLANT SCHEDULE**

SYMBOL	CODE	BOTANICAL / COMMON NAME	CONT	WATER USE	SPACING	QTY
<b>TREES</b>						
	ALN RHO	ALNUS RHOMBIFOLIA / WHITE ALDER	36" BOX	MODERATE	PER PLAN	7
	ARB MEN	ARBUTUS MENZIESII / PACIFIC MADRONE	15 GAL	LOW	PER PLAN	4
	CER WES	CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK	36" BOX	LOW	PER PLAN	16
	PLA RAC	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE	60" BOX	LOW	PER PLAN	17
	QUE DOU	QUERCUS DOUGLASII / BLUE OAK	15 GAL	LOW	PER PLAN	48
	SAL LAS	SALIX LASIOLEPIS / ARROYO WILLOW	36" BOX	MODERATE	PER PLAN	20
<b>SHRUBS</b>						
	ACH ALA	ACHILLEA MILLEFOLIUM / COMMON YARROW	5 GAL	LOW	24" O.C.	35
	ADE SHZ	ADENANTHOS X 'SILVER HAZE' / SILVER HAZE WOOLLYBUSH	15 GAL	LOW	36" O.C.	6
	AGA ATT	AGAVE ATTENUATA / FOXTAIL AGAVE	5 GAL	LOW	48" O.C.	39
	BAC SAL	BACCHARIS SALICIFOLIA / MULEFAT	15 GAL	LOW	72" O.C.	37
	CAR TUM	CAREX TUMULICOLA / FOOTHILL SEDGE	5 GAL	LOW	24" O.C.	166
	CEA VAL	CEANOOTHUS MARITIMUS 'VALLEY VIOLET' / VALLEY VIOLET MARITIME CEANOOTHUS	5 GAL	LOW	36" O.C.	26
	EPI STR	EPIPACTIS GIGANTEA / STREAM ORCHID	5 GAL	LOW	12" O.C.	122
	FES MAI	FESTUCA MAIREI / ATLAS FESCUE	1 GAL	LOW	18" O.C.	154
	HET ARB	HETEROMELES ARBUTIFOLIA / TOYON	15 GAL	VERY LOW		17
	HIB DPI	HIBISCUS LASIOCARPUS OCCIDENTALIS / WOOLLY ROSE-MALLOW	15 GAL	LOW	60" O.C.	53
	JUN PAT	JUNCUS PATENS / CALIFORNIA GRAY RUSH	15 GAL	LOW	24" O.C.	187
	LIL PAR	LILIUM PARDALINUM / LEOPARD LILY	15 GAL	LOW	72" O.C.	43
	MAH SO4	MAHONIA EURYBRACTEATA 'SOFT CARESS' / SOFT CARESS MAHONIA	5 GAL	LOW	30" O.C.	19
	MUH RIG	MUHLENBERGIA RIGENS / DEER GRASS	5 GAL	LOW	48" O.C.	222
	MYR CAL	MYRICA CALIFORNICA / PACIFIC WAX MYRTLE	15 GAL	LOW	60" O.C.	10
	RHA EVE	RHAMNUS CALIFORNICA 'EVE CASE' / EVE CASE COFFEEBERRY	5 GAL	LOW	48" O.C.	104
	ROS COL	ROSMARINUS OFFICINALIS 'COLLINGWOOD INGRAM' / COLLINGWOOD INGRAM ROSEMARY	5 GAL	LOW	24" O.C.	106
	RUD CAL	RUDBECKIA CALIFORNICA / CALIFORNIA CONEFLOWER	5 GAL	LOW	12" O.C.	147
	SAL AL	SALVIA CLEVELANDII 'ALLEN CHICKERING' / ALLEN CHICKERING CLEVELAND SAGE	5 GAL	LOW	36" O.C.	224
	SAN CHA	SANTOLINA CHAMAECYPARISSUS / LAVENDER COTTON	1 GAL	LOW	12" O.C.	75
	SYM ALB	SYMPHORICARPOS ALBUS / COMMON WHITE SNOWBERRY	15 GAL	LOW	72" O.C.	21
	VER OSS	VERBENA BONARIENSIS 'CLOUD 8' / 'CLOUD 8 DWARF VERBENA	1 GAL	LOW	12" O.C.	3
	WOO FIM	WOODWARDIA FIMBRIATA / GIANT CHAIN FERN	15 GAL	LOW	48" O.C.	7

**WATER EFFICIENT LANDSCAPE WORKSHEET**

Landscape Area (LA)	
Regular	135000.00
Special	
<b>TOTAL</b>	<b>135,000.00</b>

Reference Evapotranspiration (Eto)		
Reference Site	Eto	
Grass Valley, CA	57	

Conversion Factor (to Gallons/SF)	
Factor	0.62

Evapotranspiration Adjustment Factor (ETAF)	
Factor	0.45

**Estimated Total Water Use (ETWU):**

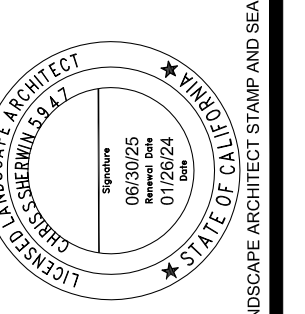
REGULAR LANDSCAPE AREAS								
Hydrozone No.	Hydrozone Description	Hydrozone Area (FT <sup>2</sup> )	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	(ETAF x Area)	Estimated Total Water Use (Gallons) (ETWU)
H-1	Very Low	20,000	0.1	Drip Area	0.75	0.13	2,666.67	94,240.00
H-101	Low	71,913	0.3	Drip Ring	0.81	0.37	26,634.44	941,261.27
H-201	Moderate	1,200	0.5	Spray	0.75	0.67	800.00	28,272.00
<b>Total Area</b>		<b>93,113</b>				<b>93113</b>	<b>30,101.11</b>	<b>1,063,773.27</b>

SPECIAL LANDSCAPE AREAS - IRRIGATED BY POTABLE WATER								
Hydrozone No.	Hydrozone Description	Hydrozone Area (FT <sup>2</sup> )	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	(ETAF x Area)	Estimated Total Water Use (ETWU)
					1	0.00	0.00	0.00
<b>Total Area</b>		<b>0</b>					<b>0.00</b>	<b>0.00</b>

ETAF Calculations	
Regular Landscape Areas	
Average ETAF	0.45
All Landscape Areas	
Sitewide ETAF	0.45

<b>ESTIMATED TOTAL WATER USE (ETWU)</b>	<b>1,063,773</b>	<b>GALLONS</b>
<b>MAXIMUM ALLOW WATER ALLOWANCE (MAWA)</b>	<b>2,146,905</b>	<b>GALLONS</b>

NOT FOR CONSTRUCTION



**WOLF CRAFT COLLECTIVE**  
 10734 WOLF ROAD  
 PLANTING SCHEDULE & NOTES  
 PRELIMINARY IRRIGATION CALCULATIONS & NOTES

NEVADA COUNTY CALIFORNIA

REV	DESCRIPTION	DATE

SHEET NUMBER

**L8.00A**

OAK WOODLAND:



**TOYON**  
*Heteromeles arbutifolia*  
Size: 6-30' t x 10-15' w  
Bloom Season: Winter, Spring  
Bloom Color: Brown, Yellow, Purple



**MATILJA POPPY**  
*Ramneya coulteri*  
Size: 6-10' t x 20' w  
Bloom Season: Spring, Summer  
Bloom Color: White, Yellow



**HEART LEAVED PENSTEMON**  
*Keckiella cordifolia*  
Size: 3-6' t x 3-6' w  
Bloom Season: Spring, Summer  
Bloom Color: Red



**MIMULUS**  
*Mimulus spp.*  
Size: 1-3' t x 1' w  
Bloom Season: Spring, Summer, Fall  
Bloom Color: Varies



**INDIAN MILKWEED**  
*Asclepias eriocarpa*  
Size: 1-3' t x 1' w  
Bloom Season: Summer  
Bloom Color: Cream, Pink, White



**SPREADING LARKSPUR**  
*Delphinium patens*  
Size: 1.5' t x 2' w  
Bloom Season: Spring, Summer  
Bloom Color: Blue, Purple



**COMMON YARROW**  
*Achillea millefolium*  
Size: 18" t x 2' w  
Bloom Season: Spring, Summer  
Bloom Color: Varies



**CALIFORNIA POPPY**  
*Eschscholzia californica*  
Size: 6-24" t x 1-2' w  
Bloom Season: All seasons  
Bloom Color: Orange, Yellow



GRASSLAND / MEADOW:



**TREE COREOPSIS**  
*Coreopsis gigantea*  
Size: 3-8' t x 2-4' w  
Bloom Season: Winter, Spring  
Bloom Color: Yellow



**DWARF SUNFLOWER**  
*Helianthus gracilentus*  
Size: 1.5-6' t x 3' w  
Bloom Season: Spring, Summer, Fall  
Bloom Color: Yellow



**Lasthenia californica**  
Dwarf Goldfields  
under 1' tall



**Layia platyglossa**  
Tidy-tips  
1-3' tall



**Phacelia cicutaria**  
Caterpillar phacelia  
1-3' tall



**BEARD TONGUE**  
*Penstemon palmeri*  
Size: 3.5' t x 2' w  
Bloom Season: Spring  
Bloom Color: Purple, Blue, Pink



**DEER WEED**  
*Lotus scoparius*  
Size: 1-3' t x 2-4' w  
Bloom Season: Winter, Spring, Summer  
Bloom Color: Yellow



**CLUSTERED TARWEED**  
*Deinandra fasciculata*  
Size: 3' t x 2' w  
Bloom Season: Spring, Summer, Fall  
Bloom Color: Yellow



RIPARIAN:



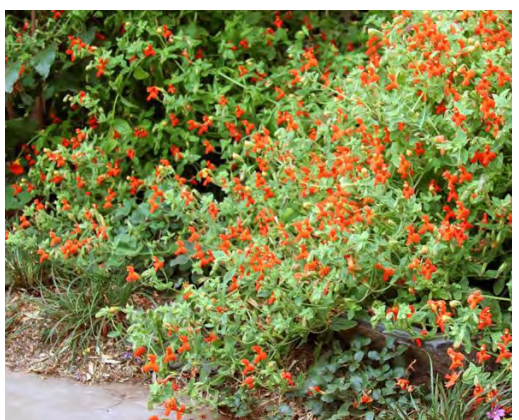
**PACIFIC WAX MYRTLE**  
*Myrica californica*  
Size: 6-33' t x 20' w  
Bloom Season: Summer  
Bloom Color: Yellow



**CALIFORNIA FUCHSIA**  
*Epilobium canum*  
Size: 3-18" t x 2-3' w  
Bloom Season: Summer, Fall  
Bloom Color: Red



**COMMON RUSH**  
*Juncus patens*  
Size: 1-3' t x 3' w  
Bloom Season: Evergreen  
Bloom Color: Red-brown



**SCARLET MONKEYFLOWER**  
*Mimulus cardinalis*  
Size: 1.5-3' t x 3' w  
Bloom Season: Spring, Summer, Fall  
Bloom Color: Red, Orange



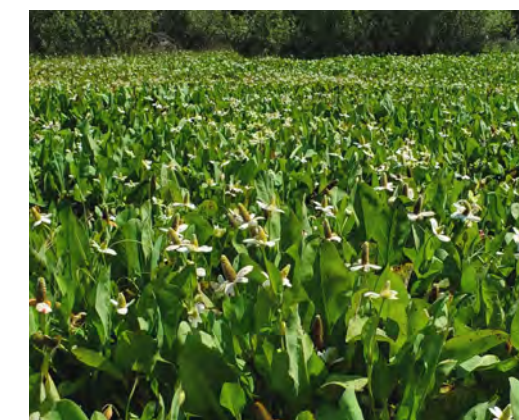
**MULE FAT**  
*Baccharis salicifolia*  
Size: 6-12' t x 3-9' w  
Bloom Season: All seasons  
Bloom Color: Pink, White, Yellow



**WHITE PITCHER SAGE**  
*Lepechinia fragrans*  
Size: 3-5' t x 3-5' w  
Bloom Season: Spring, Summer, Fall  
Bloom Color: Lavender, Purple



**COMMON SNOWBERRY**  
*Symphoricarpos albus*  
Size: 3-6' t x 3-6' w  
Bloom Season: Spring, Summer  
Bloom Color: White, Pink



**YERBA MANSA**  
*Anemopsis californica*  
Size: 1' t x 2' w  
Bloom Season: Spring, Winter  
Bloom Color: White, Cream, Red



STORMWATER TREATMENT:



**EVERGREEN HUCKLEBERRY**  
*Vaccinium ovatum*  
Size: 1.5-8' t x 1.5' w  
Bloom Season: Winter  
Bloom Color: Blue, Black, Pink



**CALIFORNIA CONE FLOWER**  
*Rudbeckia californica*  
Size: 6' t x 1' w  
Bloom Season: Summer  
Bloom Color: Green, Yellow



**CALIFORNIA POLYPODY**  
*Polypodium californicum*  
Size: 1.5' t x 3' w  
Bloom Season: Evergreen, Summer  
semi-deciduous



**TIGER LILY**  
*Lilium pardalinum*  
Size: 6-8' t x 6' w  
Bloom Season: Summer  
Bloom Color: Orange, Red, Brown



**ROSE MALLOW**  
*Hibiscus lasiocarpus var. occidentalis*  
Size: 3-6' t x 3-6' w  
Bloom Season: Summer  
Bloom Color: White



**FOOTHILL SEDGE**  
*Carex tumulicola*  
Size: 6-12" t x 2' w  
Bloom Season: Spring, Summer  
Bloom Color: Cream



**STREAM ORCHID**  
*Epipactis gigantea*  
Size: 1-2' t x 6" w  
Bloom Season: Spring, Summer  
Bloom Color: Varies



**SEASIDE DAISY**  
*Erigeron glaucus*  
Size: 6-12" x 1-2'  
Bloom Season: Spring, Summer  
Bloom Color: Lavender, Pink



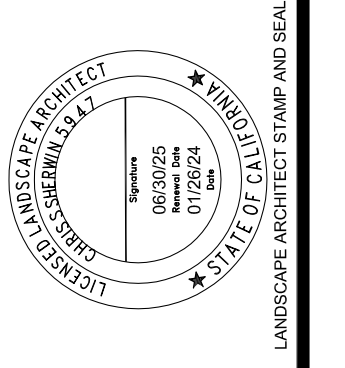
**GIANT CHAIN FERN**  
*Woodwardia fimbriata*  
Size: 4-6' t x 4-6' w  
Bloom Season: Evergreen, Summer  
semi-deciduous



**COMMON RUSH**  
*Juncus patens*  
Size: 1-3' t x 3' w  
Bloom Season: Evergreen  
Bloom Color: Red-brown



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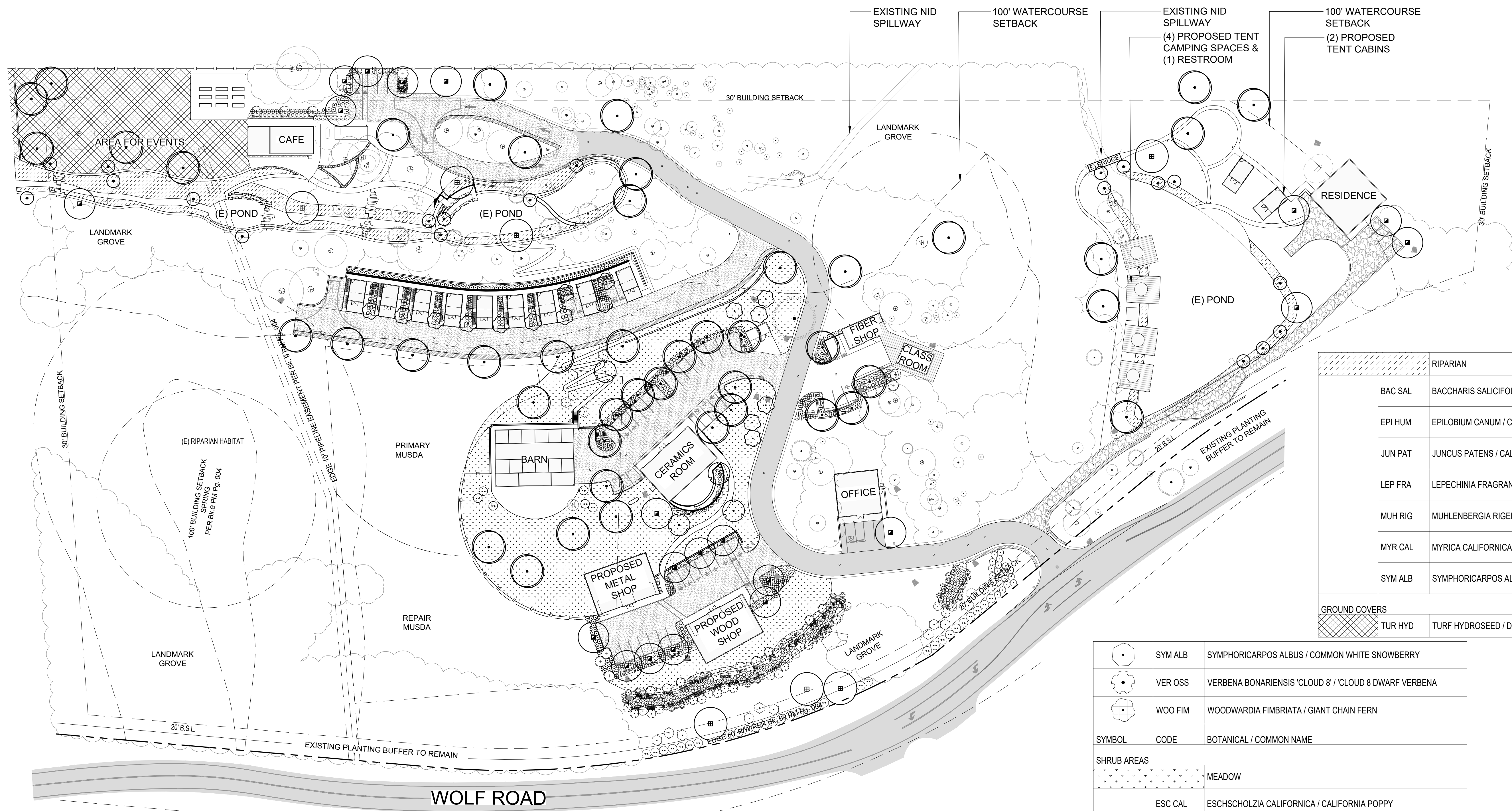
WOLF CRAFT COLLECTIVE  
10734 WOLF ROAD  
CONCEPTUAL PLANTING IMAGERY

NEVADA COUNTY  
CALIFORNIA

REV	DESCRIPTION	DATE

DESIGNED: LAS  
DRAWN: LAS  
PROJ. NO: 21-0103  
DWG. NO: DAYSTAMP  
DATE: JAN 26, 2024

SHEET NUMBER  
**L8.00B**



RIPARIAN	
BAC SAL	BACCHARIS SALICIFOLIA / MULEFAT
EPI HUM	EPILOBIUM CANUM / CALIFORNIA FUCHSIA
JUN PAT	JUNCUS PATENS / CALIFORNIA GRAY RUSH
LEP FRA	LEPECHINIA FRAGRANS / ISLAND PITCHERSAGE
MUH RIG	MUHLENBERGIA RIGENS / DEER GRASS
MYR CAL	MYRICA CALIFORNICA / PACIFIC WAX MYRTLE
SYM ALB	SYMPHORICARPOS ALBUS / COMMON WHITE SNOWBERRY
GROUND COVERS	
TUR HYD	TURF HYDROSEED / DROUGHT TOLERANT FESCUE BLEND

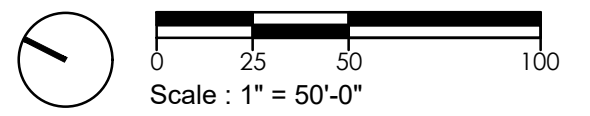
SYM ALB	SYMPHORICARPOS ALBUS / COMMON WHITE SNOWBERRY	
VER OSS	VERBENA BONARIENSIS 'CLOUD 8' / 'CLOUD 8 DWARF VERBENA	
WOO FIM	WOODWARDIA FIMBRIATA / GIANT CHAIN FERN	
SYMBOL	CODE	BOTANICAL / COMMON NAME
SHRUB AREAS		
MEADOW		
ESC CAL	ESCHSCHOLZIA CALIFORNICA / CALIFORNIA POPPY	
ACH MIL	ACHILLEA MILLEFOLIUM / COMMON YARROW	
ASC ERI	ASCLEPIAS ERIOCARPA / INDIAN MILKWEED	
COR GIG	COREOPSIS GIGANTEA / GIANT COREOPSIS	
HEL GRA	HELIANTHUS GRACILENTUS / SLENDER SUNFLOWER	
LAS CAL	LASTHENIA CALIFORNICA / CALIFORNIA GOLDFIELDS	
LAY PLA	LAYIA PLATYGLOSSA / TIDY TIPS	
LOT SCO	LOTUS SCOPARIUS / DEERWEED	
MIM AUR	MIMULUS AURANTIACUS / STICKY MONKEYFLOWER	
PEN PAL	PENSTEMON PALMERI / PALMER'S PENSTEMON	
PHA C12	PHACELIA CICUTARIA / CATERPILLAR PHACELIA	
ROM COU	ROMNEYA COULTERI / MATILUA POPPY	

**PLANT SCHEDULE**

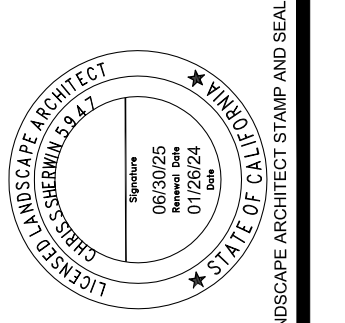
SYMBOL	CODE	BOTANICAL / COMMON NAME
TREES		
[Symbol]	ALN RHO	ALNUS RHOMBIFOLIA / WHITE ALDER
[Symbol]	ARB MEN	ARBUTUS MENZIESII / PACIFIC MADRONE
[Symbol]	CER WES	CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK
[Symbol]	PLA RAC	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE
[Symbol]	QUE DOU	QUERCUS DOUGLASII / BLUE OAK
[Symbol]	SAL LAS	SALIX LASIOLEPIS / ARROYO WILLOW

SHRUBS		
[Symbol]	ACH ALA	ACHILLEA MILLEFOLIUM / COMMON YARROW
[Symbol]	ADE SHZ	ADENANTHOS X 'SILVER HAZE' / SILVER HAZE WOOLLYBUSH
[Symbol]	AGA ATT	AGAVE ATTENUATA / FOXTAIL AGAVE
[Symbol]	BAC SAL	BACCHARIS SALICIFOLIA / MULEFAT
[Symbol]	CAR TUM	CAREX TUMULICOLA / FOOTHILL SEDGE
[Symbol]	CEA VAL	CEANOTHUS MARITIMUS 'VALLEY VIOLET' / VALLEY VIOLET MARITIME CEANOTHUS
[Symbol]	EPI STR	EPIPACTIS GIGANTEA / STREAM ORCHID
[Symbol]	FES MAI	FESTUCA MAIREI / ATLAS FESCUE
[Symbol]	HET ARB	HETEROMELES ARBUTIFOLIA / TOYON
[Symbol]	HIB DPI	HIBISCUS LASIOPARUS OCCIDENTALIS / WOOLLY ROSE-MALLOW

[Symbol]	JUN PAT	JUNCUS PATENS / CALIFORNIA GRAY RUSH
[Symbol]	LIL PAR	LILIUM PARDALINUM / LEOPARD LILY
[Symbol]	MAH SO4	MAHONIA EURYBRACTEATA 'SOFT CARESS' / SOFT CARESS MAHONIA
[Symbol]	MUH RIG	MUHLENBERGIA RIGENS / DEER GRASS
[Symbol]	MYR CAL	MYRICA CALIFORNICA / PACIFIC WAX MYRTLE
[Symbol]	RHA EVE	RHAMNUS CALIFORNICA 'EVE CASE' / EVE CASE COFFEEBERRY
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[Symbol]	RUD CAL	RUDBECKIA CALIFORNICA / CALIFORNIA CONEFLOWER
[Symbol]	SAL AL	SALVIA CLEVELANDII 'ALLEN CHICKERING' / ALLEN CHICKERING CLEVELAND SAGE
[Symbol]	SAN CHA	SANTOLINA CHAMAECYPARISSUS / LAVENDER COTTON



NOT FOR CONSTRUCTION



**WOLF CRAFT COLLECTIVE**  
 10734 WOLF ROAD  
 CONCEPTUAL PLANTING PLAN

NEVADA COUNTY

DESIGNED: LAS	DATE
DRAWN: LAS	
PROJ. NO: 21-0103	
DWG. SEE DAYSTAMP	
DATE: JAN 26, 2024	

SHEET NUMBER  
**L8.01**

# **Appendix D – Photometric Plan**



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ENGINEER: CHRIS SLATER

PROJECT:

WOLF CRAFT  
COLLECTIVE

10734 WOLF ROAD,  
GRASS VALLEY, CA  
95949

REVISIONS BY

PROJECT NO. NUMBER

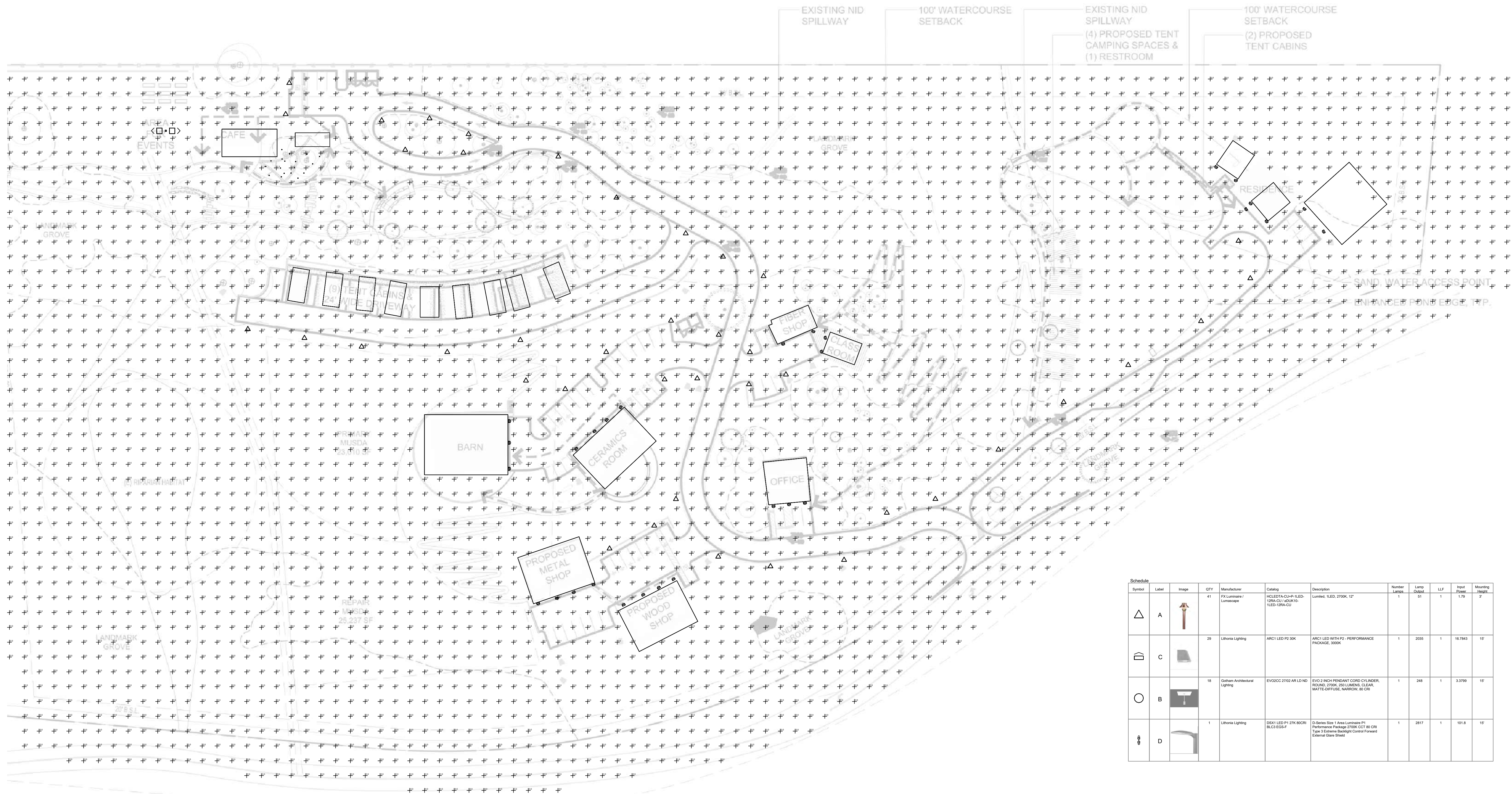
ISSUED: DATE

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CHRIS SLATER CONSULTING

SHEET TITLE:

PHOTOMETRICS

SCALE AS NOTED



Symbol	Label	Image	QTY	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Foot Candles	Mounting Height
△	A		41	FX Luminaire / Lunescence	HOLEP-A-CAP-PL-LED-12R-0-0-1-0-0-0-1-LED-12R-0-0-1-0-0-0-1	Luminaire, 1LED, 2700K, 12"	1	61	1	1.78	3'
□	C		29	Lithonia Lighting	ARC1 LED P2 30K	ARC1 LED WITH P2 PERFORMANCE PACKAGE, 3000K	1	2050	1	16.7843	15'
○	B		18	Gotham Architectural Lighting	EVO02C 2700 AR L0 ND	EVO 2 INCH PENDANT CORD CYLINDER, ROUND, 2700K, 260 LUMENS, CLEAR, WHITE, SHIP LITE, WASHDOWN, 80 CRI	1	248	1	3.3759	10'
⊖	D		1	Lithonia Lighting	DDX1 LED P1 27K B0CR BLC E85LF	D-Series Size 1 Area Luminaire P1 Performance Package 2700K CCT 80 CRI Type 3 Extreme Backlight Control Forward Control Glass Shield	1	2817	1	101.8	15'

# **Appendix E – Biological Resources Assessment and Aquatic and Oak Resources Management Plans**



10734 Wolf Road (APN: 57-030-11)

*Updated Biological Resources Assessment  
and Aquatic and Oak Resources  
Management Plans*



*Prepared for:*  
Leslie Barbazette (Applicant)  
1200 Stannage Ave  
Berkeley, CA 94706  
Email: [lesliebarbazette@gmail.com](mailto:lesliebarbazette@gmail.com)  
Phone: (510) 681-1034

*Prepared by:*  
Greg Matuzak, Principal Biologist  
Greg Matuzak Environmental Consulting LLC  
P.O. Box 2016  
Nevada City, CA 95959  
Email: [gmatuzak@gmail.com](mailto:gmatuzak@gmail.com)

January 2024

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1.0 Introduction .....	1.0
2.0 Regulatory Overview and Definitions .....	2.0
3.0 Methods.....	3.0
4.0 Results.....	4.0
5.0 Conclusion.....	5.0

Aquatic Resources Management Plan

## Appendices

- Appendix A Parcel Report Vicinity and Site Plan
- Appendix B Plants and Wildlife Observed During Site Surveys
- Appendix C USDA Soil Mapping Units for Project Area
- Appendix D National Wetland Inventory (NWI) Map
- Appendix E Photo Log
- Appendix F USFWS IPaC Species List

## Other Attachments:

Aquatic Resources Management Plan

Oak Resources Management Plan

## 1.0 INTRODUCTION

Greg Matuzak, a biologist on the Nevada County Planning Department's Biological Resources Consultants List and a California Department of Fish and Wildlife (CDFW) qualified biologist, conducted a reconnaissance-level biological resources survey and required background research related to potential sensitive biological resources as part of the proposed 10734 Wolf Road Development Project (Project) in order to develop the initial Biological Resources Assessment Report (BRA) dated January 2023. Based on feedback from the Nevada County Planning Department and the development of an updated Site Plan and an updated Landscape Plan (accessibility and planting areas within the subject parcel), this Updated BRA has been developed (see that attached Parcel Report and updated Site Plan and Landscape Plans for the subject parcel and proposed Project attached in Appendix A).

No previous Biological Inventory or other BRA reporting covering the Project area is known to exist, so this Updated BRA has been developed based on background research, including database searches for biological resources and the review of comments on the initial BRA from the Nevada County Planning Department. Additionally, other BRA reports developed within the greater Project area were reviewed to identify any sensitive biological resources within the Project area. This includes an assessment of special-status plants or wildlife species and any sensitive habitats such as wetlands, riparian habitat, stream zones, and protected oak resources within the Project area. Database searches were conducted for sensitive biological resources and the results have been mapped in Appendix C, Appendix D, and Appendix F attached. In addition, potential CDFW, United States Fish and Wildlife Service (USFWS), and United States Army Corps of Engineers (Corps) jurisdiction within the Project area was assessed.

The Project area is located in an unincorporated area of Nevada County south of Grass Valley, California. The Project area is located at 10734 Wolf Road, Grass Valley, CA 95949 (see Appendix A for the Parcel Report and Site Plan). The parcel is identified as APN 57-030-11 and the Project area is 15.77 acres in size. The Project area is located at approximately 1,400 feet above Mean Sea Level (MSL). The Project area ranges between 1,350 feet above MSL in the western section of the Project area along Wolf Road and 1,490 feet above MSL in the eastern section of the Project area. Therefore, general drainage within the Project area is from east to west and north to south within the subject parcel.

The subject parcel includes a Nevada Irrigation District (NID) canal that terminates at a small pond within the subject parcel. The existing NID canal and small pond leakage have created some marginal wet areas immediately downslope of the NID canal. However, based on close observations of the plants, hydrology, and

soils within those areas of the subject parcel, the wet areas would not meet the definition of a regulated wetland and therefore, would not be regulated by the Clean Water Act (CWA) or by California Department of Fish and Wildlife (CDFW).

The mapped riparian area and drainage within the northern section of the subject parcel would most likely be regulated by CDFW and appears to be fed by an existing spring within the mapped area (see attached Site Plan in Appendix A for the location and size of the riparian and drainage area in addition to the mapped spring located within the drainage area). However, the mapped area will be avoided by the proposed disturbance within the subject parcel (see updated Site Plan and Landscape Plans with the riparian area mapped within Appendix A).

This Updated BRA examined the original delineation of the riparian area and drainage and determined that it included upland areas along the northern and southern side of the drainage and did not show the connection of the drainage all the way to Wolf Road to the west. In Appendix D, the National Wetland Inventory (NWI) identifies the drainage area that has been mapped as the riparian zone within the Site Plan attached in Appendix A. Therefore, it was updated to accurately reflect the drainage area with associated riparian habitat that will be avoided by the proposed Project. Given the spring and riparian area are considered perennial aquatic resources, the required non-disturbance buffer from both the riparian drainage and existing spring would be 100 feet per the Nevada County Land Use and Development Code.

There is also a small drainage ditch and small culvert along the access road that heads to the eastern section of the subject parcel. The small drainage was dry during the site visit and field survey during February 2022. The small drainage has been developed due to runoff along the access road towards the southwestern section of the subject parcel after precipitation events and therefore, it has been culverted to allow the access road to cross it.

The purpose of this Updated BRA is to identify the location and extent of sensitive biological resources within the Project area, including special- status plant and wildlife species, and the presence of drainage and wetland features that could potentially meet the Corps' criteria as a "waters of the United States," pursuant to Section 404 of the Clean Water Act (CWA), and streams that could be under the jurisdiction of the California Fish and Wildlife Code Section 1600 *et. seq.* This Updated BRA also satisfies the Nevada County General Plan and Land Use and Development Code requirements for any parcel(s) subject to land use changes.

Per the Nevada County Land Use and Development Code, Chapter II; Zoning Regulations, Section L-II 4.3 17C.3 (Ordinance Number 2033) requires a Management Plan be prepared for projects in non-disturbance buffers, including areas that are within 100 feet of the high water mark of perennial streams, watercourses, and wetlands, 50 feet from the high water mark of intermittent watercourses, and 100 feet upslope or 20 feet downslope from an NID canal (Nevada County 2000. Land Use and

Development Code, Chapter II: Zoning Regulations. Effective July 27, 2000). Therefore, the development of such an Aquatic Resources Management Plan is required for the proposed disturbance adjacent to the existing pond within the southern section of the subject parcel with the intention for the bridge footings to be on the pond's edge but not in the pond itself and therefore, not directly impacting the pond but being located within the non-disturbance buffer of the pond.

Additional impacts to protected aquatic resources include disturbance adjacent to the NID canal and proposed disturbance within and adjacent to the drainage ditch with an existing culvert crossing located along the access road from Wolf Road into the eastern section of the subject parcel. The proposed stream crossings have been minimized using boulders to reduce impacts to the sensitive riparian zone of each drainage crossing. See the attached Site Plan and Landscape Plans that identify the locations of each of the mapped aquatic resources within the subject parcel and their non-disturbance buffers per the Nevada County Land Use and Development Code (see Appendix A).

The mapped area containing a drainage and spring within riparian habitat is located within the northern section of the subject parcel (see the Site Plan attached in Appendix A). Proposed disturbance will be located within the required 100-foot non-disturbance buffer for the mapped riparian habitat in the northern section of the subject parcel. This includes the driveway for the tent cabins and the primary and repair MUSDA areas, which will all be maintained a minimum of 85 feet away from the southern edge of the mapped riparian area. None of the proposed disturbance will be located within the 100-foot non-disturbance buffer to the mapped spring within the riparian area. Furthermore, the topography lends itself to the proposed disturbance within the non-disturbance buffer to the mapped riparian area given the area to the south of the riparian area contains a hill that creates protection of the riparian area from the development of the tent cabin driveway and MUSDA areas such that any potential runoff during construction or operation of either would flow towards the south and away from the riparian area.

The Aquatic Resources Management Plan is attached to this Biological Resources Assessment and meets the requirements of the Nevada County Land Use and Development Code. Appendix A includes a Landscape Planting Plan showing the areas and plants to be planted to more than offset any impacts to aquatic and upland species within the subject parcel. The planting is listed within the Aquatic Resources Management Plan as a beneficial mitigation for potential impacts within the non-disturbance buffers within the subject parcel. Additionally, the intention is for the bridge footings to be located on the pond's edge but not within the pond itself within the southern section of the subject parcel. And the proposed stream crossings have been minimized with the placement of boulders along the edges of the drainages to reduce any potential impact to the riparian zone adjacent to those drainages.

Per the Nevada County Land Use and Development Code, Chapter II; Zoning Regulations, Section L-II 4.3.18 for Trees, landmark trees are defined as any native oak tree species (*Quercus* species) with a trunk diameter of 36" or greater at diameter breast height (dbh or 4'6"). Additionally, the Nevada County Land Use and Development Code identifies landmark groves as hardwood tree groves with 33+% canopy closure, or groves whose size, visual impact, or association with a historically significant structure or event has caused it to be marked for preservation by the county, state, or federal government. The subject parcel includes mapped areas that would meet the definition of landmark grove and therefore, any direct impacts to any trees pertaining to a landmark grove would require compensatory mitigation (see the mapped landmark grove highlighted in green within the subject parcel as part of the Site Plan attached in Appendix A).

Additionally, any grading or disturbance within the dripline of any trees pertaining to a landmark grove would also require compensatory mitigation. Any required compensatory mitigation for potential impacts to protected oak resources (landmark oak trees and/or landmark groves) would require the development of an Oak Resources Management Plan. Therefore, given the proposed removal of several native oak trees that are part of a mapped landmark grove, development of such an Oak Resources Management Plan is required for the proposed disturbance within the mapped landmark grove areas mapped within the subject parcel (see Appendix A for the Site Plan and Landscape Plans showing the mapped landmark groves and areas of proposed development that encroach into such mapped groves).

## 2.0 REGULATORY OVERVIEW AND DEFINITIONS

### Federal Regulations

#### Section 404 of the Clean Water Act

The U.S. Army Corps of Engineers ("Corps") and the Environmental Protection Agency ("EPA") regulate the discharge of dredge or fill material into "waters of the U.S." under Section 404 of the Clean Water Act. "Waters of the U.S." include wetlands and lakes, rivers, streams, and their tributaries. Wetlands are defined for regulatory purposes as areas "...inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated solid conditions" as specified in 33 Code of Federal Regulations [CFR] 328.3, 40 CFR 230.3.

Generally, wetlands include swamps, marshes, bogs, and similar areas. Lakes, rivers, and streams are defined as "other waters of the U.S." Jurisdictional limits of these features are typically noted by the Ordinary High Water Mark ("OHWM"). The OHWM is the line on the shore established by the fluctuations of water and indicated by physical characteristics such as mark a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CFR 328 and 33 CFR 329).

Isolated ponds or seasonal depressions had been previously regulated as waters of the U.S. However, in *Solid Waste Agency of Northwestern Cook County (SWANCC) v. USACE et al.* (January 8, 2001), the U.S. Supreme Court ruled that certain "isolated" wetlands (e.g., non-navigable, isolated, and intrastate) do not fall under the jurisdiction of the CWA and are no longer under the jurisdiction of the Corps. Some circuit courts (e.g., *U.S. v. Deaton*, 2003; *U.S. Rapanos*, 2003; *Northern California River Watch v. City of Healdsburg*, 2006), though, have ruled that SWANCC does not prevent CWA jurisdiction if a "significant nexus" such as a hydrologic connection exists, whether it be man-made (e.g., roadside ditch) or natural tributary to navigable waters, or direct seepage from the wetland to the navigable water, a surface or underground hydraulic connection, an ecological connection (e.g., the same bird, mammal, and fish populations are supported by both the wetland and the navigable water), and changes to chemical concentrations in the navigable water is present due to water from the wetland.

Areas considered to be non-jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions with no outlet for drainage (33 CFR, Part 328).

The *Clean Water Rule* is a 2015 regulation published by the EPA and Corps to clarify water resources management in the United States under a provision of the CWA. The regulation defined the scope of federal water protection in a more consistent manner, particularly over streams and wetlands, which have a significant hydrological and ecological connection to traditional navigable waters, interstate waters, and territorial seas. It is also referred to as the *Waters of the United States* rule, which defines all bodies of water that fall under U.S. federal jurisdiction. The rule has been contested in litigation and in 2017 the Trump administration announced its intent to review and rescind or revise the rule. Following a Supreme Court ruling on January 22, 2018 that lifted a nationwide stay on the rule, the Trump administration formally suspended the rule until February 6, 2020, thereby giving the EPA time to issue a draft proposal of replacement water regulatory requirements.

On October 22, 2019, the EPA and the Corps published a final rule to repeal the 2015 Clean Water Rule: Definition of "Waters of the United States" ("2015 Rule"), which amended portions of the Code of Federal Regulations (CFR), and to restore the regulatory text that existed prior to the 2015 Rule. The final rule will become effective on December 23, 2019. The EPA and the Corps will implement the pre-2015 Rule regulations informed by applicable agency guidance documents and consistent with Supreme Court decisions and longstanding agency practice.

However, on April 21, 2020, the EPA and the Corps published the Navigable Waters Protection Rule to define "Waters of the United States" in the *Federal Register*. For the first time, the agencies have streamlined the definition so that it includes four simple categories of jurisdictional waters, provides clear exclusions for many water features that traditionally have not been regulated, and defines terms in the regulatory text that have never been defined before. Congress, in the CWA, explicitly directed the Agencies to protect "navigable waters." The Navigable Waters Protection Rule regulates traditional navigable waters and the core tributary systems that provide perennial or intermittent flow into them.

Under the final rule, four clear categories of waters are federally regulated:

- The territorial seas and traditional navigable waters,
- Perennial and intermittent tributaries to those waters,
- Certain lakes, ponds, and impoundments, and
- Wetlands adjacent to jurisdictional waters

Therefore, as of June 22, 2020, the final rule details 12 categories of exclusions, features that are not "waters of the United States," such as features that only contain water in direct response to rainfall (e.g., ephemeral features); groundwater; many ditches; prior converted cropland; and waste treatment systems. The final rule clarifies key elements related to the scope of federal CWA jurisdiction, including:



- Providing clarity and consistency by removing the proposed separate categories for jurisdictional ditches and impoundments.
- Refining the proposed definition of “typical year,” which provides important regional and temporal flexibility and ensures jurisdiction is being accurately determined in times that are not too wet and not too dry.
- Defining “adjacent wetlands” as wetlands that are meaningfully connected to other jurisdictional waters, for example, by directly abutting or having regular surface water communication with jurisdictional waters.

The Navigable Waters Protection Rule is the second step in a two-step process to review and revise the definition of “waters of the United States” consistent with the February 2017 Presidential Executive Order entitled “Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the ‘Waters of the United States.’” This final rule became effective on June 22, 2020 and will replace the Step One Rule published in October, 2019 as outlined above.

However, the 2023 Updated Water of the United States (WOTUS) Rule reversed the 2020 ruling such that only perennial aquatic resources with documented connections to navigable waterways are currently regulated under the CWA. Therefore, the Project area does not contain any “waters of the U.S.” including wetlands, given the lack of perennial streams or drainages with a direct connection to a navigable waterway. Therefore, the Project area does not include any waters subject to regulation under the CWA.

#### Section 401 of the Clean Water Act

CWA Section 401 compliance is required for any project requiring a federal action (i.e. Corps permit or federal funding) with construction that could have an impact to surface water quality. Project proponents must obtain a permit from the local Regional Water Quality Control Board for all discharges of fill material into waters of the U.S., including wetlands, before proceeding with a proposed action. The proposed Project does not include the placement of fill or dredge within any “waters of the U.S.” including wetlands. Therefore, the development of the proposed Project would not be subject to additional reporting and permitting as required for compliance with the CWA.

#### Endangered Species Act of 1973

For the Project area, consultation with the USFWS would be necessary if a proposed action may affect suitable habitat for a federally listed species. This consultation would proceed under Section 7 of the Endangered Species Act (ESA) if a federal action is part of the proposed action or through Section 10 of the ESA if no such nexus were available (USFWS, 1973). There are no federally protected species listed under the ESA within 3 miles of the Project area (CDFW 2022).

## Migratory Bird Treaty Act of 1918 and Bald and Golden Eagle Protection Act

The Migratory Bird Treaty Act (MBTA) (16 USC Section 703-711) and the Bald and Golden Eagle Protection Act (BAGEPA) (16 USC Section 668) protect certain species of birds from direct “take” (i.e. harm or harassment as described above). The MBTA protects migrant bird species from take through setting hunting limits and seasons and protecting occupied nests and eggs (USFWS, 1918). BAGEPA prohibits the take or commerce of any part of the bald or golden eagles (USFWS, 1940). The USFWS administers both Acts and reviews actions that may affect species protected under each Act.

## State Regulations

### California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) has jurisdiction over plant and wildlife species listed as threatened or endangered under section 2080 of the CDFW Code. The California Endangered Species Act (CESA) prohibits take of state-listed threatened and endangered species. The state Act differs from the federal Act in that it does not include habitat destruction in its definition of *take*. The CDFW defines *take* as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The CDFW may authorize *take* under the CESA through Sections 2081 agreements. If the results of a biological survey indicate that a state-listed species would be affected by the project, the CDFW would issue an Agreement under Section 2081 of the CDFW Code and would establish a Memorandum of Understanding for the protection of state-listed species.

CDFW maintains lists for Candidate-Endangered Species and Candidate-Threatened Species. The California black rail (*Laterallus jamaicensis coturniculus*) is listed as Threatened under CESA. Only the California black rail has been previously identified within 3 miles of the Project area. No other candidate species or CESA protected species have been documented within 3 miles of the Project area (CDFW 2022).

### Streambed Alteration Agreements: CDFG Code Section 1600 et seq.

CDFW has jurisdictional authority over wetland resources associated with rivers, streams, and lakes under Sections 1600–1616. CDFW has the authority to regulate all work under the jurisdiction of the State of California that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed.

In practice, CDFW marks its jurisdictional limit at the top of the stream or lake bank, or the outer edge of the riparian vegetation (where present) and extends its jurisdiction to the edge of the 100-year floodplain.

Porter-Cologne Water Quality Control Act & Section 1601 – Section 1607 of CDFG Code

These acts and codes pertain to projects with potential impacts to water quality or waterways. The Project area contains potential waters of the State as defined by the State Water Resources Board (State Board 2014); however, the Project area would not be subject to a report of waste discharge requirement given the drainage and wetland areas will not be included as part of any future development plans within the subject parcel.

California Department of Fish and Game Code Sections 3503, 3503.5, and 3800: Nesting Migratory Bird and Raptors

Sections 3503, 3503.5, and 3800 of the CDFG Code prohibit the take, possession, or destruction of birds, their nests or eggs. Implementation of the take provisions requires that project-related disturbance within active nesting territories be reduced or eliminated during critical phases of the nesting cycle (approximately March 1 – August 31). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g. killing or abandonment of eggs or young), or the loss of habitat upon which birds are dependent, is considered "taking", and is potentially punishable by fines and/or imprisonment (LCC 2013). Such *taking* would also violate federal law protecting migratory birds (e.g. MBTA above).

California Special Species of Concern, Fully Protected, and Special Status Species

California designates Species of Special Concern (SSC) as species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational or educational values. These species do not have the same legal protection as listed species but may be added to official lists in the future (CDFW 2014). In the 1960's California created a designation to provide additional protection to rare species. This designation remains today and is referred to as "Fully Protected" species, and those listed "may not be taken or possessed at any time" (CDFW 2014). The California black rail (*Laterallus jamaicensis coturniculus*) for instance has been previously documented within Nevada County. The California black rail has been identified within 3 miles of the Project area, but the Project area does not contain suitable habitat for this species. This species is designated as Fully Protected by the State of California.

California special-status species are identified by the California Natural Diversity Database (CNDDDB) and includes those species considered to be of greatest conservation need by the CDFW.

## California Environmental Quality Act Guidelines Section 15380

California Environmental Quality Act (CEQA) Guidelines section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specific criteria. This section was included in the guidelines to deal primarily with situations in which a public agency is reviewing a project that may have a significant effect on, for example a "candidate species" that has not yet been listed by the USFWS or CDFW. CEQA, therefore, enables an agency to protect a species from significant project impacts until the respective government agencies have had an opportunity to list the species as protected, if warranted (CNRA 2012).

Plants appearing on the California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) are considered to meet CEQA's Section 15380 criteria. Ranks include: 1A) plants presumed extirpated in California and either rare or extinct elsewhere, 1B) plant rare, threatened, or endangered in California and elsewhere, 2A) plants presumed extirpated in California, but more common elsewhere, and 2B) plants rare, threatened, or endangered in California, but more common elsewhere. Impacts to these species would therefore be considered "significant" requiring mitigation.

## State Oak Woodland Regulations

State laws that regulate protection of oak woodlands include Professional Forester's Law (PFL) and CEQA according to Public Resources Code Section 21083.4. Oak woodlands are defined as areas having 10% oak canopy cover or greater. "Oaks" are defined in Public Resources Code Section 21083.4 as a native tree species in the genus *Quercus*, that is 5 inches diameter at breast height (DBH) or greater. The Oak Woodlands Conservation Act (SB 1334) provides funding for the conservation and protection of oak woodlands in California. Oak woodland habitats are protected under both the State and the Nevada County General Plan.

## Local Regulations

### Nevada County General Plan

The Project site land use changes and any subsequent development would be required to comply with those goals and policies outlined in the Nevada County General Plan and thus are included here.

The following goals and policies regarding relevant biological resources are set forth in Chapter 13: Wildlife and Vegetation of the Nevada County General Plan.

Goal 13.1 Identify and manage significant areas to achieve sustainable habitat.

Objective 13.1 Discourage intrusion and encroachment by incompatible land uses in significant and sensitive habitats.

Policy 13.1 Where significant environmental features, as defined in Policy 1.17, are identified during review of projects, the County shall require all portions of the project site that contain or influence said areas to be retained as non-disturbance open space through clustered development on suitable portions of the project site, or other means where mandatory clustering cannot be achieved. The intent and emphasis of such open space designation and non-disturbance is to promote continued viability of contiguous or inter-dependent habitats by avoiding fragmentation of existing habitat areas and preserving movement corridors between related habitats. Vegetation management for the benefit of habitat preservation or restoration shall be considered consistent with the intent of this policy.

Policy 13.2 As part of the Comprehensive Site Development Standards, include standards to minimize removal of existing vegetation and require installation and long-term maintenance of landscaping in Chapter 13: Wildlife and Vegetation Element Nevada County General Plan Volume I - Page 13-5 setbacks and buffer areas. These standards shall be applicable to all discretionary projects and to all ministerial projects other than a single-family residence located on an individual lot. Tree removal may be allowed where necessary to comply with public right-of-way development or dedication, or development of required site access and public utilities. Individual trees or groups of trees shall be protected during construction to prevent damage to the trees and their root systems. Vegetation in proximity to structures shall conform to applicable fire protection standards.

Policy 13.2A Project review standards shall include a requirement to conduct a site-specific biological inventory to determine the presence of special status species or habitat for such species that may be affected by a proposed project. The results of the biological inventory shall be used as the basis for establishing land use siting and design tools required to achieve the objective of no net loss of habitat function or value for special status species. Where a Habitat Management Plan is deemed appropriate, the Plan shall be prepared to comply with the requirements of the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). The plan shall provide the background data, impact analysis, and mitigation

programs necessary to obtain a FESA Section 10(a) and CESA Section 2081 permit authorizing incidental take of federal and state listed threatened and endangered species that occur in areas proposed for future development. Prior to implementation of an adopted Habitat Management Plan, project applicants proposing the development of a project that would impact a federal or state listed species, or a species that is proposed for listing, shall be individually responsible for obtaining federal and state incidental take permits on a project-by-project basis.

Policy 13.3 As part of the Comprehensive Site Development Standards, require the maximum feasible use of drought tolerant native plant species for landscaping of all new multi-family residential, commercial, industrial, and public projects. Invasive, non-native plants, as determined by a landscape architect or other similar expert, that may displace native vegetation on adjoining undeveloped lands shall not be used. Landscaping with native trees and shrubs shall be encouraged to provide suitable habitat for native wildlife, particularly in proposed open space uses of future development.

Policy 13.4 Encourage long-term sustainability and maintenance of landscaped areas.

Policy 13.4A No net loss of habitat functions or values shall be caused by development where rare and endangered species and wetlands of over 1 acre, in aggregate, are identified during the review of proposed projects. No net loss shall be achieved through avoidance of the resource, or through creation or restoration of habitat of superior or comparable quality, in accordance with guidelines of the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

Policy 13.4B Habitat that is required to be protected, restored, or created as mitigation for a project's impacts shall be monitored and maintained in accord with a County-approved Habitat Management Plan.

Objective 13.2 Minimize impacts to corridors to ensure movement of wildlife.

Objective 13.3 Provide for the integrity and continuity of wildlife environments.

Objective 13.5 Support, where feasible, the continued diversity and sustain ability of the habitat resource through restoration and protection.

Objective 13.7 Identify and preserve heritage and landmark trees and groves where appropriate.

Policy 13.9 Development in the vicinity of significant oak groves of all oak species shall be designed and sited to maximize the long-term preservation of the trees and the integrity of their natural setting. The County shall adopt a regulation to protect native heritage oak trees and significant oak groves. All native oak tree species with a trunk diameter of 36" or greater shall be protected.

## Nevada County Stream and Wetland Non-Disturbance Buffer Regulations

Nevada County Land Use and Development Code, Chapter II; Zoning Regulations, Section L-II 4.3 17C.3 (Ordinance No. 2033) requires a Management Plan be prepared for projects in non-disturbance buffers, including areas that are within 100 feet of wetlands and riparian areas and from the high water mark of perennial streams and watercourses, and within 50 feet from the high water mark of seasonal watercourses.

## Nevada County Landmark Groves and Landmark Oak Tree Regulations

The Nevada County Land Use and Development Code, Chapter II; Zoning Regulations, Section L-II 4.3.18 for Trees. Landmark trees are any native oak tree species (*Quercus* species) with a trunk diameter of 36" or greater at diameter breast height (dbh or 4'6"). Identifies landmark groves as hardwood tree groves with 33+% canopy closure, or groves whose size, visual impact, or association with a historically significant structure or event has caused it to be marked for preservation by the county, state, or federal government.

Projects shall be approved only when they do not remove or disturb defined trees or groves, unless a Management Plan is prepared consistent with paragraph 3 below or other standards are met consistent with paragraph 3 below. Exempted from this standard shall be trees or groves determined to be dead, dying, or a public safety hazard by a certified professional arborist, licensed landscape architect, registered professional forester, or qualified biologist or botanist (referred to herein as a qualified professional). In addition, exemption shall apply to those trees that must be removed to ensure fire safe access or provide adequate fuel reduction as determined by the California Department of Forestry or local fire district. Tree removal may also be allowed where necessary to provide for site access and public utilities or public right-of-way.

Paragraph 3. If the above standard effectively precludes development of the project or a revised project, or adversely affects another environmentally-sensitive resource, a Management Plan shall be prepared by a certified arborist, registered forester, qualified biologist or botanist, or landscape architect. Said Plan shall evaluate the impact of the project on defined trees and groves and recommend project modifications that avoid or minimize impacts. Emphasis shall be placed on protecting groups of trees rather than individuals. Defined trees that must be removed shall be replaced on an inch for an inch replacement of the removed tree(s). The total of replacement trees shall be required to have a combined diameter of the tree(s) removed. The Management Plan shall provide for the long-term maintenance of the replacement trees. Management Plans shall emphasize protection of two varieties of oak: blue oak (*Quercus douglasii*) and valley oak (*Quercus lobata*). Both are of very limited distribution in Nevada County and considered to be sensitive plants worthy of special protection.

## 3.0 METHODS

In order to evaluate the Project area for the presence of any sensitive biological resources, baseline information from databases and reporting for similar projects in the City of Grass Valley and Nevada County was collected and reviewed prior to conducting reconnaissance-level field biological surveys. The database searches, background research, and habitat level field surveys characterized the baseline conditions of the Project area. Based on the baseline conditions of the Project area, an assessment was implemented to determine if any special-status plant or wildlife species have the potential to use the Project area at any time during their life cycle. The baseline conditions identified the presence of any sensitive habitat or communities, if they were identified within the Project area.

### Sensitive Biological Resources

The following information was used to identify potential special-status plant and wildlife species within the Project region that could be found to use the Project area:

- California Department of Fish and Wildlife's California Natural Diversity Database records search of 3-mile buffer around the Project area (CDFW, 2022);
- The California Native Plant Society's online Inventory of Rare and Endangered Plants of California for the Project area and Nevada County (CNPS, 2022);
- The U.S. Fish and Wildlife Service Information, Planning, and Consultation System (IPaC) for endangered, threatened, and proposed listed species for the Project area (USFWS, 2022);
- National Wetland Inventory (NWI, 2022);
- United States Department of Agriculture (USDA) Soils Mapper (USDA, 2022);
- Natural Resources Conservation Service (NRCS) Hydric Soils List for Nevada County (NRCS, 2022); and
- Nevada County General Plan (Nevada County, 1996 with subsequent amendments through 2012).



## Reconnaissance-level Biological Resources Field Surveys

A reconnaissance-level biological field survey was conducted on foot of the entire 15.77-acre Project Area by Greg Matuzak on February 16<sup>th</sup>, 2022. The purpose of the survey was to identify habitat and vegetation types within and adjacent to the Project area and to determine the potential of any special-status plant and wildlife species identified in the desktop analysis and background research to occur within or directly adjacent to the Project area. Additionally, the survey was conducted to identify the presence of sensitive habitats such as wetlands, ponds, streams, protected trees and woodlands, etc.

The entirety of the Project area was surveyed on foot and a list of plant and wildlife species observed during the field survey was compiled (see Appendix B for species lists). Appendix C contains a figure showing the mapped USDA Soil Mapping Units for the Project area and Appendix D contains a figure showing the mapped National Wetland Inventory (NWI) for the Project area. A Photo Log is included in Appendix E and it documents the Project area during the field survey.

## 4.0 RESULTS

### *Environmental Setting*

The Project area is located at approximately 1,400 feet above Mean Sea Level (MSL). The Project area ranges between 1,350 feet above MSL in the western section of the Project area along Wolf Road and 1,490 feet above MSL in the eastern section of the Project area. Therefore, general drainage within the Project area is from east to west and north to south within the subject parcel.

The subject parcel includes an NID canal that terminates at a small pond within the eastern section of the subject parcel. The existing NID canal and small pond leakage have created some marginal wet areas immediately downslope of the NID canal and continues downslope towards the access road from Wolf Road into the eastern section of the subject parcel. On the downslope side of the access road, a small drainage ditch and small culvert would generally drain runoff along the access road towards the southwestern section of the subject parcel after precipitation events. Based on close observations of the plants, hydrology, and soils within those areas of the subject parcel, the wet areas downslope from the NID canal and small pond would not meet the definition of a regulated wetland and therefore, would not be regulated by the Clean Water Act (CWA) or by California Department of Fish and Wildlife (CDFW).

Furthermore, the small drainage with a culvert that crosses the access road into the subject parcel off of Wolf Road would not be a regulated stream feature given the lack of an ordinary high water mark (OHWM) and defined bed and bank. Therefore, the drainage that crosses the access road would not require any impacts to it to be included within the attached Aquatic Resources Management Plan (see the attached Photo Log in Appendix E for a view of the non-stream drainage area), nor would it be regulated by any state or federal agency. The mapped drainage and riparian area within the northern section of the subject parcel (see Appendix A) and also mapped within the attached NWI map (see Appendix D) will be avoided by the proposed disturbance within the subject parcel.

As stated within Section 1.0 of this report and below within the Aquatic Resources Management Plan, no direct or indirect impacts to the mapped spring and riparian drainage area in the northern section of the subject parcel will occur though the tent cabin drive way and primary and repair MUSDA areas will be located within approximately 85 to 90 feet to the south of the riparian drainage area mapped. There is a small rise in topography between the MUSDA areas and the tent cabin driveway, which results in any runoff from construction or operations going toward the west and south away from the mapped riparian area.

The Project area is surrounded by large rural parcels. The Project area is located in an area best characterized as a Foothill Pine – Blue Oak Woodland and Annual Grassland plant communities. In addition, The NID canal bisects the eastern section of the Project area from north to south and a larger pond is located within the southern section of the subject parcel near where the proposed residence will be located. Wolf Creek runs east to west to the north of the subject parcel, crosses Wolf Road, and then heads south on the western side of Wolf Road. As such, the Project area would have no impact on Wolf Creek and the creek is located much further than 100 feet from the northern and western border of the subject parcel. Runoff from higher elevations to the east creates the existing pond in the southern section of the subject parcel.

### *Plant Communities*

Plant communities have been classified based on the California Wildlife Habitat Relationships System developed by the California Department of Fish and Wildlife (CDFW). The CDFW also manages the California Natural Diversity Data Base (CNDDDB), which is a database inventory of the locations of rare and endangered plants, wildlife, and natural communities in California and the USFWS also manages a list of federal ESA and other federally protected species (see Appendix F). A list of plants and wildlife documented during the field survey are attached in Appendix B of this Updated BRA. The dominant plant communities within the subject parcel are discussed below.

### *Annual Grasslands*

The annual grasslands within the subject parcel and Project area are dominated by wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), medusa head (*Taeniatherum caput medusae*), and filaree (*Erodium cicutarium*). Orchardgrass (*Dactylis glomerata*) and wild rye (*Elymus glaucus*) were also identified throughout the open areas within the subject parcel and proposed Project area. Non-native grasslands are known to out-compete native grasses and forbs throughout the valley and foothill regions. The proposed Project area is located in an area dominated by non-native grasses and forbs (see Photo Log in Appendix E). This is the dominant habitat type within the open areas within the subject parcel and also within the understory of the wooded habitat described below.

### *Foothill Pine – Blue Oak Woodlands*

Within the subject parcel and the Project area several species of native trees were identified, including foothill pine (*Pinus sabiniana*), blue oak (*Quercus douglassi*), and interior live oak (*Quercus wislizeni*). This habitat is most dominant outside of the annual grassland within the Project area. Foothill pine and blue oak woodlands is the dominant tree habitat in the greater Project area.

## Aquatic Resources and Wetland Vegetation

The results of the NWI for the subject parcel and surrounding areas identifies two stream courses, one within the northwest of the subject parcel and another within the southern section of the subject parcel. The southern drainage flows into the existing pond located within the southwestern section of the subject parcel. The northwestern drainage forms from topography within that area of the subject parcel and it includes a well developed riparian habitat zone dominated by Himalayan blackberry and willow (*Salix* sp.) shrubs and trees and it appears to contain a spring within the northern drainage as well. As part of the field survey, another drainage area was identified heading southwest from the access road within the subject parcel and some wet areas were found on the upslope side of the access road and downslope from the existing NID canal.

No additional wet areas or drainages were identified within or adjacent to the subject parcel and no wetlands or aquatic resources will be impacted by the proposed Project except for a potentially small area where drainage ditch crossings will occur within the subject parcel (see attached Site Plan and Landscape Plans for details on the locations of the crossings). One of the culvert crossing of the access road heading uphill from the entrance into the site towards the top eastern section of the subject parcel contains a drainage. However, during the February 2022 site visit and survey, no water or vegetation was identified within or adjacent to the drainage ditch (see Appendix E for a Photo Log) and given the lack of an OHWM and defined bed and bank associated with the small drainage, impacts to it would not require any additional permitting or mitigation given it is a non-stream and non-wetland feature. Therefore, protected aquatic resources will be avoided except for the small drainage crossings within the subject parcel. Some disturbance is also proposed within the non-disturbance buffers to the riparian area mapped in the northern section of the subject parcel and the bridge crossing of the pond within the southern section of the subject parcel. Therefore an Aquatic Resources Management Plan is attached to this Updated BRA.

Given updated federal guidance regarding the Clean Water Act (CWA) that states that only perennial waterways that have a clear direct connection to a navigable waterway would be potentially subject to regulation as a “waters of the U.S.,” including wetlands, under the CWA, the subject parcel contains no federally regulated aquatic resources given the lack of perennial waterways with direct connection to a navigable waterway. The 2023 Updated Waters of the U.S. (WOTUS) Rule spells out such new guidance (see Section 2.0 above).

The Aquatic Resources Management Plan attached to this Biological Resources Assessment meets the requirements of the Nevada County Land Use and Development Code and includes appropriate mitigation measures and BMPs to ensure impacts to aquatic resources are minimized and avoided as part of the Project. Appendix A includes a Landscape Planting Plan showing the areas and plants to be planted to more than offset any impacts to aquatic and upland species within the subject parcel. The planting is listed within the Aquatic Resources Management Plan as a beneficial mitigation for potential impacts within the non-disturbance buffers within the subject parcel.

#### Protected Oak Resources – Landmark Oak Trees and Landmark Groves

No landmark oak trees were identified within the subject parcel and therefore, no impacts to landmark oak trees will occur. However, some areas within the subject parcel would meet the 33%+ canopy of native oak and other hardwood dominated habitat and they have been mapped and included in Appendix A as part of the updated Site Plan and Landscape Plans (see the highlighted green areas mapped within the subject parcel within the Site Plan which indicates the location of mapped landmark groves). The proposed development areas associated with the Project are outlined within the updated Site Plan attached in Appendix A and show several areas of development overlap with the locations of mapped landmark grove. In total, twelve (12) oak trees associated with mapped landmark groves will be removed by the Project based on the updated Site Plan for the proposed development activities within the subject parcel.

Therefore, protected oak resources would be impacted by the proposed Project and the development of an Oak Resources Management Plan is required and attached to this Updated BRA and it includes the development of compensatory mitigation to fully mitigate for the loss of landmark grove within the subject parcel.

#### SPECIAL STATUS SPECIES

Special-status species were considered for this Updated BRA is based on a current review of the California Natural Diversity Data Base (CNDDDB) and database information provided by the United States Fish and Wildlife Service for the Project area. The database searches did reveal four (4) species, including Brandegees's clarkia, dubious pea, western pond turtle, and California black rail that have been previously identified within 3 miles of the Project area. None of these species were observed during field surveys. These species are discussed in detail within this Updated BRA below. In addition, there is no Designated Critical Habitat (DCH) for any plant or wildlife species protected by USFWS within 3 miles of the Project area.

**Brandegee's Clarkia** (*Clarkia biloba ssp. brandegeae*) – California Native Plant Society List 4.2

Brandegee's clarkia inhabits chaparral, cismontane woodland, and lower montane coniferous/mixed conifer forest habitats. It is most often found in road cuts between 75 and 915 meters above MSL. The species has been documented within 3 miles of the Project area. During field surveys this species was not identified within the subject parcel. Given that this species is most likely found on or near road cuts on north facing slopes, the likelihood of this species occurring within the subject parcel is considered very low. Therefore, given the species was not identified during the site survey, the species would not be impacted by any proposed or potential development within the subject parcel.

Dubious Pea (*Lathyrus sulphureus var. argillaceus*) – California Native Plant Society List 3

Dubious pea inhabits lower and upper montane coniferous forest and cismontane woodlands, normally between 150 and 930 meters above MSL. This species has been identified within 3 miles of the subject parcel. However, the species was not identified during the field survey and suitable habitat for this species is considered marginal within the subject parcel.

California Black Rail (*Laterallus jamaicensis coturiculus*) – CA State Threatened

California black rail inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. The species requires water depths of about 1 inch that does not fluctuate during the year and dense vegetation for nesting habitat. This species has been identified within 3 miles to the northwest of the subject parcel. The species was not identified during field surveys and suitable habitat for this species does not occur for this species within the subject parcel. The pond does not contain marsh wetland habitat and is also very deep water at the edges making the pond infeasible for this species to inhabit.

Western Pond Turtle (*Emys marmorata*) – CA State Species of Concern

Western pond turtles associate with permanent ponds, lakes, streams, irrigation ditches, and permanent pools along intermittent streams. They are most commonly associated with permanent or nearly permanent water in a wide variety of habitats. This species requires basking sites such as partial submerged logs, rocks, mats of floating vegetation, or open mud banks. During the spring or early summer, females move overland for up to 100 m (325 ft) to find suitable sites for egg laying. This species has been previously identified within 3 miles to the northeast of the subject parcel within Wolf Creek. The species was not identified during field surveys and suitable habitat for this species does not occur within the subject parcel given the lack of adequate basking site for the species within and adjacent to the pond within the southern section of the Project area. Therefore, this species will not be impacted by the proposed Project.

Nesting raptors and other migratory bird species - Protected under MBTA, Protected under CA State DFG Code Sections 3503, 3503.5, and 3800

There is a low to moderate potential for nesting raptors and other nesting migratory bird species protected under the MBTA and by CDFW to occur within and adjacent to the subject parcel. The subject parcel represents potential habitat for bird species protected under the MBTA and by CDFW, such as tree nesting species (raptors) and ground nesting species like the spotted towhee (*Pipilo maculatus*) and dark-eyed junco (*Junco hyemalis*). However, active and inactive nests within and adjacent to the proposed areas to be developed within the subject parcel were not identified during the field survey. If development within the subject parcel will occur during the nesting season for raptors and ground nesting MBTA and CDFW protected birds, a pre-construction survey should be conducted if such development activities pose a risk to nest abandonment prior to the fledging of young from such nests.

#### Critical Deer Habitat

Known migratory deer ranges outlined in the Nevada County General Plan was reviewed for deer migration corridors, critical range, and critical fawning areas. The subject parcel is not located in any known major deer corridors, known deer holding areas, or critical deer fawning area. Per the Migratory Deer Ranges Nevada County General Plan map, the subject parcel is located in an area of potential Deer Winter Range. The field survey did not record any observations of deer. The subject parcel does not contain any known major deer migration corridors, known deer holding areas, nor critical deer fawning areas.

## 5.0 CONCLUSION

The subject parcel is adjacent to/nested within Foothill Pine – Blue Oak Woodlands and Annual Grassland habitat. Given the areas of such woodlands and grasslands within the subject parcel, the subject parcel is not an isolated 15.77-acre parcel surrounded by fragmented habitats. The subject parcel contains the potential for some wildlife species to move through the area given the size of the subject parcel and the less dense development adjacent to the large parcel. Overall, the proposed Project disturbance has a very low likelihood of impacting sensitive habitats and special-status species given the overall lack of such habitats and suitability of the subject parcel for the use by species-status species.

Based on site specific field surveys, the subject parcel does not contain any large individual oak trees that will be removed or disturbed by the proposed Project. However, the subject parcel supports oak woodlands, including some areas that meet the Nevada County criteria as being a protected landmark grove. Some of the proposed areas of disturbance within the subject parcel (see Appendix A for a Site Plan) would have direct impacts on mapped landmark groves through the removal of individual native oak trees that make up part of the mapped landmark groves. Therefore, it is estimated that up to a dozen (12) native oak trees will be removed and an Oak Resources Management Plan has been developed for the proposed Project and is attached to this report. The attached Oak Resources Management Plan includes onsite mitigation plantings to fully compensate for the removal of the up to a dozen oak trees that will be removed from the development of the proposed Project.

The subject parcel does include an NID canal, two drainage areas, and a pond that would be identified as regulated and protected aquatic resources per the Nevada County Land Use and Development Code, requiring non-disturbance buffers to such aquatic resources. This includes the northwestern drainage area containing dense riparian vegetation and a spring, the NID canal that runs north to south within the eastern section of the subject parcel, and the pond and the existing drainage it is located along within the southern section of the subject parcel. The mapped riparian area and NID canal within the attached Site Plan as well as the pond and existing drainage it lies along within the southern section of the subject parcel (see Appendix A) would most likely be regulated by CDFW. Given that the proposed development areas within the subject parcel will encroach upon the non-disturbance buffers to such aquatic resources, an Aquatic Resources Management Plan for sensitive aquatic resources is required for the proposed Project and such a plan is attached to this report.

Given updated federal guidance regarding the CWA that states that only perennial waterways that have a clear direct connection to a navigable waterway would be potentially subject to regulation as a “waters of the U.S.,” including wetlands, under the CWA, the subject parcel contains no federally regulated aquatic resources.



### Impacts to Protected Nesting Bird Species

The trees, shrubs, and grasslands within the subject parcel contain suitable habitat for nesting raptors and MBTA and CDFW protected nesting bird species. The breeding season for most protected birds in the vicinity of the Project area is generally from March 1 to August 31. Vegetation clearing or tree removal outside of the breeding season for such bird species would not require the implementation of any avoidance, minimization, or mitigation measures. However, construction or development activities during the breeding season could disturb or remove occupied nests of migratory birds or raptors and would require the implementation of a pre-construction survey within 250 feet of the disturbance area within the subject parcel for nesting migratory birds and raptors prior to development.

If any nesting raptors or migratory birds are identified during surveys, active nests should be avoided and a no-disturbance buffer should be established around the nesting site to avoid disturbance or destruction of the nest site until after the breeding season or after a qualified wildlife biologist determines that the young have fledged. The extent of these buffers would be determined by a CDFW qualified wildlife biologist or a biologist on the Nevada County Biological Resources Consultants List and would depend on the bird species actively nesting, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. These factors would be analyzed by the qualified biologist who would make an appropriate decision on buffer distances.

### Conclusion

Given the site conditions of the subject parcel and its location within a lower elevation and drier area of Nevada County, there is a general lack of habitat types for special-status wildlife species previously recorded within 3 miles of the Project area. Therefore, there is a very low potential for such species to occur within the subject parcel. Known occurrences of special-status plants have been documented within 3 miles of the subject parcel; however, no special-status plant or wildlife species were documented within the Project area during site surveys conducted on February 16<sup>th</sup>, 2022 and future development within the subject parcel will be located within the non-woodland, open areas dominated by annual grassland species.

Therefore, the proposed development within the subject parcel would have minimal to no impact on special-status plant species or aquatic habitats. However, as stated within this Updated BRA Project related impacts to protected oak resources and non-disturbance buffers to protected oak resources, attached below includes an Aquatic Resources and Oak Resources Management Plan that outline Project related impacts to such protected resources and mitigation measures to avoid, minimize, and mitigate potential impacts to both protected aquatic and oak resources.

## Aquatic Resources Management Plan

This Aquatic Resources Management Plan recommends mitigation measures for the encroachment into the non-disturbance buffer associated with the drainage ditches existing culvert crossings, the NID canal, the mapped spring and riparian area within the northern section of the Project area, and the pond located within the southern section of the Project area and their non-disturbance buffers. The Project area does contain additional protected aquatic resources, including a seasonal stream that enters into the pond within the southern section of the Project area and another seasonal stream that runs west within the northern section of the Project area; however, none of those additional resources will be impacted directly nor will any encroachment occur into the non-disturbance buffers of those additional protected aquatic resources. The proposed culvert crossings of drainage ditches within the subject parcel do contain runoff and some wetland associated plants; however, based on a close evaluation of the upslope area, these areas would not meet the definition of a regulated wetland given the lack of hydric soils, wetland hydrology, and a dominance of wetland plants within the upslope area from the drainage ditch culvert crossing.

Therefore, this Aquatic Resources Management Plan has been developed for the potential encroachment into the non-disturbance buffer of the NID canal that runs north to south within the eastern section of the Project area, encroachment into the non-disturbance buffer of the riparian area mapped within the northern section of the Project area, and the proposed bridge to be constructed over a section of the pond within the southern section of the Project area. This Aquatic Resources Management Plan also includes drainage ditch culvert crossings that cross access roads within the Project area. The pond and the mapped spring and riparian drainage area contain a 100-foot non-disturbance buffer, while the NID canal contains a 20-foot non-disturbance buffer to the downslope of the NID canal and a 100-foot non-disturbance buffer to the upslope of the NID canal. The drainage ditches being ephemeral drainages would require a 50-foot non-disturbance buffer. None of these features will be directly impacted by the proposed project except for the culvert crossings of the drainage ditches and therefore, this Aquatic Resources Management Plan pertains to potential encroachment into the non-disturbance buffers of those aquatic features and each of the others mapped within the Project area.

As detailed below, measures to minimize potential impacts to the drainage ditches, pond, riparian area, and NID canal are recommended to limit potential direct and indirect impacts of the proposed Project on those aquatic resources within the Project area. These measures are intended for inclusion into the proposed development of the access road adjacent to the pond and the proposed bridge crossing of the pond in the southern section of the Project area, the access road

widening within the existing drainage ditch in the central area of the Project area, and the tent cabin drive way and MUSDA areas proposed to be developed encroaching approximately 10 to 15 foot within the non-disturbance buffers of those areas. Upslope and downslope to the NID canal there will also be some proposed disturbances within the required non-disturbance buffers to NID canals. The measures outlined below are included as design criteria of the Project that minimize direct and indirect impacts to water quality during and directly following construction within and adjacent to those aquatic resources. They include the following:

- proposed disturbance adjacent to the existing pond within the southern section of the subject parcel will include the bridge crossing footings to be on located along the pond's edge and not within the wetted portion of the pond itself and therefore, the access road and bridge crossing of the pond will not directly impact the pond and potential indirect impacts to the pond from impacts within the non-disturbance buffer of the pond will be minimized by mitigation measures and BMPs outlined below.
- proposed culvert crossings of drainages have been minimized through the use and placement of boulders along the edges of the culverts and drainages in order to reduce impacts to any potential sensitive areas along each side of the drainage crossings.
- for the proposed disturbance within the non-disturbance buffer to the mapped riparian area located within the northern section of the Project area as part of the development of the tent cabin driveway and primary and repair MUSDA areas given the area, the topography between those areas of disturbance and the mapped riparian area create an impassable buffer given a hill is located between the riparian area and those areas of disturbance. See the photo on the cover of this report which is along the northern edge of the proposed MUSDA areas and the photo shows a hill between that area and the riparian area located on the other side downhill.

The proposed tent cabin driveway and the MUSDA areas are located downslope to the south of the riparian area given the existing hill directly to the north of the tent cabin driveway and MUSDA areas creates protection of the riparian area from the proposed disturbance within the non-disturbance buffer to the riparian area (see photo on cover of this report). Therefore, the development of the tent cabin driveway and MUSDA areas that could create potential runoff during construction and/or operation would flow towards the south and away from the riparian area. There is no potential for indirect impacts to the riparian area to the north of the tent cabin driveway and MUSDA areas given the hill creates a barrier and protection to the riparian area.

- the proposed staging area within the eastern section of the subject parcel is an ideal location for the Project staging given it is located within a non-disturbance buffer but is also located within a very flat area of the subject parcel. Other potential areas within the subject parcel that could be used for staging occur within sloped areas of the subject parcel and runoff from the staging area in those locations could create more sedimentation and erosion impacts within the Project area. The proposed staging area has very little chance to create any indirect impact to the adjacent aquatic resource given it will be located within a flat area and will be contained with the implementation of the BMPs and other measures outlined below.
- Appendix A includes a Landscape Planting Plan showing the areas and plants to be planted to more than offset any impacts to aquatic and upland species within the subject parcel as part of the proposed Project. The planting is considered a beneficial mitigation measure for potential impacts within the non-disturbance buffers within the subject parcel.

This Aquatic Resources Management Plan includes measures to minimize potential direct and indirect sedimentation and other grading and erosion related impacts to the pond, riparian area, drainage ditches, and NID canal and include the measures outlined below. This will be accomplished by implementing the following during and following construction:

- Limit construction to periods of extended dry weather and/or the dry summer season;
- Establish the areas around the pond, NID canal, and riparian area as an Environmentally Sensitive Area (ESA) where those areas will not be impacted by construction;
- No fill or dredge material will enter or be removed from the pond, riparian area, or NID canal. The culvert crossings may be upgraded where access roads cross the drainage ditches and the placement of boulders along the edges of the culverts will minimize erosion at both ends of the culverts and along each side of those drainage ditches;
- Use appropriate machinery and equipment to limit disturbance in these areas;
- Placement of straw and/or other soil erosion control devices between the pond, riparian area, NID canal, and drainage ditches, and the areas where grading and/or vegetation removal will occur to limit potential runoff and sedimentation into those aquatic resources;
- No dewatering of the pond, NID canal, riparian area, or drainage ditches will occur as part of the proposed construction; and
- Implement Best Management Practices during construction.

This Aquatic Resources Management Plan meets the requirements of the Nevada County Land Use and Development Code with the measures outlined above and with the additional BMPs outlined below. Additionally, within Appendix A attached, a Landscape Planting Plan is attached showing areas to be planted with both aquatic associated and upland associated habitats. With the additional restoration within the subject parcel to include several areas that will include native plantings, the measures as outlined above, below, and within Appendix A will more than offset any impacts to aquatic and upland species within the subject parcel.

## IMPLEMENTATION OF BEST MANAGEMENT PRACTICES DURING CONSTRUCTION

To protect the pond, riparian area, drainage ditches, and NID canal and their non-disturbance buffer areas, as well as water quality and downstream water resources, the contractor shall implement standard Best Management Practices during and directly after construction. These measures should include, but are not limited to:

- Minimize the number and size of work areas for equipment and spoil storage sites in the vicinity of the pond, riparian area, NID canal, and drainage ditch. Place staging areas and other work areas outside of the non-disturbance buffers to these aquatic resources within the subject parcel during construction as feasible. However, the staging area within the eastern section of the subject parcel should be approved in that location given it is within a flat area and BMPs (including straw) will be placed around the edges of the staging area to minimize any potential runoff from that area.
- The contractor shall exercise reasonable precaution to protect these as well as all aquatic resources and their adjacent non-disturbance buffers from pollution such as fuels, oils, and other harmful materials. Construction byproducts and pollutants such as oil, cement, and wash water shall be prevented from discharging into or near any aquatic resources and shall be collected for removal off the site. All construction debris and associated materials and litter shall be removed from the work site immediately upon completion.
- No equipment for vehicle maintenance or refueling shall occur within the non-disturbance buffers. The contractor shall immediately contain and clean up any petroleum or other chemical spills with absorbent materials such as sawdust or kitty litter. For other hazardous materials, follow the cleanup instructions on the label.

## Aquatic Resources Management Plan Conclusions

The proposed Project will include minimal disturbance or encroachment upon or impacts to the aquatic resources listed above beyond the edges of the proposed disturbance locations. Therefore, this Aquatic Resources Management Plan has been developed for the proposed Project seeking approval for the development of the proposed Project within the non-disturbance buffers to the pond, riparian area, NID canal, and drainage ditches. With the implementation of the mitigation measures and BMPs outlined above, any potential impacts to these aquatic resources would be avoided and minimized.

With the additional restoration within the subject parcel to include several areas that will include native plantings, the measures as outlined within this Aquatic Resources Management Plan will more than offset any impacts to aquatic and upland species within the subject parcel. The plantings listed within Appendix A are a beneficial mitigation for potential impacts within the non-disturbance buffers within the subject parcel.

## Post Construction Erosion Control

Exposed bare soil along the proposed disturbance within the non-disturbance buffers should be protected against loss from erosion by the placement of straw within the area where vegetation will be removed. Once revegetation is completed the erosion control within the non-disturbance buffer areas can be removed.

## Provide Copies of Mitigation Measures to Contractors

To ensure the proper and timely implementation of all mitigation measures contained in this Aquatic Resources Management Plan, as well as the terms and conditions of any other required permits, the applicant shall distribute copies of these mitigation measures and permit requirements to the contractors prior to grading and construction within the non-disturbance buffers. All contractors shall be completely familiar with the mitigation measures contained above and with the terms and conditions of all permits.

## OAK RESOURCES MANAGEMENT PLAN

The proposed Project will be developed within an area characterized as annual grassland habitat and within areas that are mapped as landmark grove given the dense stands of mostly blue oak and interior live oak trees adjacent to the proposed Project area. See the attached Site Plan in Appendix E that identify in green the extensive areas of mapped landmark grove within the subject parcel. There are no proposed impacts to any landmark oak trees within the subject parcel. Therefore, this Oak Resources Management Plan focuses on the avoidance, minimization, and compensatory mitigation for the removal of oak trees belonging to landmark groves within the proposed Project area. Based on the attached site plan, oak trees belonging to landmark groves will be removed along the access road and tent cabin driveway located within the eastern section of the subject parcel as well as the access road and proposed office and camping sites located within the southern section of the subject parcel.

- *In total, up to twelve (12) native oak trees will be removed from mapped landmark groves as mapped in attached Appendix A. The attached Site Plan identifies 10 trees to be removed within mapped landmark groves, but this Oak Resources Management Plan will require compensatory mitigation for 12 native oak trees to ensure that any encroachment into the edges of the landmark groves mapped within the subject parcel is fully mitigated.*

The removal of landmark oak groves (oak groves with a canopy cover 33%+) and disturbance within the dripline of oaks in close proximity to disturbance is in conflict with Nevada County Land Use and Development Code, Chapter II: Zoning Regulations, Section L-II 4.3.17C.3 [Ordinance No. 2033]. Like the ordinance governing encroachment in stream setbacks, the ordinance requires applicants submit a Management Plan, prepared by a biologist, to minimize the impacts to biological resources.

Mitigation measures are included in this Management Plan to offset potential direct impacts to landmark oak groves through a compensatory mitigation planting of blue oak acorns. Tree protection measures are included for avoiding potential accidental impacts during construction to oaks in close proximity to areas of disturbance. The planting of blue oak acorns will be of a much higher habitat value than the planting of interior live oak given the habitat value of blue oaks are much higher than interior live oak trees and given the restriction of areas where blue oak grow within Nevada County.



## Rational for Compensatory Mitigation for Impacts to a Landmark Grove Trees

The greatest ecological threat to blue oaks and other native oak trees throughout their range is the lack of seedling recruitment to replace the existing mature trees – young pole stage and saplings are quite rare, particularly at the low elevations where there has been a long history of livestock grazing. Interior live oak seedling regeneration and recruitment is good in the foothill zone, and live oaks crown-sprout readily following fire, and tend to replace blue oaks in the post-fire successional stage i.e., blue oaks throughout the region are in decline. For these reasons, blue oaks are also given special consideration in the Nevada County General Plan.

Therefore, this Management Plan proposes to direct seed blue oak acorns collected onsite or in the vicinity, and to protect and enhance any natural blue oak seedlings, over 98 percent of which never make it to maturity or even past the first year. The causes of oak seedling mortality are generally attributed to drought-stress from competition with the aggressive, non-native annual grasses, and browsing by livestock, deer, rabbits, and small rodents.

Oak researchers have been experimenting with protecting and enhancing existing blue oak (and other native oak) seedlings, with significant success. Container plantings almost always fail, and studies show that the simple act of providing screen or tube protection from browsers and maintaining a weed-free area around the seedlings for a few years significantly increases their growth rates and survival. Oak planting trials in the Sierra foothill region (UC Sierra Foothill Research and Extension Center in Browns Valley) have also determined that direct seeding acorns is more successful than container plantings. Container-grown oaks are often root-bound, grow slowly, and are poorly adapted to the dry conditions of an oak restoration planting.

Additionally, this method of compensatory mitigation is being proposed and implemented by a seasoned, experienced botanical scientist and restoration ecologist, Carolyn Chainey-Davis (friend, colleague, and biological consultant on the Nevada County Planning Department list of pre-qualified consultants), who has successfully implemented the restoration of blue oak and other native oak trees and woodlands through the planting of acorns as well as the implementation of monitoring and enhancement as needed and required. Therefore, this mitigation strategy is being implemented for the proposed Project covered under this Management Plan.

## COMPENSATORY MITIGATION MEASURES FOR OAK RESOURCES

The Project applicant shall implement the specifications for the blue oak acorn planting to be located within the northwest section of the subject parcel where common white snowberry are shown to be planted within the updated Landscape Planting Plan (see Appendix A). The acorns will be planted within that area and will associate also with the planted common white snowberry.

Given the landmark grove trees have not been removed prior to the permit being finalized for the project, nor will any landmark grove trees be removed prior to project approval, a 2:1 ratio for planting acorns would be required per the Nevada County Land Use and Development Code for each tree removed and belonging to the areas of mapped landmark grove (see Appendix A). Therefore, a total of thirty (30) blue oak acorns will be planted within the northwest section of the subject parcel within the circles identified for common white snowberry planting in Appendix A. A minimum of 24 blue oaks must survive 5 years for the mitigation planting to be successful. Therefore, given some acorns may not sprout or survive, it is recommended that a greater than 2:1 mitigation ratio be planted to give the applicant a higher probability of having the minimum of 24 native blue oaks survive the entirety of the required 5 years.

Each year for 5 years, a memo-format report and photo documentation prepared by the Project biologist, shall be submitted to the Nevada County Planning Department in October of each year for five years once the blue oak acorns are planted. Maintenance, irrigation, and monitoring throughout the growing season shall be the responsibility of the Project applicant, but the Project Biologist shall conduct a field review of the plantings annually, in advance of the annual monitoring report sent to Nevada County to ensure that the mitigation is implemented successfully.

### Protection of Landmark Groves Adjacent to Disturbance Zones

The following Best Management Practices (BMPs) for oak resources shall be implemented during the development of the proposed Project:

- *Plans and specifications* shall clearly state protection procedures for oak resources within the Project area. The specifications shall also require contractors to stay within designated work areas.
- *Damage to Oak Trees* during construction shall be immediately reported to a qualified biologist on the Nevada County Planning Department's Biological Resources Consultants List or a certified arborist to assess the potential level of impacts to oak resources and determine whether the damage will have a significant impact on any landmark oak trees or landmark oak grove. If it is determined by the qualified biologist or certified arborist that the damage to any landmark oak tree or landmark oak grove is significant for that tree or landmark grove, work shall be stopped and the Nevada County Planning Department shall be contacted to discuss appropriate mitigation measures for such damages.
- *Equipment Damage* to limbs, trunks, and roots of all remaining trees shall be avoided during project construction and development.
- *Grading Restrictions* Care must be taken to limit grade changes near the drip line of an oak tree. Grade changes can lead to plant stress from oxygen deprivation or oak root fungus at the root collar of oaks. Minor grade changes further from the trunk are not as critical but can negatively affect the health of the tree if not carefully monitored by a qualified biologist or certified arborist.
- *The Root Protective Zones (Drip Lines)* Grade shall not be lowered or raised around the trunks (i.e., within the drip line) of any oak tree. A qualified biologist or certified arborist shall supervise all excavation or grading proposed within the protective zone (drip line) of a protected oak resource and/or the clearance of vegetation within the protective zone (drip line) of a protected oak resource. Such work within the drip line of any protected oak resource shall be accomplished by the use of hand tools or small hand-held power tools. Any major roots encountered shall be conserved to the greatest extent possible and treated as recommended by the qualified biologist or certified arborist.

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## Appendix A

Parcel Report, Site Plan, **and Landscaping Plan**

# Nevada County Parcel Report



Parcel APN: 057-030-011-000  
10734 WOLF ROAD

Land Value: \$236,513

Improvement Value: \$0

Acreage: 15.77

Zoning: AG-10

General Plan: RUR-10

Fire District: Higgins

Elementary Sch. Dist: Pleasant Ridge Union

Water District:

Nevada Irrigation Dist: NID Water - Zone 3.0

Public Utility:

Park District: BEAR RIVER

Service Area:

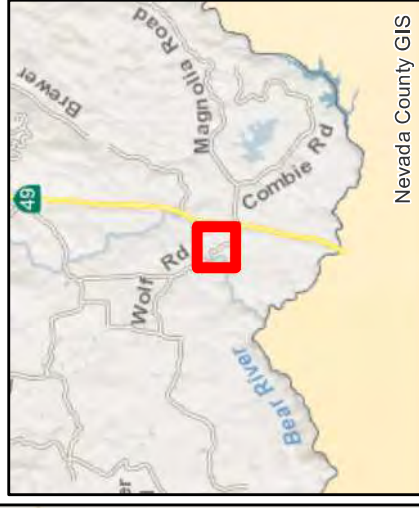
Snow Load: 29

Wind Exposure: C

Climate Zone: 11

Elevation: 1453

Overview



Scale: 1:9,028  
0 0.075 0.15 0.2 0.3 mi  
0 0.1 0.2 0.4 km

**OWNER/APPLICANT**

LESLIE BARBAZETTE  
1200 STANNAGE AVENUE  
BERKELEY, CA 94709  
PHONE: (510) 861-1134  
EMAIL: lesli@arbozeta.com

**PROPERTY ADDRESS**

10734 WOLF ROAD  
GRASS VALLEY, CA 95949

**PREPARED BY**

MILLENNIUM PLANNING & ENGINEERING  
471 SUTTON WAY, SUITE 210  
GRASS VALLEY, CALIFORNIA 95945  
(530) 446-6265  
CONTACT: MICHELLE LAYSHOT, P.E.

**ASSESSORS PARCEL NUMBER**

057-030-011

**ZONING**

AG-10

**LOT AREA**

15.97 ACRES

**PROJECT DESCRIPTION**

THIS PROJECT PROPOSES THE CONSTRUCTION OF A CRAFT SCHOOL WHICH CONTAINS 1 NEW BARN, 1 CAFE, 5 CLASSROOM RELATED STRUCTURES, 1 OFFICE, 1 RESIDENCE, 11 TENT CABINS, AND 4 TENT CAMPING PLATFORMS. THIS PROJECT ALSO PROPOSES THE CONSTRUCTION OF 2 DRIVEWAYS AND PARKING AREAS WITH ASSOCIATED DRAINAGE NETWORK AND TREATMENT AREAS. LASTLY, THIS PROJECT PROPOSES UTILITY IMPROVEMENTS TO SUPPORT THE PROPOSED PROJECT.

**WATER**

NO WATER - ZONE 3.0 & WELL

**SEWER**

ON-SITE SEPTIC

**ELECTRICAL**

PERM

**FIRE**

HIGGINS FIRE DEPARTMENT  
1016 COMBE ROAD  
GRASS VALLEY, CA 95902

PRELIMINARY PLANS FOR:  
**WOLF CRAFT COLLECTIVE USE-PERMIT**  
GRASS VALLEY, CALIFORNIA  
JANUARY, 2024

**SITE STATISTICS**

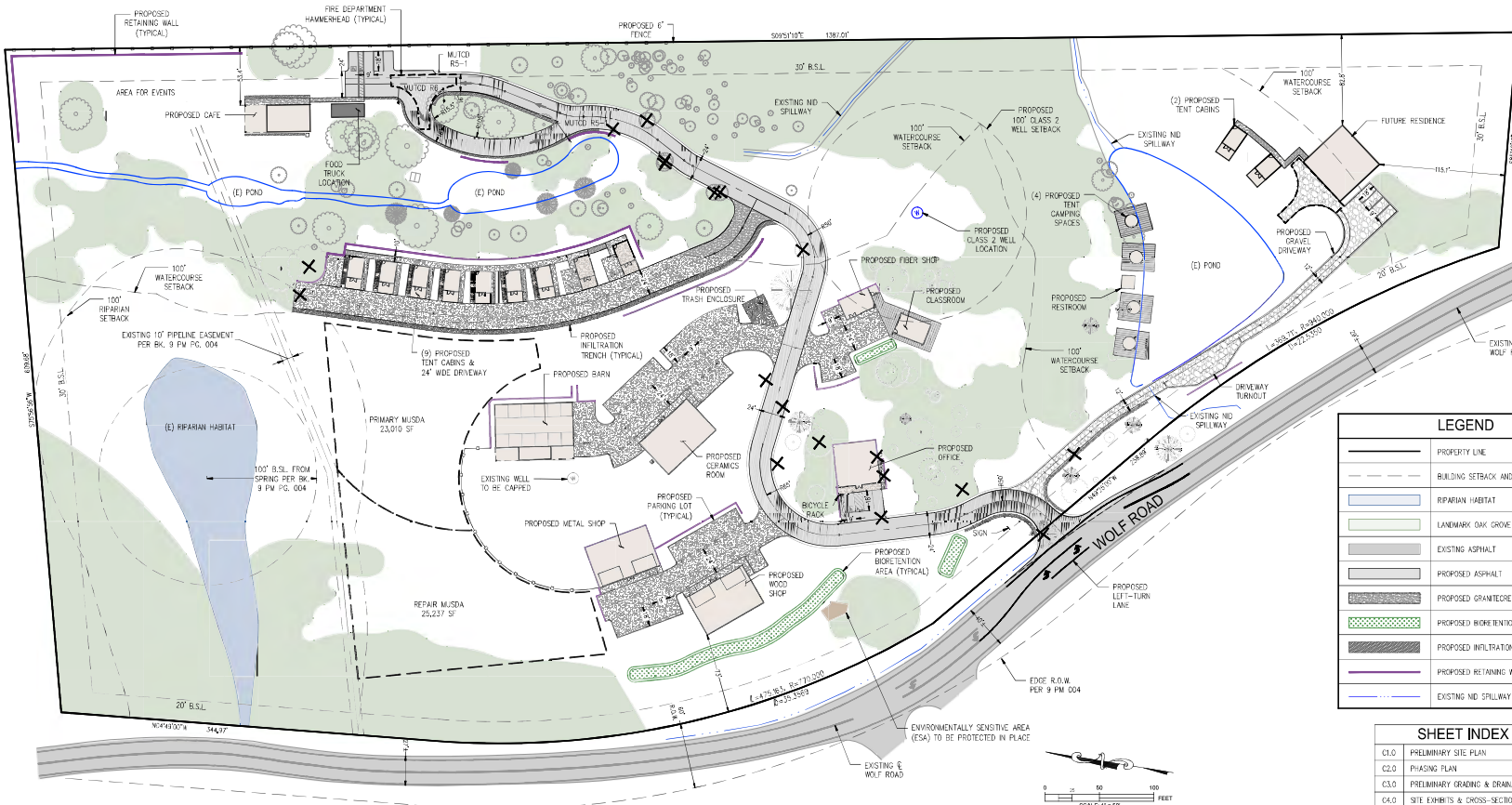
	AREA (SF)	AREA (%)
ASPHALT PAVEMENT	26,000 SF	4%
GRANITE/ITE (CONCRETE)	26,194 SF	5%
BUILDING (FOOTPRINT)	26,337 SF	4%
LANDSCAPED AREA	5,000 SF	1%
GRAVEL	10,656 SF	1%
OPEN SPACE	582,754 SF	85%
TOTAL	686,941 SF	100%

**PARKING STATISTICS**

ADA SPACES	7
STANDARD SPACES	37
EV	14
COMPACT	3
TOTAL	61



VICINITY MAP  
1" = 100' TO SCALE



**LEGEND**

(Solid line)	PROPERTY LINE
(Dashed line)	BUILDING SETBACK AND PRIVATE EASEMENT
(Blue wavy line)	RIPIARIAN HABITAT
(Green wavy line)	LANDMARK OAK GROVE CANOPY
(Grey hatched)	EXISTING ASPHALT
(Light grey hatched)	PROPOSED ASPHALT
(Dark grey hatched)	PROPOSED GRANITE/ITE
(Green hatched)	PROPOSED BIOPRETENTION AREA
(Black hatched)	PROPOSED INFILTRATION TRENCH
(Purple line)	PROPOSED RETAINING WALL
(Blue line)	EXISTING ND SPILLWAY

**SHEET INDEX**

C1.0	PRELIMINARY SITE PLAN
C2.0	PHASING PLAN
C3.0	PRELIMINARY GRADING & DRAINAGE PLAN
C4.0	SITE EXHIBITS & CROSS-SECTIONS



DATE	DESCRIPTION	REV

**WOLF CRAFT COLLECTIVE**  
10734 WOLF ROAD  
GRASS VALLEY, CA 95949  
**PRELIMINARY SITE PLAN**

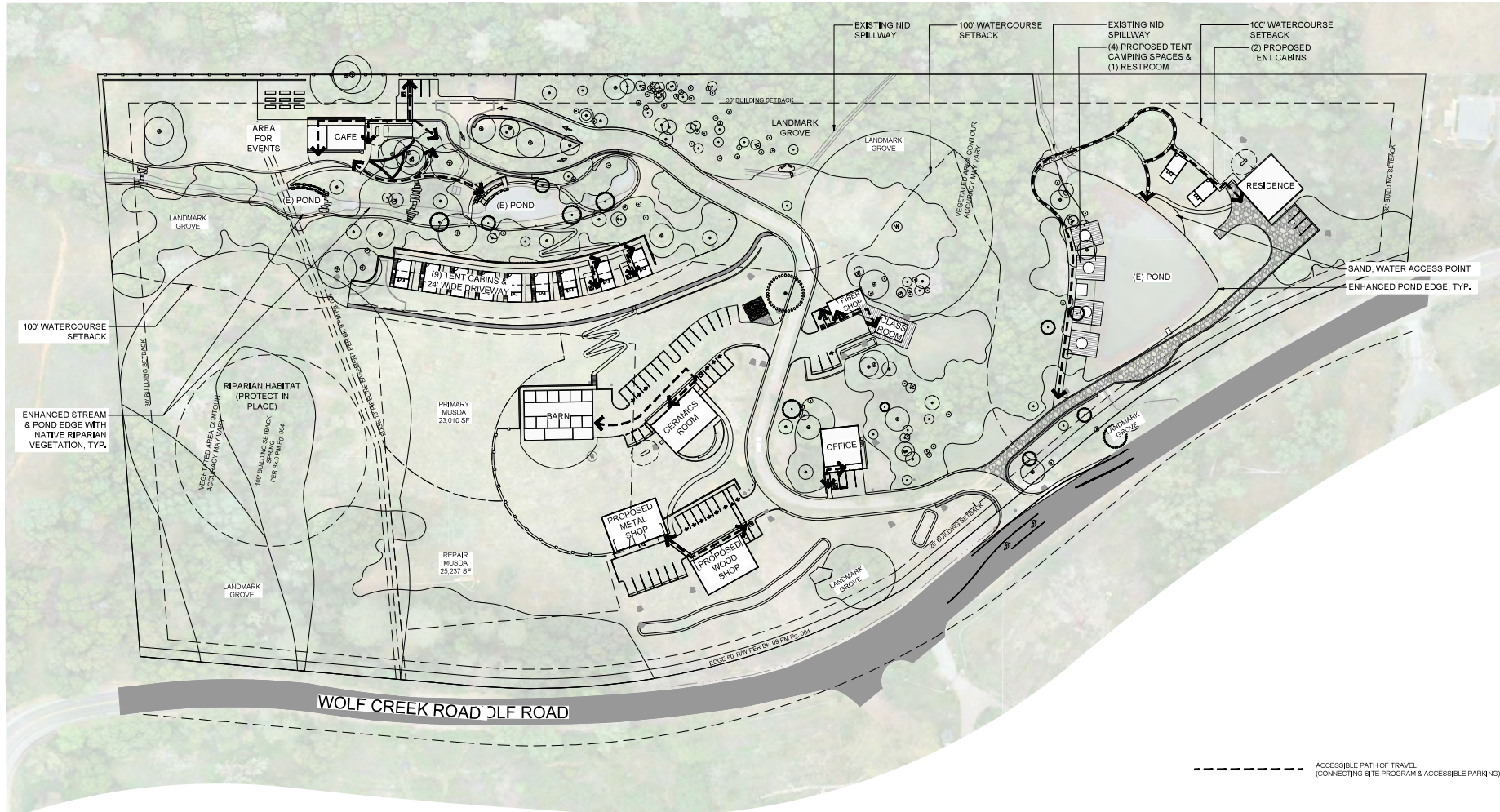


DESIGNED BY: LAS  
DRAWN BY: LAS  
PROJECT NO: 21-0103  
DATE: 1/23/2024  
SHEET NUMBER

**C1.0**

MILLENNIUM PLANNING & ENGINEERING  
471 SUTTON WAY, SUITE 210, GRASS VALLEY, CA 95949 (530) 446-6265

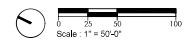




--- ACCESSIBLE PATH OF TRAVEL  
(CONNECTING SITE PROGRAM & ACCESSIBLE PARKING)

### ACCESSIBILITY NOTES

1. ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER-FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL OF CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAX SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAX. AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE AND SLIP RESISTANT. CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL AND ABOVE 27" AND LESS THAN 80". ARCHITECT OF RECORD SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.
2. SEE SITE PLAN FOR MORE INFORMATION ON PATH OF TRAVEL



**WOLF CRAFT COLLECTIVE**  
**10734 WOLF ROAD**  
**SITE ACCESSIBILITY PLAN**

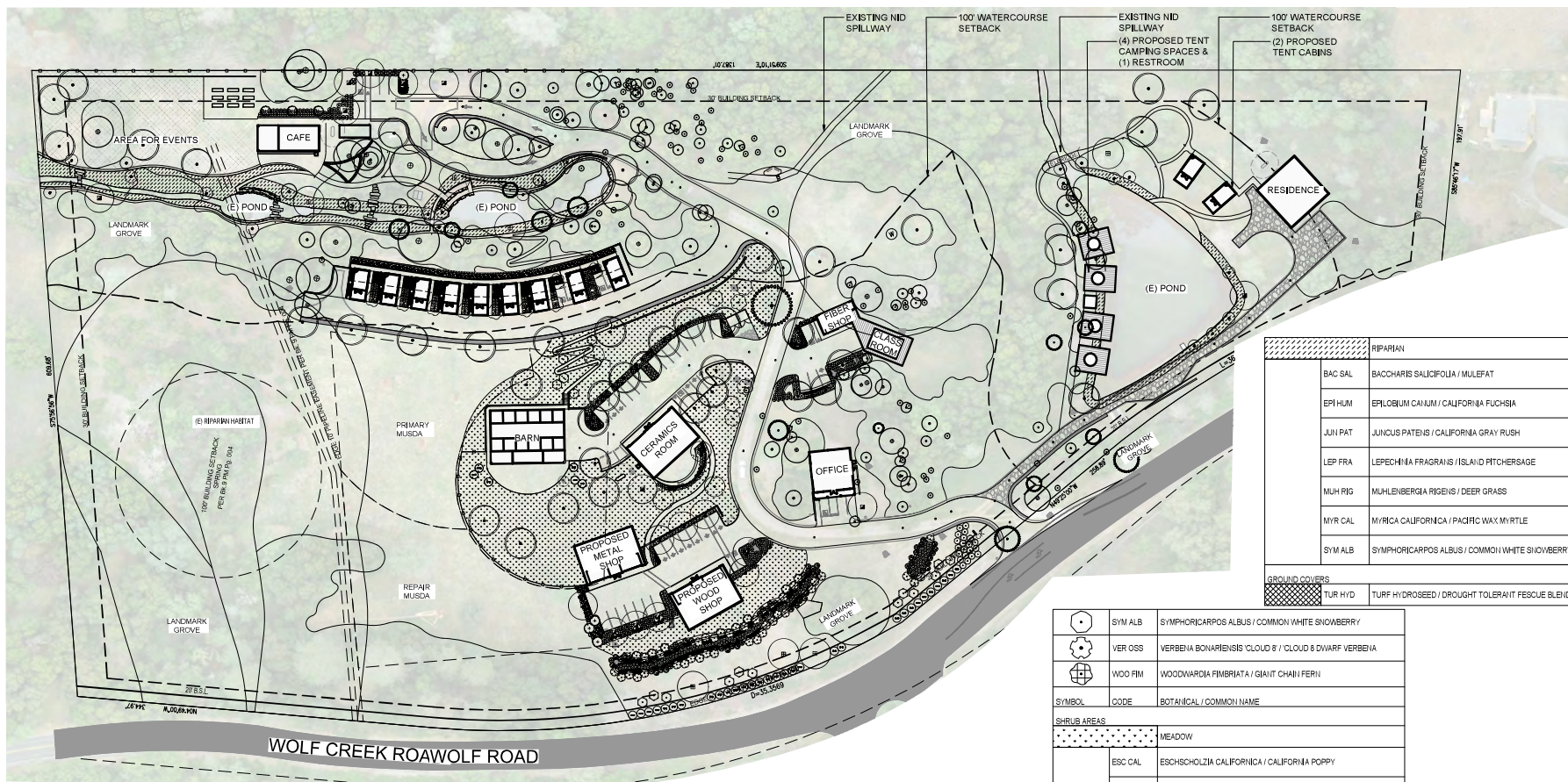
REV.	DESCRIPTION	DATE

DESIGNED: LAS  
 DRAWN: LAS  
 PROJ. NO: 21-0103  
 DWG. SEE DWG STAMP

NEVADA COUNTY  
 CALIFORNIA

SHEET NUMBER  
**L0.01**

DATE: JAN 26, 2024



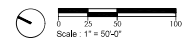
RIPARIAN	
BAC SAL	BACCHARIS SALICIFOLIA / MULEFAT
EPI HUM	EPILOBIUM CALIUM / CALIFORNIA FUCHSIA
JUN PAT	JUNCUS PATENS / CALIFORNIA GRAY RUSH
LEP FRA	LEPECHIIA FRAGRANS / ISLAND PITCHERSAGE
MUH RIG	MUHLENBERGIA RIGENS / DEER GRASS
MYR CAL	MYRICA CALIFORNICA / PACIFIC WAX MYRTLE
SYM ALB	SYMPHORICARPUS ALBUS / COMMON WHITE SNOWBERRY
GROUND COVERS	
TUR HYD	TURF HYDROSEED / DROUGHT TOLERANT FESCUE BLEND

SYM ALB	SYMPHORICARPUS ALBUS / COMMON WHITE SNOWBERRY	
VER OSS	VERBENA BONARIENSIS 'CLOUD 8' / CLOUD 8 DWARF VERBENA	
WOOD FIM	WOODWARDIA FIMBRIATA / GIANT CHAIN FERN	
SYMBOL	CODE	BOTANICAL / COMMON NAME
SHRUB AREAS		
ESC CAL	ESCHSCHOLZIA CALIFORNICA / CALIFORNIA POPPY	
ACH MIL	ACHILLEA MILLEFOLIUM / COMMON YARROW	
ASC ERI	ASCLEPIAS EROCARPA / INDIAN MILKWEED	
COR GIG	COREOPSIS GIGANTEA / GIANT COREOPSIS	
HEL GRA	HELIANTHUS GRAQULENTUS / SLENDER SUNFLOWER	
LAS CAL	LASTHENIA CALIFORNICA / CALIFORNIA GOLDFIELDS	
LAY PLA	LAYIA PLATYGLOSSA / TIDY TIPS	
LOT SCO	LOTUS SCOPARIUS / DEERWEED	
MMI AUR	MIMULUS AURANTIACUS / STICKY MONKEYFLOWER	
PEN PAL	PENSTEMON PALMERI / PALMER'S PENSTEMON	
PHA CI2	PHACELIA CUCUTARIA / CATERPILLAR PHACELIA	
ROM COU	ROMNEYA COULTERI / MATILIJIA POPPY	

SYMBOL	CODE	BOTANICAL / COMMON NAME
TREES		
ALN RHO	ALNUS RHOMBIFOLIA / WHITE ALDER	
ARB MEN	ARBUTUS MENZIESII / PACIFIC MADRONE	
CER WES	CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK	
PLA RAC	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE	
QUE DOU	QUERCUS DOUGLASSII / BLUE OAK	
SAL LAS	SALIX LASIOLEPIS / ARROYO WILLOW	

SHRUBS		
ACH ALA	ACHILLEA MILLEFOLIUM / COMMON YARROW	
ADE SHZ	ADENANTHOS 'SILVER HAZE' / SILVER HAZE WOOLLYBUSH	
AGA ATT	AGAVE ATTENUATA / FOXTAIL AGAVE	
BAC SAL	BACCHARIS SALICIFOLIA / MULEFAT	
CAR TUM	CAREX TUMULICOLA / FOOTHILL SEDGE	
CEA VAL	CELANOTHUS MARITIMUS 'VALLEY VIOLET' / VALLEY VIOLET MARITIME CELANOTHUS	
EPI STR	EPIPACTIS GIGANTEA / STREAM ORCHID	
FES MAI	FESTUCA MAIREI / ATLAS FESCUE	
HET ARB	HETEROMELES ARBUTIFOLIA / TOYON	
HB DPI	HEBISCUS LASIOCARPUS OCCIDENTALIS / WOOLLY ROSE-MALLOW	

JUN PAT	JUNCUS PATENS / CALIFORNIA GRAY RUSH
LIL PAR	LILIUM PARDALINUM / LEOPARD LILY
MAH SO4	MAHOIA EURYBRACTEATA 'SOFT CARESS' / SOFT CARESS MAHOIA
MUH RIG	MUHLENBERGIA RIGENS / DEER GRASS
MYR CAL	MYRICA CALIFORNICA / PACIFIC WAX MYRTLE
RHA EVE	RHAMNUS CALIFORNICA 'EVE CASE' / EVE CASE COFFEEBERRY
ROS COL	ROSMARINUS OFFICINALIS 'COLLINGWOOD HIGRAM' / COLLINGWOOD HIGRAM ROSEMARY
RUD CAL	RUBROECKIA CALIFORNICA / CALIFORNIA CONEFLOWER
SAL AL	SALVIA CLEVELANDII 'ALLEN CHICKERING' / ALLEN CHICKERING CLEVELAND SAGE
SAI CHA	SAITOLIJIA CHAMAEOPARISSUS / LAWEIDER COTTON



## Appendix B

### Plants and Wildlife Identified During the Site Visit and Survey

**Plants Observed within the Subject Parcel During Surveys Conducted on February 16<sup>th</sup>, 2022**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Origin</b>	<b>Form</b>	<b>Rarity Status</b>	<b>Wetland Status (WMVC 2016)</b>	<b>CAL-IPC Status</b>
<i>Avena fatua</i>	Wild oats	non-native	perennial herb	-	FACU	-
<i>Bromus diandrus</i>	Ripgut brome	non-native	perennial herb	-	FACU	-
<i>Bromus hordeaceus</i>	Soft chess	non-native	perennial herb	-	FACU	-
<i>Dactylis glomerata</i>	Orchardgrass	non-native	grass	-	FACU	-
<i>Elymus glaucus</i>	Wild rye	non-native	perennial herb	-	FAC	-
<i>Erodium cicutarium</i>	Filaree	non-native	perennial herb	-	FACU	-
<i>Juncus sp.</i>	Rush	native	perennial herb	-	FACW	-
<i>Pinus sabiniana</i>	Foothill pine	native	tree	-	FACU	-
<i>Plantago lanceolata</i>	Ribwort	non-native (invasive)	perennial herb	-	FACU	Limited
<i>Populus fremontii ssp. fremontii</i>	Cottonwood	native	tree	-	FAC	-
<i>Quercus douglasii</i>	Blue oak	native	tree	-	-	-
<i>Quercus wislizeni</i>	Interior live oak	native	tree	-	-	-
<i>Rubus armeniacus</i>	Himalayan blackberry	non-native (invasive)	shrub	-	FACU	High
<i>Rubus ursinus</i>	California blackberry	native	vine, shrub	-	FACU	-
<i>Rumex crispus</i>	Curly dock	non-native (invasive)	perennial herb	-	FAC	Limited
<i>Salix sp.</i>	Willow	native	tree	-	FACW	-
<i>Taeniatherum caput medusae</i>	Medusa head	non-native	perennial herb	-	FACU	High
<i>Toxicodendron diversilobum</i>	Poison oak	native	vine, shrub	-	FAC	-
<i>Trifolium sp.</i>	-	-	-	-	-	-
<i>Verbascum thapsus</i>	Woolly mullein	non-native (invasive)	perennial herb	-	FACU	Limited

Wildlife Species Identified During Field Survey on February 16<sup>th</sup>, 2022

Wildlife

*Apheloxoma californica*

*Buteo jamaicensis*

*Callipepla californica*

*Melospiza crissalis*

Western scrub jay

Red-shouldered hawk

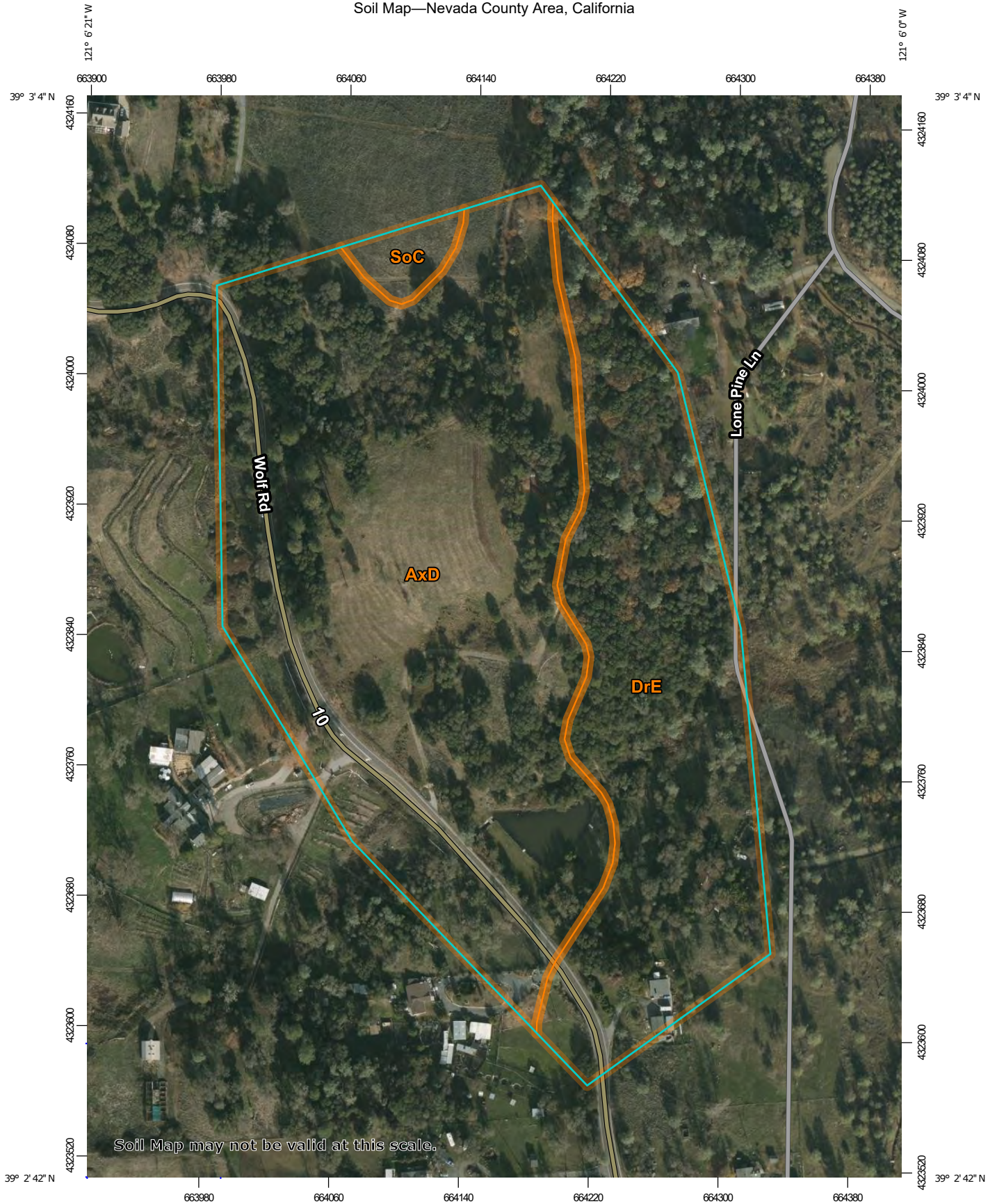
California quail

California towhee

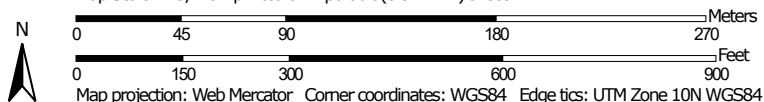
## Appendix C

USDA Soils Map

Soil Map—Nevada County Area, California




Map Scale: 1:3,240 if printed on A portrait (8.5" x 11") sheet.



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### 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: Nevada County Area, California

Survey Area Data: Version 15, Sep 1, 2022

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

Date(s) aerial images were photographed: Dec 6, 2018—Dec 12, 2018

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.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AxD	Auburn-Rock outcrop complex, 2 to 30 percent slopes	20.7	64.6%
DrE	Dubakella, shallow variant- Rock outcrop complex, 2 to 50 percent slopes	10.8	33.6%
SoC	Sobrante loam, 2 to 15 percent slopes	0.6	1.8%
<b>Totals for Area of Interest</b>		<b>32.0</b>	<b>100.0%</b>


## Appendix D

### National Wetland Inventory (NWI) Database Search Results



January 23, 2023

**Wetlands**

- |  |   |  |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland       |  Lake     |
|  Estuarine and Marine Wetland   |  Freshwater Forested/Shrub Wetland |  Other    |
|  |  Freshwater Pond                   |  Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

## Appendix **E**

### Photo Log

Photos of the Site Visit and Field Survey on February 16<sup>th</sup>, 2022



Photo 1: Entrance into the subject parcel off of Wolf Road. Project area dominated by annual grassland, oaks, and pines.



Photo 2: Access road into the subject parcel off of Wolf Road. Project area dominated by annual grassland, oaks, and pines.



Photo 3: Looking upslope towards the proposed disturbance areas. Test pits made in open sloped field where tent cabins, barn, and ceramics areas will be located.



Photo 4: Access road leading up to area of proposed disturbance. The side slope wetland/seep vegetation in photo will not be impacted.



Photo 5. Downslope side of the access road across from the side slope wetland vegetation. Road cut appears to be partly holding back hydrology on upslope side.



Photo 6: Existing NID canal and pond run upslope near where the proposed area of disturbance will be located within the subject parcel.



Photo 7. Photo of the pond connecting the NID canal and adjacent to the proposed areas of disturbance within the subject parcel.



Photo 8. Large open area upslope from the NID canal to the left along tree line. Irrigated pasture area in photo.





Photo 9. Open area where proposed disturbance will occur. Tent cabins, barn, and ceramics areas will be located within this open non-native annual grassland area.



Photo 10. Two landmark oak trees adjacent to the existing upslope pond along the NID canal. Some additional landmark grove is also mapped within the subject parcel.



Photo 11. Upslope area adjacent to the NID canal and open field with irrigated pasture.



Photo 12. Access road to upslope area with NID pond and canal. Proposed disturbance within open area to left will avoid the wetland/seep vegetation in photo.



Photo 13. Lower area of the open sloped area where proposed disturbance will occur. Disturbance areas will be located within this open area and to the right upslope.



Photo 14. Lower pond adjacent to the residence within the subject parcel.



Photo 15. Lower pond area with Wolf Road to the right. Proposed residence and guest cottages will be located in the open area behind the pond to the left in the photo.



Photo 16. Proposed access road to the proposed residence and guest cottages will be located adjacent to the pond. Dwellings to be located beyond the pond in open areas.

# Appendix **F**

## USFWS iPac Species List

# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Nevada County, California



# Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📅 (916) 414-6713

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

NOT FOR CONSULTATION

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).



1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> Wherever found There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened

## Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> Wherever found There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened

## Insects

NAME	STATUS
------	--------

## Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

## Flowering Plants

NAME

STATUS

### Stebbins' Morning-glory *Calystegia stebbinsii*

Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/3991>

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p><b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	<p>Breeds Jan 1 to Aug 31</p>
<p><b>Belding's Savannah Sparrow</b> <i>Passerculus sandwichensis beldingi</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p><a href="https://ecos.fws.gov/ecp/species/8">https://ecos.fws.gov/ecp/species/8</a></p>	<p>Breeds Apr 1 to Aug 15</p>

**Black Tern** *Chlidonias niger*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3093>

Breeds May 15 to Aug 20

**Bullock's Oriole** *Icterus bullockii*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds Mar 21 to Jul 25

**California Gull** *Larus californicus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Mar 1 to Jul 31

**California Thrasher** *Toxostoma redivivum*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jan 1 to Jul 31

**Cassin's Finch** *Carpodacus cassinii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9462>

Breeds May 15 to Jul 15

**Common Yellowthroat** *Geothlypis trichas sinuosa*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/2084>

Breeds May 20 to Jul 31

**Golden Eagle** *Aquila chrysaetos*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Breeds Jan 1 to Aug 31

**Lawrence's Goldfinch** *Carduelis lawrencei*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9464>

Breeds Mar 20 to Sep 20

**Nuttall's Woodpecker** *Picoides nuttallii*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9410>

Breeds Apr 1 to Jul 20

**Oak Titmouse** *Baeolophus inornatus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

Breeds Mar 15 to Jul 15

**Olive-sided Flycatcher** *Contopus cooperi*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3914>

Breeds May 20 to Aug 31

**Western Grebe** *Aechmophorus occidentalis*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/6743>

Breeds Jun 1 to Aug 31

**Wrentit** *Chamaea fasciata*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Mar 15 to Aug 10

## Yellow-billed Magpie *Pica nuttalli*

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9726>

# Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

## Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

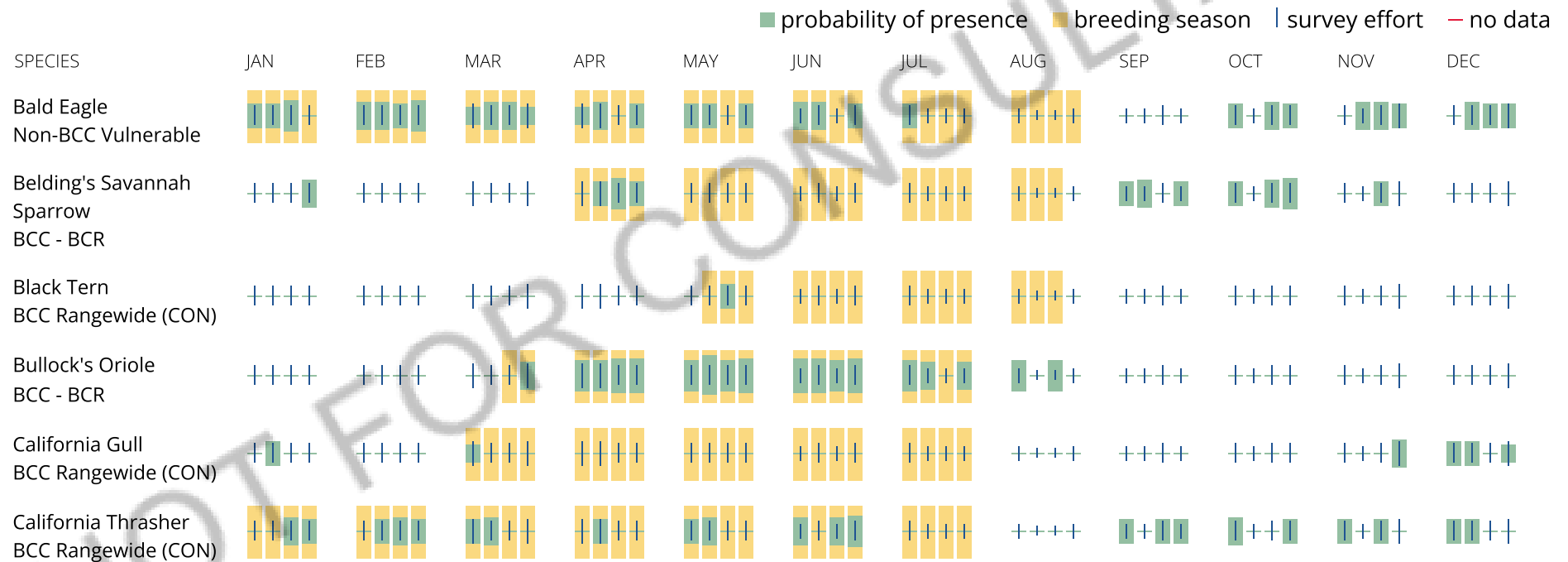
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

### No Data (-)

A week is marked as having no data if there were no survey events for that week.

### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**



The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore

energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

# Facilities

## National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

## Fish hatcheries

There are no fish hatcheries at this location.

## Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

# **Appendix F – Noise Study**



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November 30, 2023  
Rincon Project No. 23-15060

Leslie Barbazette  
10734 Wolf Road  
Grass Valley, CA 95949  
Via email: [lesliebarbazette@gmail.com](mailto:lesliebarbazette@gmail.com)

**Subject: Noise Study for the Wolf Craft School and Events Center Project, Grass Valley, California**

Dear Leslie:

Rincon Consultants, Inc. (Rincon) is pleased to provide this technical study prepared for the Wolf Craft School and Events Center ("project") to ensure that it is designed by the applicant and conditioned by Nevada County (County) to comply with the County's exterior noise standards. The project would involve use of the property for a craft school and event center.

## Project Understanding

The Wolf Craft School and Events Center would involve student learning in frontier type activities. The project would offer year-round classes to the public, lodging and dining for students, and specific areas designated for indoor and outdoor events, which could hold up to 150 individuals at peak time. Up to ten employees and up to 40 students and campers are anticipated. Hours of operations would be 8:00 am to 6:00 pm, seven days a week for classes, with overnight lodging available.

Site amenities would include short-term lodging in the form of tent cabins on raised platforms; event space for weddings and outdoor events; greenhouse and garden to grow vegetables; café for guests to have meals during their stay; general store for school materials; and a gallery of student crafts.

## Noise Overview

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment.

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dBA; dividing the energy in half would result in a 3 dBA decrease.



Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible; and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud.

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line-of-sight will provide at least 5 dBA reduction in noise level at the receiver.

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level ( $L_{eq}$ ); it considers both duration and sound power level.  $L_{eq}$  is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Typically,  $L_{eq}$  is summed over a one-hour period.  $L_{max}$  is the highest root mean square (RMS) sound pressure level within the sampling period, and  $L_{min}$  is the lowest RMS sound pressure level within the measuring period. Noise that occurs at night tends to be more disturbing than that occurring during the day as it can disrupt sleep.

## Regulatory Setting

### *Nevada County Municipal Code*

The Nevada County Municipal Code (NCMC) Section L-II 4.1.7, *Noise*, provides exterior noise standards, shown in Table 1.



Table 1 Noise Standards

Exterior Noise Limits				
Land Use Category	Zoning Districts	Time Period	Noise Level, dBA	
			Leq	Lmax
Rural	A1, TPZ, AE, OSM	7am – 7pm	55	75
	ER, IDR	7pm – 10pm	50	65
		10pm – 7am	40	55
Residential and Public	RA, R2, R1, R3, P	7am – 7pm	55	75
		7pm – 10pm	50	65
		10pm – 7am	45	60
Commercial and Recreation	C1, CH, CS, C2, C3, OP, REC	7am – 7pm	70	90
		7pm – 7am	65	75
Business Park	BP	7am – 7pm	65	85
		7pm – 7am	60	70
Industrial	M1, M2	Anytime	80	90

dBA = A-weighted decibel

Source: Nevada County Municipal Code, March 2023.

Section L-II 4.1.7.D contains the following provisions:

2. Projects with the potential for generating noise impacts shall incorporate design controls that assist in minimizing the impacts through the use of increased setbacks, landscaped earthen berms, solid fencing, placement of structures or other effective means.
5. The above standards shall be measured only on property containing a noise sensitive land use, including residences, schools, hospitals, nursing homes, churches, and libraries, and may be measured anywhere on the property containing said land use. However, this measurement standard may be amended to provide for measurement at the boundary of a recorded noise easement or as determined in a recorded letter of agreement between all affected property owners and approved by the County.
6. If the measured ambient level exceeds that permitted, then the allowable exposure standard shall be set at 5 dBA above the ambient.
8. The above standards shall not apply to those activities associated with the actual construction of a project or to those projects associated with the provision of emergency services or functions.

In addition, the following provisions in Section G-V 2.8 are related to noise from outdoor events:

- A. Hours. Outdoor Events shall not open prior to 9:00 a.m. and shall close by 10:00 p.m.; provided, however, that Outdoor Events in non-residential areas shall close by 11:00 p.m. on Fridays and Saturdays. Permitted hours of operation may be extended if the applicant demonstrates good cause for the extension and demonstrates that the extended hours will not adversely impact owners or users of, or allowed uses on, surrounding properties.
- H. Noise. Outdoor Events shall comply with the approved Noise Mitigation Plan. Noise levels generated by Outdoor Events shall not exceed the standards set forth in Table 1 (Exterior Noise Limits) of the Nevada County Zoning Ordinance applicable to the Land Use Category and Zoning District for the premises on which the outdoor event will be held.
- J. Frequency. No more than three (3) outdoor events shall occur per month and shall not occur on more than three (3) consecutive weekends regardless of the month in which they occur.





## *Nevada County General Plan*

Nevada County adopted the General Plan Noise Element in 2014. The Nevada County General Plan establishes the following applicable goals and policies:

### **Noise Goals and Objectives**

**Goal 9.1** Provide for the health, safety, and welfare of the people of Nevada County through a set of policies designed to encourage an environment free of unnecessary and annoying noise.

**Policy 9.1.1** Determine the existing noise environment and continue to reassess this environment so that a realistic set of noise standards can be developed reflecting the varying nature of different land uses.

**Policy 9.1.2** The noise standards contained in Table 1, as performance standards and land use compatibility standards, shall apply to all discretionary and ministerial projects excluding permitted residential (including tentative maps) land uses.

## Ambient Noise Measurements

To determine existing noise levels at the project site, Rincon conducted ambient noise monitoring in the project area. The noise monitoring included two short-term (ST) measurements (at least 10 minutes) taken on Friday, October 13, 2023 and one long-term (LT) measurement (24-hour) Thursday, October 12, through Friday, October 13, 2023. LT-1 and ST-1 were located near the project western boundary with Wolf Road. ST-2 was located near the eastern boundary of the project site. The approximate noise measurement locations are shown in Figure 1.

Measured noise levels were consistent with a rural residential setting. Traffic noise from Wolf Road was the primary influence on the ambient noise levels. The sound level meter used for noise monitoring (Extech 407780A) satisfies the American National Standards Institute (ANSI) standard for Type 2 instrumentation. The sound level meter was set to “slow” response and “A” weighting (dBA). The meter was calibrated before and after the monitoring period. The measurement was at least five feet above the ground and away from reflective surfaces, and the sound level meter was equipped with a windscreen during measurements.

## Ambient Noise Results

Table 2 summarizes the results of the short-term measurement and Table 3 summarizes the results of the long-term noise measurement.



Table 2 Short-Term Noise Level Measurement Results

Measurement Location	Measurement Location	Sample Times	Approximate Distance to Primary Noise Source or Project Site	L <sub>eq</sub> (dBA)	L <sub>max</sub> (dBA)
ST-1	Western boundary with Wolf Road	2:22 – 2:36 p.m.	Approximately 50 feet east of the Wolf Road centerline	63.4	82.2
ST-2	Near eastern boundary with rural residences	2:02 – 2:12 p.m.	Approximately 450 feet from Wolf Road	44.4	49.2

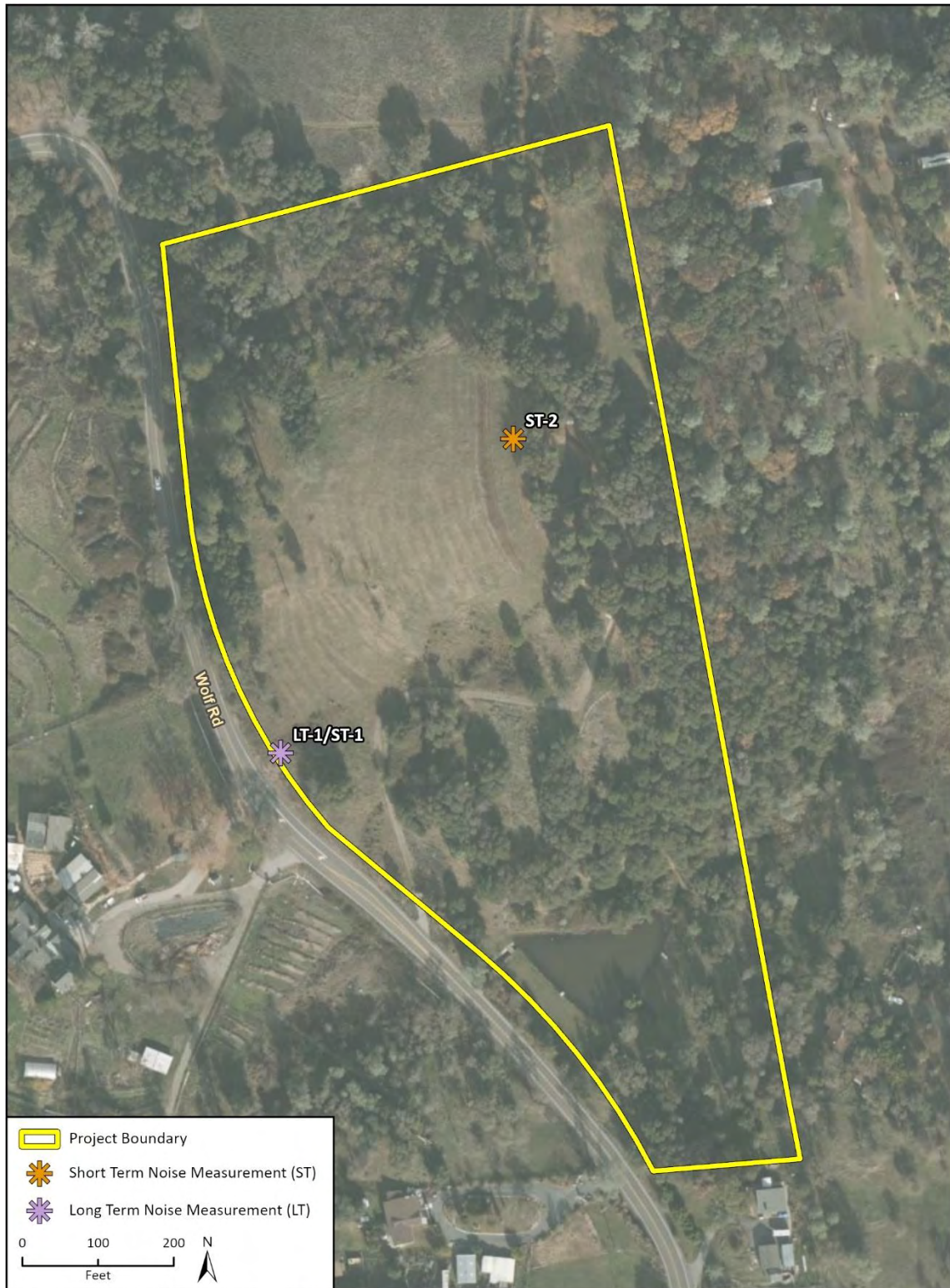
dBA = A-weighted decibels; L<sub>eq</sub> = equivalent noise level; L<sub>min</sub> = minimum noise level, L<sub>max</sub> = maximum noise level

Table 3 Long-Term Noise Measurement Results

Sample Time	dBA L <sub>eq</sub>	Sample Time	dBA L <sub>eq</sub>
<b>LT-1 – Wolf Road, October 12 - 13, 2023</b>			
11:47 a.m.	62	11:47 p.m.	53
12:47 p.m.	61	12:47 a.m.	43
1:47 p.m.	62	1:47 a.m.	50
2:47 p.m.	63	2:47 a.m.	54
3:47 p.m.	65	3:47 a.m.	56
4:47 p.m.	63	4:47 a.m.	60
5:47 p.m.	63	5:47 a.m.	62
6:47 p.m.	61	6:47 a.m.	63
7:47 p.m.	63	7:47 a.m.	68
8:47 p.m.	60	8:47 a.m.	63
9:47 p.m.	61	9:47 a.m.	63
10:47 p.m.	57	10:47 a.m.	63
<b>24-hour Noise Level (dBA CNEL)</b>			<b>66</b>

dBA = A-weighted decibels; L<sub>eq</sub> = equivalent noise level; CNEL = community equivalent noise level  
 See Figure 1 for approximate noise measurement locations.

Figure 1 Project Boundary and Approximate Noise Measurement Locations



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23-15060 EPS  
Fig X Noise Monitoring Locations



## Construction Noise

Noise from construction of the project would temporarily increase noise levels at nearby residences. Construction activities would generate noise from site preparation, grading, building construction, and paving activities. Each phase of construction has a specific mix of construction equipment and associated noise characteristics, depending on the equipment used during that phase. Construction noise would typically be higher during the initial phases of construction (i.e., site preparation and grading work) and would be lower during the later construction phases (i.e., building construction and paving). Table 4 illustrates typical noise levels associated with construction equipment at 50 feet and 100 feet. When equipment is located within 50 feet of rural residential property lines to the east, construction noise levels could be as high as approximately 85 dBA, though would generally be lower as equipment moves across the project site.

Noise generated by construction activities would occur in the daytime hours between sunrise and sunset, as defined in the NCMC Section L-I 1.2 (Nevada County 2023). Although the noise generated by project construction would be higher than existing ambient noise levels, construction noise would be temporary and cease once project construction is completed. Project construction noise would occur during daytime hours when construction noise would be less disruptive. Therefore, a less than significant noise impact would result from construction activities.

Table 4 Typical Noise Levels for Construction Equipment

Equipment	Estimated Noise Levels (dBA $L_{eq}$ )	
	50 feet	100 feet
Air Compressor	80	74
Backhoe	80	74
Concrete Mixer	85	79
Dozer	85	79
Grader	85	79
Loader	80	74
Paver	85	79
Roller	85	79
Scraper	85	79
Truck	84	78

Source: Federal Transit Administration, 2018. *Transit Noise and Vibration Impact Assessment Manual*.



## Operational Noise

### *Stationary Source Noise*

The proposed woodshop would include a dust collector unit, a table saw, a jointer, a planer, a bandsaw, and a small power hammer. In addition to various hand tools such as hammers and anvils. Use of these tools will be located inside the proposed barn and will not be operated during the nighttime hours of 10:00 p.m. to 7:00 a.m. (Nevada County 2023). Therefore, noise levels from these tools will be attenuated by the proposed barn walls and would not result in a significant operational noise impact at the nearby residential property lines.

In addition, proposed recreational and community activities such as weddings and special events at the project site would be a source of project operational noise. The main noise source associated with proposed special events would be from amplified music during the events held in the northeast corner of the project site approximately 50 feet from the eastern rural residential property line. Each special event client would be responsible for hiring a DJ if they would like one. Since there is no proposed in-house PA or speaker system, noise levels generated by each special event would be a function of the type of PA system and speakers and the volume level set by the DJ. Noise levels from typical amplified special events with PA speakers could be 85 dBA or more near the speakers (e.g., 25 feet or less).

For the purposes of this assessment, it is assumed that amplified events could occur at times in the evening hours past 7:00 p.m. but would end no later than 10:00 p.m. The closest residential property line to the proposed special events area is the rural residential property to the east at a distance of approximately 50 feet. The closest receptors to the west are residences to the northwest located at a distance of approximately 675 feet or greater from the proposed special events area. A 6-foot wooden fence is proposed along the eastern property line which, in combination with the proposed retaining wall/elevation change, would provide approximately 10 feet of acoustical shielding. Based on a standard noise attenuation rate of approximately 6 dBA per doubling of distance and reduction from the proposed retaining wall and fence, noise from special events would be 64 dBA  $L_{eq}$  or more at the nearest residential property line to the east if uncontrolled, which would exceed the County noise standard of 50 dBA  $L_{eq}$  during evening hours.

The following conditions of approval are recommended to comply with the Nevada County noise standards:

### ***Special Event Noise Reduction***

During outdoor amplified special events at the subject property, the following noise-reduction measures shall be adhered to:

- Conclude all outdoor amplified sound by 10:00 p.m.
- Require that the sound system contractor/DJ limit noise levels to 75 dBA at a distance of 25 feet from the speakers. The sound system contractor/DJ can verify the noise level in real time using a sound level meter or decibel reader phone application such as the NIOSH SLM app. Measures to achieve this include, but are not limited to, volume control, bandwidth, and peak limiters. The sound system/contractor shall use speaker angle or directivity techniques to ensure that the noise is directed to the west away from the nearest off-site residences to the east.



- Construct a minimum 5-foot-high barrier (as measured from the ground) such as a wall or bandshell immediately to the east of the special events area where PA speakers would be located. Materials for the barrier may include solid masonry, plexiglass, 1/4-inch-thick glass, wooden fence, or a combination of these barrier types. The barrier shall be continuous from bottom to top, with no cracks or gaps.

Based on a standard noise attenuation rate of approximately 6 dBA per doubling of distance, reduction from the proposed retaining wall, fence, and bandshell/barrier, and restricting amplified noise to a limit of 75 dBA at a distance of 25 feet from the speakers on-site, noise from special events would be 49 dBA  $L_{eq}$  at the nearest residential property line to the east, which would not exceed the County noise standard of 50 dBA  $L_{eq}$  during evening hours. Noise levels at the closest residence to the northwest at a distance of 675 feet, conservatively assuming no shielding, would be 46 dBA  $L_{eq}$ , which would not exceed the County noise standard of 50 dBA  $L_{eq}$  during evening hours.

*Off-Site Traffic Noise*

In addition, the proposed project would generate traffic noise from vehicles traveling to and from the project site. The proposed project would generate an estimated increase of 53 daily trips (TJKM 2023). As shown in Table 5, using average daily traffic (ADT) data from Nevada County’s Transportation Commission and adding the project trip generation, the estimated increase in traffic noise would be less than 0.1 dBA CNEL along Wolf Road, west of Highway 49. A traffic noise increase of less than 0.1 dBA CNEL would be represent a negligible and imperceptible increase. Traffic noise impacts would be less than significant.

Table 5 Predicted Increases in Traffic Noise Levels

Roadway Segment	Average Daily Trips (ADT)		Noise Level Increase (dBA CNEL)	Significant Impact? <sup>1</sup>
	Existing	Existing Plus Project		
Wolf Road, west of Highway 49	4,324	4,377	<0.1	No

<sup>1</sup> A significant impact would occur if project-related traffic increases the ambient noise environment of noise-sensitive locations by 1.5 dBA or more if.

Notes: The estimated traffic noise increase is based on the following formula:  $10 \times \text{LOG}(\text{future traffic volume} / \text{existing traffic volume})$ .

Source: TJKM 2023

\* \* \*



This concludes the acoustical analysis and construction noise assessment for the subject project. If there are questions regarding the content of this letter report, please feel free to contact me.

Sincerely,  
Rincon Consultants, Inc.

A handwritten signature in black ink, appearing to read "Josh Carman", with a long, sweeping horizontal stroke extending to the right.

Josh Carman, INCE-USA  
Director

# **Appendix G – Preliminary Drainage Report**



# PRELIMINARY DRAINAGE REPORT

## WOLF CRAFT COLLECTIVE USE PERMIT

### NEVADA COUNTY

10734 WOLF ROAD

GRASS VALLEY, CA 95949

#### PREPARED FOR:

Leslie Barbazette

1200 Stannage Avenue

Berkeley, California 94706

(510) 681-1034

#### PREPARED BY:



**MILLENNIUM**

PLANNING & ENGINEERING

471 Sutton Way, Suite 210  
Grass Valley, CA 95945

530-446-6765  
[www.millenniumpe.com](http://www.millenniumpe.com)

NOVEMBER, 2023



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## ATTACHMENTS

1. Water Quality Treatment and Retention Calculations
2. Hydrology Calculations (to be provided in Final Design)
3. Hydraulic Calculations (to be provided in Final Design)
4. Drainage Map



## I. PURPOSE

The purpose of this report is:

- To satisfy the requirements of the Nevada County Improvement Standards necessary to support the proposed development.
- To meet Nevada County requirements of no net increase in peak runoff for a 10-year and 100-year storm event. **For preliminary purposes, volume retention systems will be designed to store 1.36 inches of runoff per square foot of impervious area. A full detention analysis will be completed during final design.**

## II. INTRODUCTION

### PROJECT LOCATION/DESCRIPTION

The proposed project is located on a 15.77-acre parcel and proposes a craft school with one new barn, five classroom related structures, one office, eleven tent cabins, four tent camping platforms, a future residence, one café, and all associated roadways, parking lots, utilities, and stormwater volume storage facilities to support the development. The site is located at 10734 Wolf Road in Grass Valley (APN: 057-030-011) and currently has a driveway and a well. The parcel is zoned AG-10, and the project requires a Use Permit.

### PROJECT SITE TOPOGRAPHY AND SOILS

The majority of the existing drainage from the northern portion of the site sheet flows across the parcel from east to west towards Wolf Road. The remainder of the drainage from the southern portion of the site primarily sheet flows to the south towards the existing pond onsite. There are existing NID spillways onsite in addition to three ponds that convey water from NID facilities. Site slopes range from approximately 0-50%. The USDA Natural Resources Conservation Center Soils Map shows the property containing 69% of Auburn-Rock Outcrop Complex (AxD) with a Hydrologic Soil Group of C and 31% of Dubakella (DrE) with a Hydrologic Soil Group of C.

### PROJECT DRAINAGE

The surface runoff generated from the proposed impervious areas of compacted gravel, concrete, asphalt, and roof runoff will be captured via sheet flow or via a series of ditches and culverts to infiltration trenches and bioretention facilities throughout the project. See ***Attachment 4 (Drainage Map)*** for detailed drainage areas and facilities. In an extreme rain event, the infiltration facilities will overflow, and the drainage will return to sheet flow in the natural drainage pattern, and in no case will the post-development drainage flows exceed pre-development drainage flows.



### III. METHODOLOGY

#### HYDROLOGY

Nevada County Road Standards storm drain design criteria will be used to calculate the 10-year and 100-year peak runoff utilizing the Rational Method:

$Q = CIA$

C (Runoff Coefficient) is determined from Std. Dwg. D-15 (Att. F)

I (Intensity) is determined from Std. Dwg. D-11 and D-12 (Att. F) based on

Time of Concentration

$T_c$  (Time of Concentration) =  $T_i$  (sheet flow) +  $T_t$  (channel flow)

$T_i$  is determined from Std. Dwg. D-8 (Att. F) and the TR-55 method

$T_t$  is determined from Std. Dwg. D-9 (Att. F) and the TR-55 method

A (Area)

A full hydrologic and detention analysis will be completed during final design.

#### HYDRAULICS

Hydraulic evaluation and design will be performed in accordance with Nevada County Standards and storm drain design criteria.

All culverts, storm drain systems, and ditches will be designed to handle the 10-year and 100-year storm flows. Hydraulic analysis will be completed during final design.

#### WATER QUALITY TREATMENT AND RETENTION METHODS

Storm drainage from impervious areas (roads, walks, roofs) is collected and routed through water quality treatment facilities for removal of potential pollutants. This consists of the following Best Management Practices (BMP's) prior to discharge of flow to existing drainage facilities.

- |       |  |
|-------|--|
| TC-10 | Infiltration Trenches provide runoff treatment and storage using a long, narrow gravel filled trench. Infiltration trenches store water in the void space between stones, and infiltrates through the bottom. Infiltration trenches provide good removal of fine sediment and associated pollutants.   |
| TC-30 | Vegetated swales and rock-lined swales will provide pre-treatment by collecting and slowly conveying runoff to downstream treatment facilities. They are designed to treat runoff through filtering and trapping sediment and other pollutants with angular rock lining or vegetation in the channel, filtering through a subsoil matrix and infiltration into the underlying soils. |



- TC-32            Bioretention areas remove pollutants by filtering runoff through plants and engineered subsurface soil, restores groundwater levels, and reduces peak runoff by capturing and filtering stormwater.
  
- TC-50            Initial water quality treatment is provided in storm drain inlets utilizing a 12-inch deep sump. The sump, located below the storm drain outlet, captures sand and sediment and includes weep holes for infiltration.

During construction, additional BMPs including temporary erosion control facilities shall be implemented to control any pollutants that could potentially affect the quality of storm water discharges from the site. An Erosion Control Plan will be prepared for this project in final design. For preliminary purposes, storm water volume storage/treatment facilities were sized to store 1.36 inches of runoff per square foot of impervious surface. The Water Quality Treatment and Retention Calculations can be found in *Attachment 1*.

## IV. CONCLUSION

### RESULTS

For preliminary purposes, storm water volume storage/treatment facilities were sized using a storage requirement of 1.36 inches of runoff per square foot of proposed impervious area. **Pre- and Post- development flows will be determined during the final design, as required by Nevada County to determine hydraulic sizing.**

### REFERENCES

- *NRCS Web Soil Survey Map*, <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>
- *California Stormwater BMP Handbook; New Development and Redevelopment*, dated January 2003.
- *Preliminary Grading and Drainage Plan for Wolf Craft Collective Use Permit* prepared by Millennium Planning and Engineering, dated November, 2023.

Please feel free to contact our office at (530) 446-6765 with any questions.

Lillian Sparks, PE  
Civil Engineer



# ATTACHMENT 1

WATER QUALITY TREATMENT & RETENTION CALCULATIONS



**DRAINAGE AREA SUMMARY & REQUIRED VOLUME CALCULATIONS**

Label	Total Area		Paved Surface	Compacted Gravel	Roof	Total Pervious Area	Total Impervious Area	% Impervious	Required Storage Volume <sup>1</sup>
	sf	ac	sf	sf	sf	sf	sf		cf
DMA-1	1,265	0.03	360	0	815	90	1,175	93%	133
DMA-2	913	0.02	0	0	815	98	815	89%	92
DMA-3	13,117	0.30	8,738	0	0	4,379	8,738	67%	990
DMA-4	33,748	0.77	16,788	0	4,050	12,910	20,838	62%	2362
DMA-5	97,925	2.25	24,921	0	10,944	62,060	35,865	37%	4065
DMA-6	6,838	0.16	3,010	0	1,270	2,558	4,280	63%	485
DMA-7	14,225	0.33	4,056	0	1,840	8,329	5,896	41%	668
DMA-8	5,183	0.12	2,376	314	0	2,493	2,690	52%	305
DMA-9	3,343	0.08	0	1,275	0	2,068	1,275	38%	145
<b>Total =</b>	<b>176,557</b>	<b>4.05</b>	<b>60,249</b>	<b>1,589</b>	<b>19,734</b>	<b>94,985</b>	<b>81,572</b>	<b>46%</b>	<b>9245</b>

<sup>1</sup> - Required Storage Volume based on 1.36" of runoff per square foot of impervious area

**RETENTION CALCULATIONS**

Drainage Area Label	Treatment Label	Required Storage Volume <sup>1</sup>	Bottom Area	Gravel Depth	Gravel Porosity	Soil Depth	Soil Porosity	Ponding Depth	Total Retention Provided
		cf	sf	ft		ft		ft	cf
DMA-1	INF-1	133	90	3.75	0.4	0.00	0.4	0	135
DMA-2	INF-2	92	82	3.00	0.4	0.00	0.4	0	98
DMA-3	INF-3	990	825	3.00	0.4	0.00	0.4	0	990
DMA-4	INF-4	2,362	1882	3.20	0.4	0.00	0.4	0	2409
DMA-5	BIO-1	4,065	2217	1.00	0.4	2.50	0.4	0.5	4212
DMA-6	BIO-2	485	235	1.00	0.4	3.00	0.4	0.5	494
DMA-7	BIO-3	668	388	1.00	0.4	2.50	0.4	0.33	671
DMA-8	INF-5	305	193	4.00	0.4	0.00	0.4	0	309
DMA-9	INF-6	145	307	1.25	0.4	0.00	0.4	0	154

# ATTACHMENT 2

HYDROLOGY CALCULATIONS  
(TO BE PROVIDED IN FINAL DESIGN)

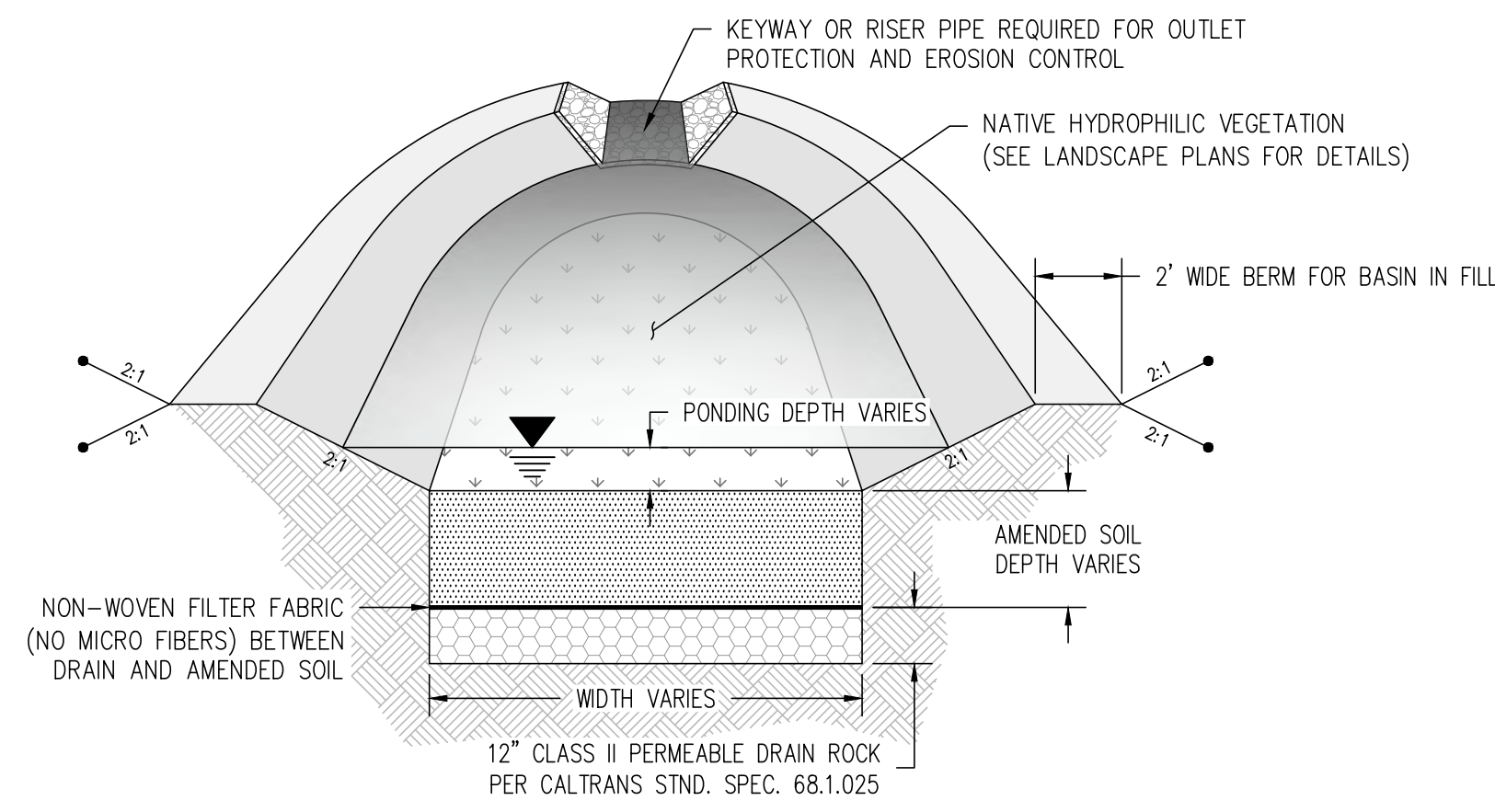


# ATTACHMENT 3

HYDRAULIC CALCULATIONS  
(TO BE PROVIDED IN FINAL DESIGN)

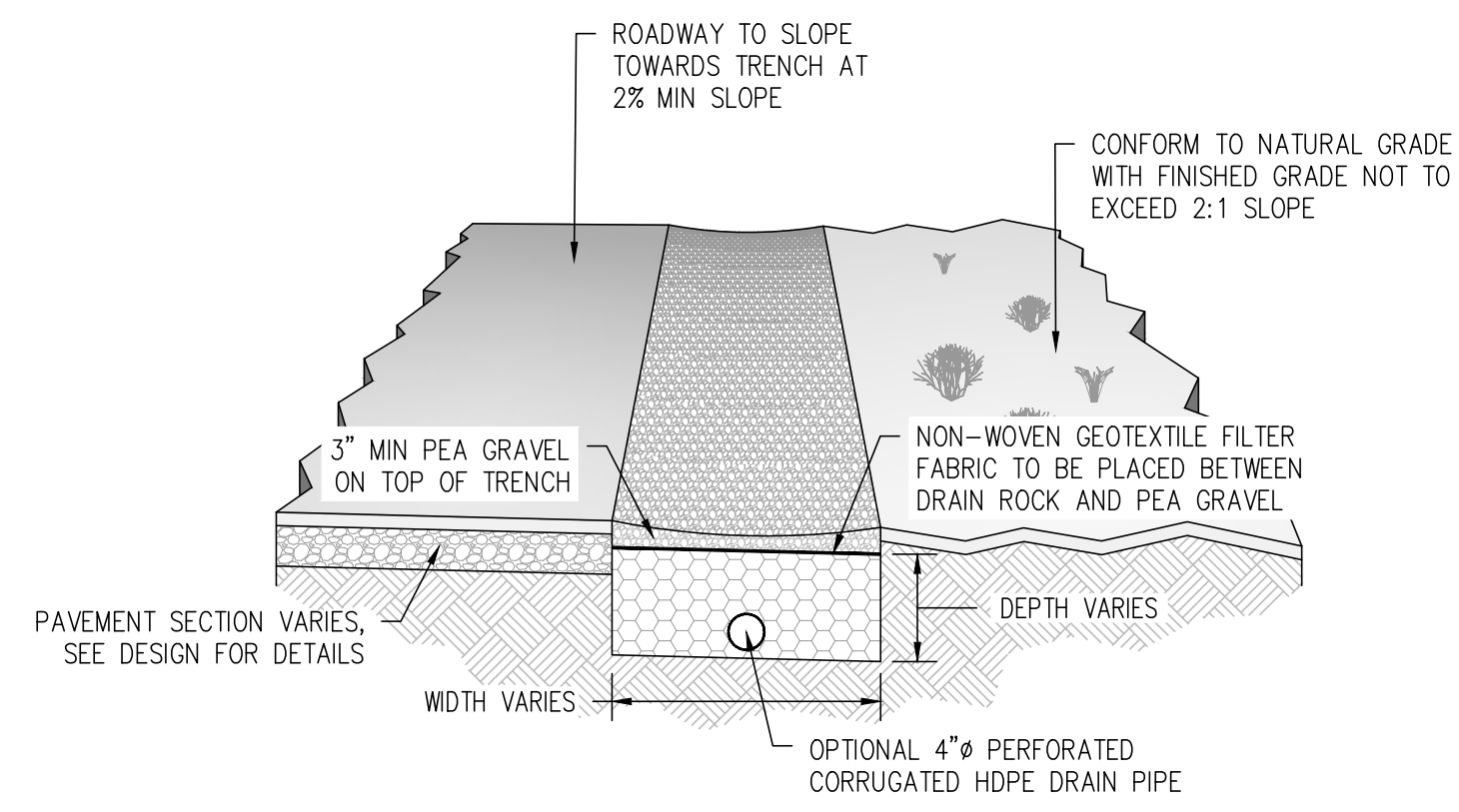
# ATTACHMENT 4

DRAINAGE MAP



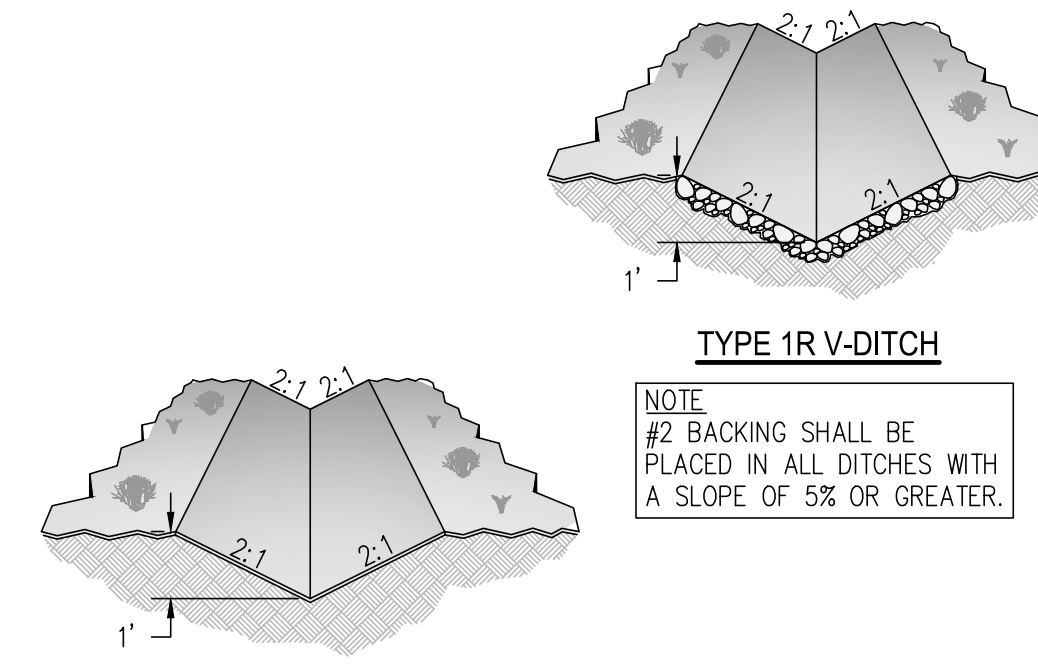
BIORETENTION TYPICAL SECTION DETAIL

NTS



ROADSIDE INFILTRATION TRENCH DETAIL

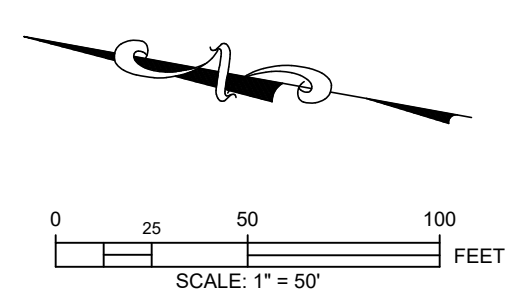
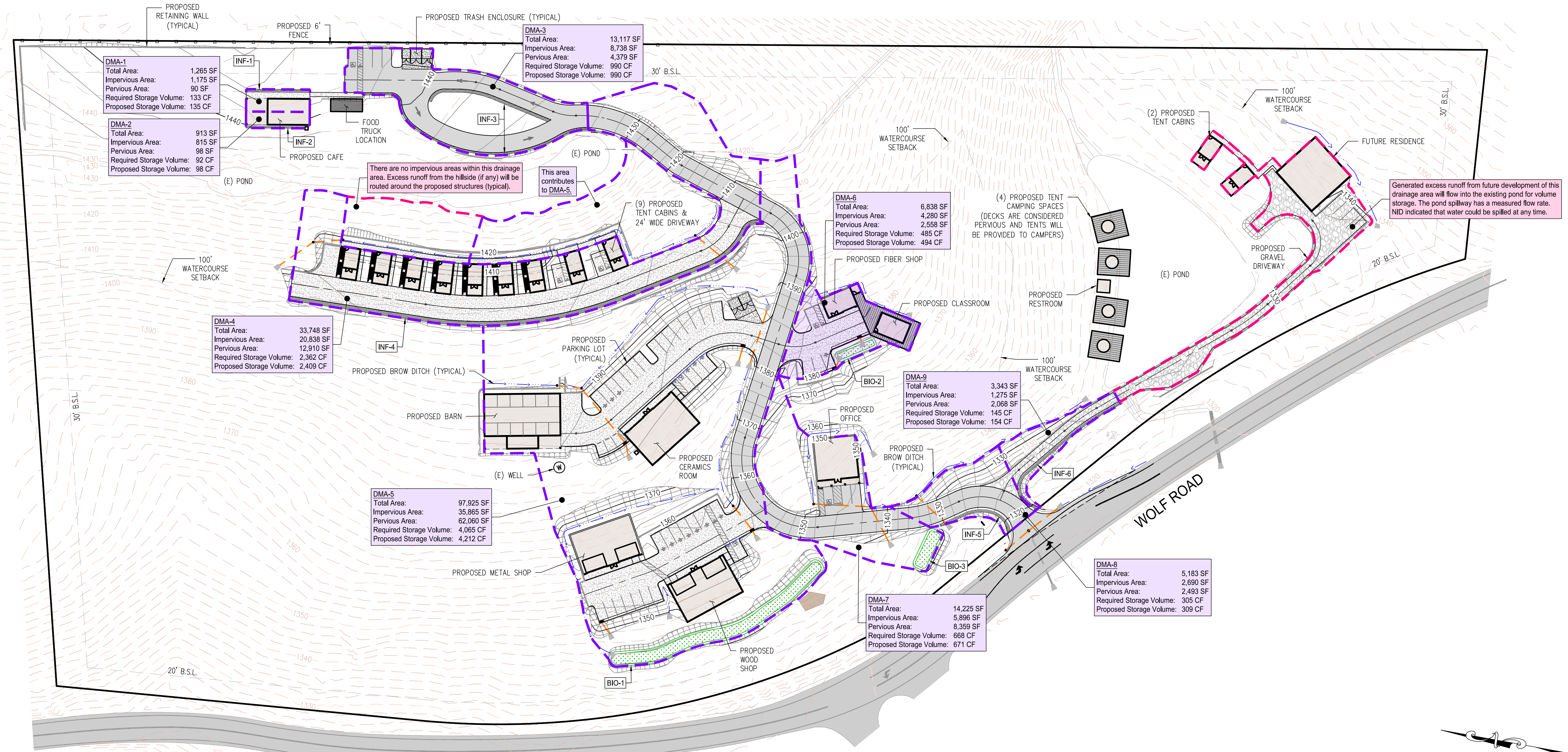
NTS



V-DITCH TYPICAL SECTION DETAIL

NTS

LEGEND	
	PROPERTY LINE
	BUILDING SETBACK LINE
	DRAINAGE AREA
	PROPOSED FLOW LINE
	PROPOSED STORM DRAIN PIPE
	PROPOSED BIORETENTION AREA
	PROPOSED INFILTRATION TRENCH
	EXISTING NID SPILLWAY
	PROPOSED RETAINING WALL



**MILLENNIUM**  
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471 SUTTON WAY, SUITE 210, GRASS VALLEY, CA 95945 (530) 446-6765

DATE	DESCRIPTION

REV.   

**WOLF CRAFT COLLECTIVE**  
10734 WOLF ROAD  
GRASS VALLEY, CA 95949

POST-DEVELOPMENT HYDROLOGY MAP

REGISTERED PROFESSIONAL ENGINEER  
LILLIAN A. SPARKS  
No. C95724  
PRELIMINARY  
CIVIL  
STATE OF CALIFORNIA

DESIGNED BY: LAS  
DRAWN BY: LAS  
PROJECT NO: 21-0103  
DATE: 11/21/2023  
SHEET NUMBER:  
**C1.0**

# **Appendix H – Traffic Impact Study**

Traffic Impact Analysis Report

## **Wolf Craft Collective**

Nevada County, California

November 22, 2023



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## EXECUTIVE SUMMARY

This report summarizes the results of the Traffic Impact Study (TIS) conducted for the proposed Wolf Craft Collective located at 10734 Wolf Road, in unincorporated Nevada County near the City of Grass Valley. The proposed project would construct multiple workshop buildings, an owner's residence, and 15 camping spaces consisting of a mix of tent cabins and platform tent spaces for students and staff. Related facilities on site would include a cafe for students and staff, event space, and a barn. The site is currently vacant. Access to the site would be provided by one existing driveway.

The purpose of this report is to provide summaries of changes in vehicle miles traveled (VMT) and traffic impacts on the surrounding transportation system with the proposed project. The scope of this study is based on the TIS Guidelines for Nevada County. The VMT analysis is based on the methodology adopted by the Nevada County Transportation Commission (NCTC). To evaluate the effects on the transportation infrastructure due to the addition of traffic from the proposed project, an LOS analysis was conducted to determine consistency with Nevada County and NCTC plans and standards.

### **Project Trip Generation**

TJKM developed estimated project trip generation for the proposed project based on published trip generation rates from the ITE publication *Trip Generation (11<sup>th</sup> Edition)*. Based on the operational plans for the proposed craft school, it was determined that the number of permanent residences and campsites would be the most reasonable basis for estimating trips generated by such a use. TJKM used published trip rates for the ITE land use Mobile Home Park (ITE Code 240) for the proposed owner's residence and Campground/RV Park (ITE Code 416) for the various campsites provided for students and staff. A prior proposal would have constructed 34 camping spaces, including traditional tent camping spaces, and the project is conservatively analyzed using this larger project size. Up to 19 additional camping spaces can be added to the currently proposed project without increasing project trips. The proposed project is expected to generate 53 total daily trips, including seven a.m. peak hour trips (three in, four out) and 10 p.m. peak hour trips (seven in, three out).

### **Vehicle Miles Traveled**

The proposed project's total daily VMT was estimated based on expected trip lengths and daily trip generation. As the project is located in the western Nevada County travel forecasting model area, the screening criterion for total daily VMT was applied. TJKM considers it highly likely that the project would generate less than 630 VMT per day, resulting in a **less-than-significant impact** under CEQA.

### **Existing Conditions**

Under this scenario, both of the study intersections operate within applicable jurisdictional standards during both peak hours. The signalized intersection of CA-49 & Wolf Road/Combie Road would operate at LOS D during both peak hours.

### **Existing plus Project Conditions**

Under this scenario, both of the study intersections would continue to operate within applicable jurisdictional standards during both peak hours. The project driveway would operate at LOS B during both



peak hours, and the signalized intersection of CA-49 & Wolf Road/Combie Road would continue to operate at LOS D during both peak hours. The amount of project traffic added to CA-49 & Wolf Road/Combie Road is sufficiently small that there would be no increase in average delay during either peak hour. The project **would be consistent** with level of service standards set forth under the Nevada County General Plan.

**Cumulative Conditions**

The Cumulative No-Project Conditions analysis forecasts how the study area’s transportation system would operate with the growth and changes of the surrounding community by the year 2040. Projected 2040 traffic volumes are derived from the NCTC travel demand model.

Under this scenario, both of the study intersections would continue to operate within applicable jurisdictional standards during both peak hours. The signalized intersection of CA-49 & Wolf Road/Combie Road would continue to operate at LOS D during both peak hours.

**Cumulative plus Project Conditions**

Under this scenario, both of the study intersections would continue to operate within applicable jurisdictional standards during both peak hours. The project driveway would operate at LOS B during both peak hours, and the signalized intersection of CA-49 & Wolf Road/Combie Road would continue to operate at LOS D during both peak hours. The amount of project traffic added to CA-49 & Wolf Road/Combie Road is sufficiently small that there would be no increase in average delay during either peak hour. The project **would be consistent** with level of service standards set forth under the Nevada County General Plan.

**Queuing Analysis**

Queuing operations calculated at the signalized study intersection of CA-49 & Wolf Road/Combie Road under Existing and Existing plus Project Conditions. The project would add trips to four dedicated left- and right-turn lanes at this intersection. Under Existing Conditions, all 95<sup>th</sup> percentile queue lengths can be fully accommodated in the available storage length. The addition of project trips would not cause any new queue overflows, with negligible increases in queue lengths.

**Site Access and On-Site Circulation**

As the current site plan is preliminary, recommendations were provided for the design of future, more detailed site plans. TJKM concluded that the site plan will operate acceptably and provide adequate circulation within the site. The proposed project does not conflict with existing and planned pedestrian or bicycle facilities and will add trips to existing transit facilities, which can be accommodated by the existing transit capacity. Site access and circulation for vehicles, pedestrians, and bicycles are considered **adequate**.

**Parking**

The proposed site plan shows the specific locations of parking to be provided, including parking areas near the workshops and dining building and individual accessible spaces next to each accessible tent cabin site. A total of 61 parking spaces would be provided, including seven accessible spaces distributed near building entrances and marked pedestrian pathways/crosswalks. The proposed project would host

occasional events of up to 100 people, generating the most parking demand at those times. If applicable, areas of the site that can be used for additional event parking should be identified. TJKM recommends a parking management plan be developed based on the number of vehicles and average vehicle occupancy at proposed events.

***Recommendations***

TJKM recommends the following:

- Ensure that all pedestrian paths meet ADA requirements.
- Ensure that vegetation to the north and south of the project driveway be trimmed back between the roadway and fence.
- Reverse the W2-2 warning sign to the south of the project driveway, to alert drivers to an access point on the right side.
- If applicable, areas of the site that can be used for additional event parking should be identified.

## 1.0 INTRODUCTION

This report summarizes the results of the Traffic Impact Study (TIS) conducted for the proposed Wolf Craft Collective located at 10734 Wolf Road, in unincorporated Nevada County near the City of Grass Valley. The proposed project would construct multiple workshop buildings, an owner's residence, and 15 camping spaces consisting of a mix of tent cabins and platform tent spaces for students and staff. Related facilities on site would include a cafe for students and staff, event space, and a barn. The site is currently vacant. Access to the site would be provided by one existing driveway.

This chapter discusses the TIS purpose, project study area, and analysis scenarios. **Figure 1** shows the study area and project site location. **Figure 2** shows the project site plan, dated November 16 2023.

### 1.1 STUDY PURPOSE

The purpose of this report is to provide summaries of changes in vehicle miles traveled (VMT) and traffic impacts on the surrounding transportation system with the proposed project. The scope of this study is based on the TIS Guidelines for Nevada County. The VMT analysis is based on the methodology adopted by the Nevada County Transportation Commission (NCTC). To evaluate the effects on the transportation infrastructure due to the addition of traffic from the proposed project, an LOS analysis was conducted to determine consistency with Nevada County and NCTC plans and standards.

### 1.2 STUDY INTERSECTIONS

TJKM evaluated traffic conditions at two study intersections during the a.m. and p.m. peak hours for a typical weekday. The study intersections were selected based on TJKM's working knowledge of the area with input and approval from Nevada County. For this study location, it was assumed that observed traffic volumes would be representative of typical traffic volumes.

The peak periods observed were between 7:00-9:00 a.m. and 4:00-6:00 p.m. The study intersections and associated traffic controls are as follows:

1. Wolf Road & Project Driveway (One-Way Stop)
2. SR-49 & Wolf Road/Combie Road

### 1.3 STUDY SCENARIOS

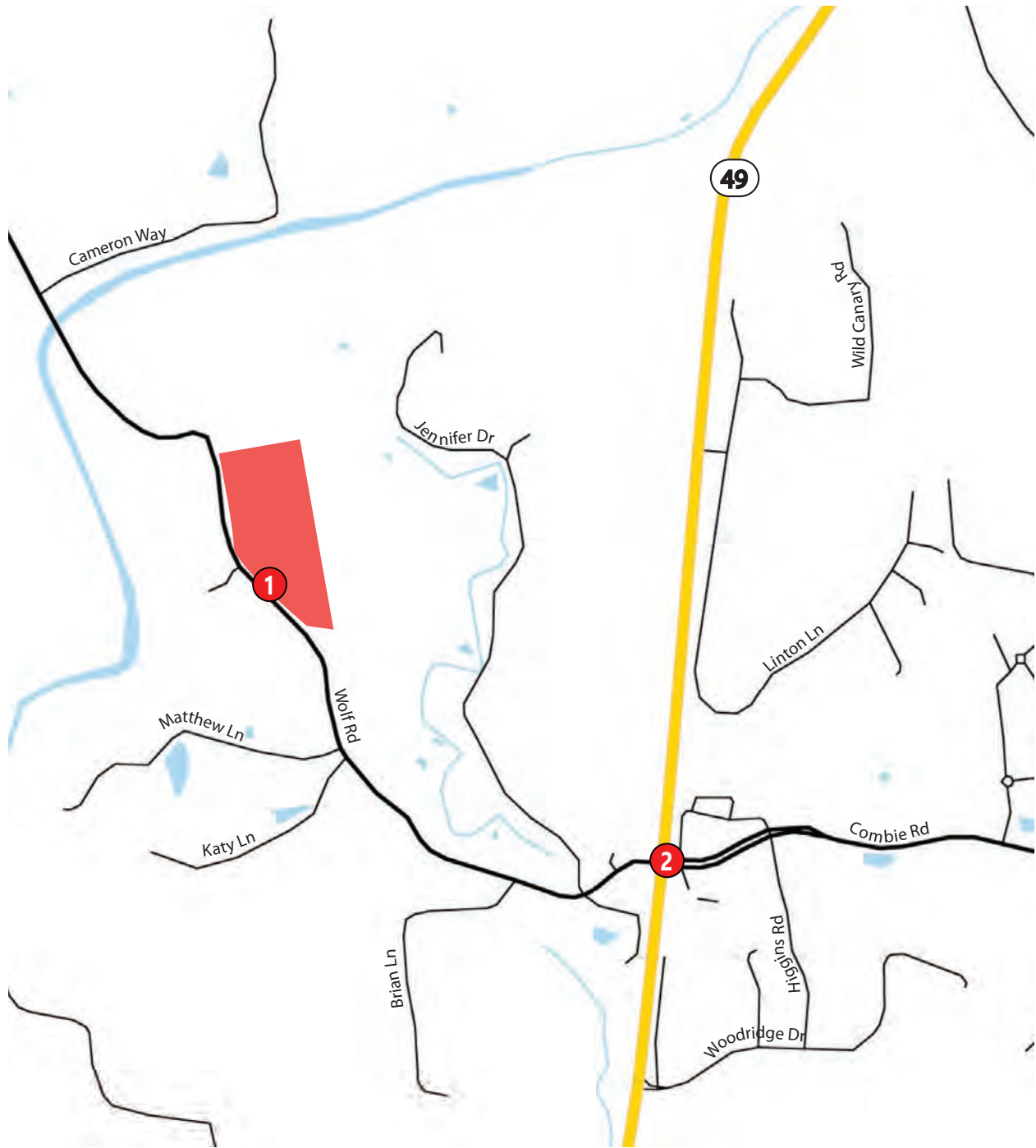
The roadway operations analysis addresses the following six traffic scenarios:

- **Existing Conditions** – This scenario evaluates the study intersections based on existing traffic volumes, lane geometry and traffic controls.
- **Existing plus Project Conditions** – This scenario is identical to Existing Conditions, but with the addition of traffic from the proposed project.
- **Cumulative Conditions (2040)** – This scenario considers the development of the project vicinity and surrounding communities to the year 2040, projecting existing traffic volumes to the year 2040 using a compounding annual growth factor of 0.54 percent per year. This growth factor was derived from

corridor volumes on Wolfe Road/Combie Road and SR-49 in the immediate study area, using the current NCTC travel demand model for baseline year 2018 and horizon year 2040.

- **Cumulative plus Project Conditions** – This scenario is identical to Cumulative Conditions, but with the addition of traffic from the proposed project.

Figure 1: Vicinity Map



LEGEND



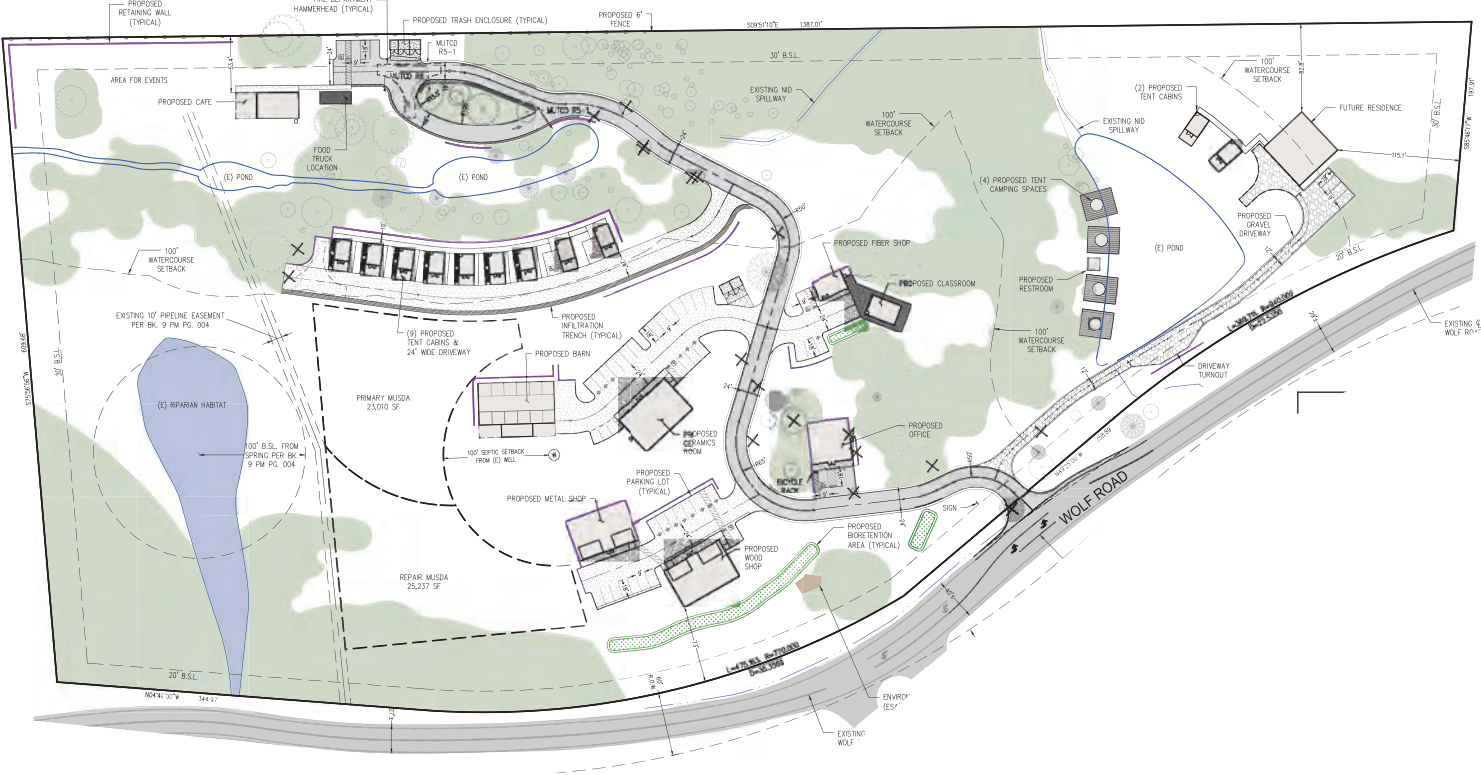
-  Project Site
-  Study Intersection



Figure 2: Site Plan



## 2.0 STUDY METHODOLOGY

Traffic impacts related to the proposed project were evaluated for both compliance with applicable regulatory documents and environmental significance as defined in the California Environmental Quality Act (CEQA). The CEQA analysis was conducted in accordance with the *Technical Advisory On Evaluating Transportation Impacts In CEQA* published by the Governor's Office of Planning and Research (OPR); the July 6, 2020, *Senate Bill 743 Vehicle Miles Traveled Implementation* guide, prepared for the Nevada County Transportation Commission (NCTC) by Fehr & Peers; and the Nevada County *Traffic Impact Analysis Guidelines*, updated in June 2020. As of July 1, 2020, intersection level of service (LOS) can no longer be used to determine significant CEQA impacts. However, an LOS analysis was conducted to determine consistency with Nevada County and NCTC plans and standards.

### 2.1 VEHICLE MILES TRAVELED

This study evaluates project-related VMT as outlined in the adopted Nevada County/NCTC VMT methodology. The Governor's Office of Planning and Research (OPR) *Technical Advisory* (December 2018) provides guidance to analysts and local jurisdictions for implementing VMT as a metric for determining the transportation impact for land use projects. The OPR guidelines state that for analysis purposes, "VMT" refers to automobile VMT, specifically passenger vehicles and light trucks. Heavy truck traffic is typically excluded.

The NCTC and Nevada County guidelines include a screening process that defines when a project would be exempted from a VMT analysis: the project must be consistent with the General Plan and the Regional Transportation Plan (RTP), and one of the following must be true:

- The project is a local-serving retail project of 50,000 square feet (sq. ft.) or less
- The project is a residential or work-related land use located in a TAZ with similar land uses, and the project is in a TAZ with total VMT per service population equal to or less than 14.3% below the subarea mean
- The project is a residential-related land use located in a TAZ with home-based VMT per resident equal to or less than 14.3% below the subarea mean
- The project is a work-related land use located in a TAZ with home-based work VMT per employee equal to or less than 14.3% below the subarea mean
- The project is located in the western Nevada County travel forecasting model area and generates less than 630 VMT per day.

### 2.2 LEVEL OF SERVICE ANALYSIS METHODOLOGY

Although Level of Service (LOS) is no longer relevant to CEQA, LOS can be used to determine conformity with an adopted general plan or congestion management program. LOS is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. The LOS generally describes these conditions in terms of such factors as speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. The operational LOS are given letter designations from A to F, with A representing the best operating conditions (free-

flow) and F the worst (severely congested flow with high delays). Intersections generally are the capacity-controlling locations with respect to traffic operations on arterial and collector streets in urban areas.

### **Signalized Intersections**

The study intersection under traffic signal control was analyzed using the 6<sup>th</sup> Edition Highway Capacity Manual (HCM) Operations Methodology for signalized intersections described in Chapter 18 (HCM 6<sup>th</sup> Ed.). This methodology determines LOS based on average control delay per vehicle for the overall intersection during peak hour intersection operating conditions. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections was calculated using Synchro 10 analysis software and was correlated to a LOS designation as shown in **Table 1**.

### **Unsignalized Intersections**

The study intersection under stop control (unsignalized) were analyzed using the 6<sup>th</sup> Edition HCM Operations Methodology for unsignalized intersections described in Chapter 20 (HCM 6<sup>th</sup> Ed.). LOS ratings for stop-sign controlled intersections are based on the average control delay expressed in seconds per vehicle. At the side street, one-way or two-way stop controlled intersections, the control delay is calculated for each movement, not for the intersection as a whole. For approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. The weighted average delay for the entire intersections is presented for all-way stop controlled intersections. The average control delay for unsignalized intersections was calculated using Synchro 10 analysis software and was correlated to a LOS designation as shown in **Table 2**.



**Table 1: Signalized Intersection Delay and LOS Definitions**

Level of Service	Description	Average Control Delay
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though may still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major-contributing causes of such delay levels.	greater than 80.0

Source: Highway Capacity Manual 6<sup>th</sup> Ed., Chapter 18 (Transportation Research Board, 2010)  
Average Control Delay per Vehicle in seconds

**Table 2: Unsignalized Intersection Delay and LOS Definitions**

Level of Service	Description	Average Control Delay
A	Little or no traffic delay	≤10
B	Short Traffic delays	>10 – 15
C	Average traffic delays	>15 – 25
D	Long traffic delays	>25 – 35
E	Very long traffic delays	>35 – 50
F	Extreme traffic delays	>50

Source: Highway Capacity Manual 6<sup>th</sup> Ed., Chapter 20 (Transportation Research Board, 2010)  
Average Control Delay per Vehicle in seconds

### 2.3 LEVEL OF SERVICE STANDARDS

Although level of service is no longer used for identifying impacts under CEQA, level of service analysis is still used for determining consistency with adopted agency plans and standards. Where standards refer to significant environmental impacts, this analysis instead identifies these as significant inconsistencies with adopted plans.

#### **Nevada County**

In the Nevada County General Plan, roadways are divided into *Rural Regions* and *Community Regions*, with separate LOS standards. For areas identified as *Rural Regions*, the minimum acceptable level of service is LOS C. For areas identified as *Community Regions*, the minimum acceptable level of service is LOS D. Based on the current General Plan land use map, the signalized study intersection of SR-49 & Wolf Road/Combie Road is in a *Community Region*, while the project driveway on Wolf Road is in a *Rural Region*.

## 3.0 EXISTING CONDITIONS

This section describes existing conditions in the immediate project site vicinity, including roadway facilities, bicycle and pedestrian facilities, and available transit service. In addition, existing traffic volumes and operations are presented for the study intersections, including the results of LOS calculations.

### 3.1 EXISTING SETTING AND ROADWAY SYSTEM

Relevant roadways in the project vicinity are discussed below and shown in **Figure 1**:

**SR-49/Golden Chain Highway** is a north-south, two- to four-lane highway that connects the project vicinity to the City of Grass Valley to the north and the City of Auburn to the south. The posted speed limit is 55 miles per hour (mph) north of Wolf Road/Combie Road and 65 mph to the south.

**Wolf Road** is a generally northwest-southeast, two-lane major collector road that provides direct access to the project site. Wolf Road extends west from SR-49/Golden Chain Highway and curves northward. The posted speed limit in the project vicinity is 40 mph. East of SR-49/Golden Chain Highway, Wolf Road changes designation to Combie Road.

**Combie Road** is an east-west, two- to four-lane minor arterial road that extends east from SR-49/Golden Chain Highway. Combie Road forms the major route through the community of Higgins Corner. The posted speed limit on Combie Road is 40 mph.

**Higgins Road** is a north-south, two lane local road located to the east of SR-49/Golden Chain Highway. Higgins Road provides access to the nearest shopping and services in the project vicinity. There is no posted speed limit on Higgins Road.

### 3.2 EXISTING PEDESTRIAN FACILITIES

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal “walkable” community includes wide sidewalks, a mix of land uses such as residential, employment, and shopping opportunities, a limited number of conflict points with vehicle traffic, and easy access to transit facilities and services.

Pedestrian facilities consist of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities.

As the project location is rural in character, there are no pedestrian facilities in the immediate project vicinity. To the southeast, there are limited sidewalks, walkways, and crosswalks provided in and around the intersection of SR-49 & Wolf Road/Combie Road, providing connectivity to the adjacent shopping centers. It should be noted that along Wolf Road, there is insufficient continuous shoulder width for pedestrians to safely walk outside of travel lanes without crossing at locations with limited visibility.

The existing pedestrian facilities in the study area are shown in **Figure 3**.

Figure 3: Existing Pedestrian Facilities



LEGEND

- Project Site
- Study Intersection
- Sidewalk
- Striped Crosswalk
- Pathway



### 3.3 EXISTING BICYCLE FACILITIES

Bicycle paths, lanes and routes are typical examples of bicycle transportation facilities, which are defined by Caltrans as being in one of the following three classes:

- Class I Multiuse Trail – a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.
- Class II Bike Lane – a designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted.
- Class III Bike Route – a route designated by signs or pavement markings and shared with pedestrians and motorists.
- Class IV Separated Bikeway – an on-street facility reserved for use by bicyclists, with physical separation between the bikeway and travel lanes. Physical separation consists of vertical elements that may include curbs, landscaping, bollards, or parking lanes.

As the project location is rural in character, there are no bicycle facilities in the immediate project vicinity. To the southeast, there are marked bike lanes on Combie Road east of SR-49. The existing and proposed bicycle facilities in the study area are shown in **Figure 4**.

### 3.4 EXISTING TRANSIT FACILITIES

In the project vicinity, transit services are provided by Nevada County Connects, operated by Nevada County. Route 5, operating between Auburn and Grass Valley, serves one stop in the project vicinity, located on Higgins Road at Combie Road. Route 5 operates with varying headways of 1-4 hours on weekdays only.

The existing transit facilities in the study area are shown in **Figure 5**.

Figure 4: Existing Bicycle Facilities



LEGEND

-  Project Site
-  Class II Bike Lane
-  Study Intersection



Figure 5: Existing Transit Facilities



LEGEND

- Project Site
- Study Intersection
- Bus Route
- Bus Stop



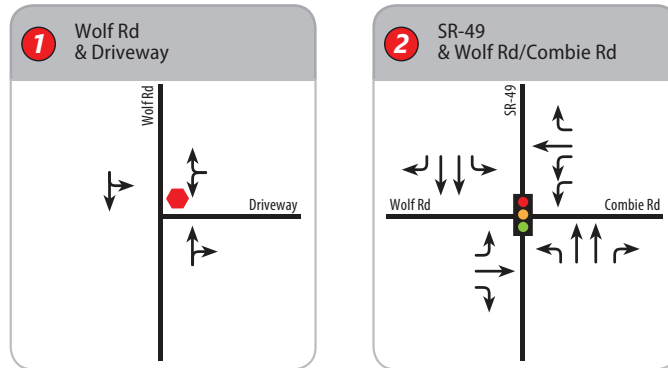
### 3.5 EXISTING TRAFFIC CONDITIONS

TJKM evaluated existing traffic conditions at selected study intersections during the a.m. and p.m. peak hours on a typical weekday. Intersection turning movement counts of vehicles, bicycles, and pedestrians were collected during weekday a.m. peak period (7:00-9:00 a.m.) and p.m. peak period (4:00-6:00 p.m.) on January 11, 2022.

The traffic count data are included in **Appendix A**. The existing lane geometries and traffic control at each study intersection are illustrated on **Figure 6** and intersection turning movement volumes at each study intersection are illustrated on **Figure 7**.



Figure 6: Existing Lane Geometry and Traffic Controls

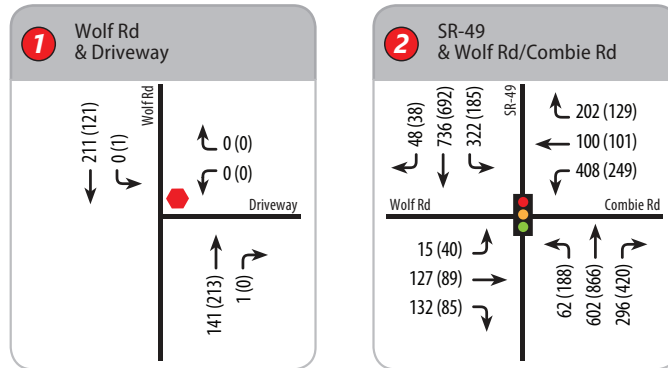


LEGEND

- Project Site
- X Study Intersection
- Stop Sign
- Traffic Signal



Figure 7: Existing Conditions Peak Hour Traffic Volumes



LEGEND

- Project Site
- Study Intersection
- Stop Sign
- Traffic Signal
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes



### 3.6 INTERSECTION LEVEL OF SERVICE ANALYSIS – EXISTING CONDITIONS

This scenario evaluates the study intersections based on adjusted existing traffic volumes, and existing lane geometry and traffic controls, as described above. Signal timing details for the signalized intersection of CA-49 & Wolf Road/Combie Road were provided by County staff. The peak hour factors calculated from the existing turning movement counts were used for the study intersections for the Existing Conditions analysis. The results of the LOS analysis using the HCM 6<sup>th</sup> Ed. methodology and Synchro 10 software program for Existing Conditions are summarized in **Table 3**.

Under this scenario, both of the study intersections operate within applicable jurisdictional standards during both peak hours. The signalized intersection of CA-49 & Wolf Road/Combie Road would operate at LOS D during both peak hours. LOS worksheets are provided in **Appendix C**.

**Table 3: Intersection Level of Service Analysis – Existing Conditions**

ID	Intersection	Intersection Control	Peak Hour	Existing Conditions	
				Average Delay <sup>1</sup>	LOS <sup>2</sup>
1	Wolf Rd. & Project	One-Way	AM	0.0	A
	Driveway	Stop Control	PM	0.0	A
2	CA-49 &	Signal	AM	40.3	D
	Wolf Rd./Combie Rd.		PM	43.0	D

Notes:

AM – morning peak hour, PM – evening peak hour

1. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.

2. LOS = Level of Service

**Bold** indicates unacceptable operational conditions based on applicable jurisdictional standards.

## 4.0 EXISTING PLUS PROJECT CONDITIONS

This analysis scenario presents the impacts of the proposed project at the study intersections and surrounding roadway system. This scenario is identical to Existing Conditions, but with the addition of traffic from the proposed project. The proposed project would construct multiple workshop buildings, an owner’s residence, and 15 camping spaces consisting of a mix of tent cabins and platform tent spaces for students and staff. Related facilities on site would include a cafe for students and staff, event space, and a barn. The site is currently vacant.

### 4.1 PROJECT TRIP GENERATION

TJKM developed estimated project trip generation for the proposed project based on published trip generation rates from the ITE publication *Trip Generation (11<sup>th</sup> Edition)*. Based on the operational plans for the proposed craft school, it was determined that the number of permanent residences and campsites would be the most reasonable basis for estimating trips generated by such a use. TJKM used published trip rates for the ITE land use Mobile Home Park (ITE Code 240) for the proposed owner’s residence and Campground/RV Park (ITE Code 416) for the various campsites provided for students and staff. A prior proposal would have constructed 34 camping spaces, including traditional tent camping spaces, and the project is conservatively analyzed using this larger project size. Up to 19 additional camping spaces can be added to the currently proposed project without increasing project trips.

The proposed project is expected to generate 53 total daily trips, including seven a.m. peak hour trips (three in, four out) and 10 p.m. peak hour trips (seven in, three out).

**Table 4** shows the trips expected to be generated by the proposed project.

**Table 4: Project Trip Generation**

Land Use <sup>2</sup>	Size <sup>2</sup>	Daily		AM Peak			PM Peak						
		Rate	Trips	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
<i>Proposed Uses</i>													
Mobile Home Park (240)	1 DU	7.12	7	0.39	21:79	0	0	0	0.58	62:38	1	0	1
Campground/RV Park (416)	34 sites	1.35	46	0.21	36:64	3	4	7	0.27	65:35	6	3	9
<b>Total</b>			<b>53</b>			<b>3</b>	<b>4</b>	<b>7</b>			<b>7</b>	<b>3</b>	<b>10</b>

Notes:

1. *Trip Generation, 11<sup>th</sup> Edition*, Institute of Transportation Engineers (ITE), 2021
2. DU: dwelling unit

### 4.2 PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

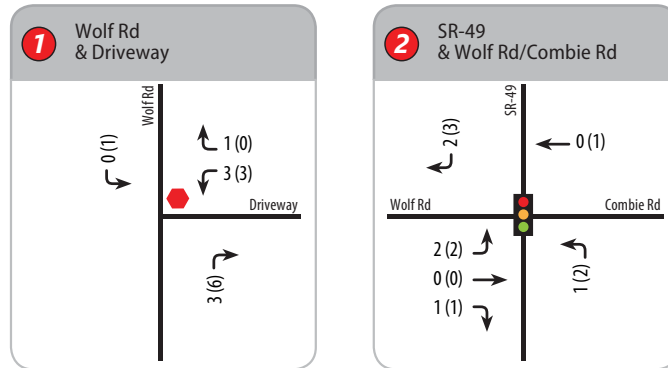
Trip distribution is a process that determines in what proportion vehicles would be expected to travel between the project site and various destinations outside the project study area. Assignment determines the various routes that vehicles would take from the project site to each destination using the calculated trip distribution. Trip distribution assumptions for the proposed development project were developed based on the existing travel patterns and TJKM’s knowledge of the study area. It was assumed that any

students not staying on-site for classes would take lodging in Grass Valley to the north. The distribution assumptions for the proposed project are as follows:

- 50 percent to/from SR-49 to the north
- 30 percent to/from SR-49 to the south
- 10 percent to/from Wolf Road to the west
- 10 percent to/from Combie Road to the east

**Figure 8** illustrates the trip distribution and trip assignment at the study intersections. The project trips were then added to traffic volumes under Existing Conditions to generate Existing plus Project Conditions traffic volumes.

Figure 8: Project Trip Distribution and Assignment



LEGEND

- Project Site
- ⊗ Study Intersection
- ◆ Stop Sign
- ⬆ Traffic Signal
- XX AM Peak Hour Trips
- (XX) PM Peak Hour Trips
- ↔ XX% Trip Distribution



### 4.3 VEHICLE MILES TRAVELED

As noted in section 2.1, the NCTC and Nevada County guidelines include a screening process that defines when a project would be exempted from a VMT analysis: the project must be consistent with the General Plan and the Regional Transportation Plan (RTP), and one or more screening criteria must be met. Due to the unique nature of the proposed project, the project may meet the following criterion:

- The project is located in the western Nevada County travel forecasting model area and generates less than 630 VMT per day.

The proposed project is located in the western Nevada County travel forecasting model area. Total VMT per day may be estimated based on daily trip generation and expected trip lengths. As noted above, the project would generate approximately 53 trips per day, with 50 percent distributed to/from the north. It was assumed that any students not staying on-site would take lodging in Grass Valley to the north.

The project site is located approximately 14 miles from the center of Grass Valley. If it is assumed that 50 percent of project trips (27 trips) would be up to 16 miles long, this accounts for 432 VMT per day. In order to stay below 630 VMT per day, the remaining 26 daily trips could have an average trip length of up to 7.6 miles. As many of these trips would likely be approximately one mile long to reach destinations in Higgins Corner, such as restaurants and the nearest pharmacy and grocery store, commute trips for non-resident staff could be longer without exceeding 630 total VMT per day. TJKM considers it highly likely that the project would generate less than 630 VMT per day, resulting in a **less-than-significant impact** to VMT.

### 4.4 INTERSECTION LEVEL OF SERVICE ANALYSIS – EXISTING PLUS PROJECT CONDITIONS

The intersection LOS analysis results for Existing plus Project Conditions are summarized in **Table 5**.

Under this scenario, both of the study intersections would continue to operate within applicable jurisdictional standards during both peak hours. The project driveway would operate at LOS B during both peak hours, and the signalized intersection of CA-49 & Wolf Road/Combie Road would continue to operate at LOS D during both peak hours. The amount of project traffic added to CA-49 & Wolf Road/Combie Road is sufficiently small that there would be no increase in average delay during either peak hour. The project **would be consistent** with level of service standards set forth under the Nevada County General Plan.

**Figure 9** shows projected turning movement volumes at all the study intersections for Existing plus Project Conditions. LOS worksheets are provided in **Appendix D**.

**Table 5: Intersection Level of Service Analysis – Existing plus Project Conditions**

ID	Intersection	Intersection Control	Peak Hour	Existing Conditions		Existing plus Project Conditions		
				Average Delay <sup>1</sup>	LOS <sup>2</sup>	Average Delay <sup>1</sup>	LOS <sup>2</sup>	Change in Delay <sup>3</sup>
1	Wolf Rd. & Project Driveway	One-Way	AM	0.0	A	10.8	B	-
		Stop Control	PM	0.0	A	11.0	B	-
2	CA-49 & Wolf Rd./Combie Rd.	Signal	AM	40.3	D	40.3	D	0.0
			PM	43.0	D	43.0	D	0.0

Notes: AM – morning peak hour, PM – evening peak hour, Weekend – Saturday noon peak hour,

**Bold** indicates unacceptable operational conditions based on applicable jurisdictional standards. **Red** indicates significant impact.

1. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.

2. LOS = Level of Service

#### 4.5 INTERSECTION QUEUING ANALYSIS

The 95<sup>th</sup> percentile queue lengths were calculated at the signalized study intersection of CA-49 & Wolf Road/Combie Road under Existing and Existing plus Project Conditions. The project would add trips to four dedicated left- and right-turn lanes at this intersection. **Table 6** details the existing traffic volumes, added project trips, and queue lengths at all dedicated turn lanes at the signalized study intersections.

Under Existing Conditions, all 95<sup>th</sup> percentile queue lengths can be fully accommodated in the available storage length. The addition of project trips would not cause any new queue overflows, with negligible increases in queue lengths. Queuing worksheets for each scenario are provided in **Appendix C** and **Appendix D**.



**Table 6. 95<sup>th</sup> Percentile Queue Lengths– Existing and Existing plus Project Conditions**

ID	Study Intersection	Lane Group	Storage Length	Peak Hour	Existing Volume	Project Trips	Existing Conditions	Existing plus Project Conditions	
							Queue Length	Queue Length	Change in Queue
2	CA-49 & Wolf Rd./ Combie Rd.	EBL	100	AM	15	2	35	35	0
				PM	40	2	60	65	5
		EBR	50	AM	132	1	40	45	5
				PM	85	1	20	20	0
		WBL	235	AM	408	0	205	205	0
				PM	249	0	135	135	0
		WBR	130	AM	202	0	30	35	5
				PM	129	0	30	30	0
		NBL	820	AM	62	1	90	95	5
				PM	188	2	255	260	5
		NBR	730	AM	296	0	90	90	0
				PM	420	0	60	60	0
		SBL	505	AM	322	0	365	365	0
				PM	185	0	245	245	0
SBR	310	AM	48	2	5	5	0		
		PM	38	3	0	0	0		

Notes:

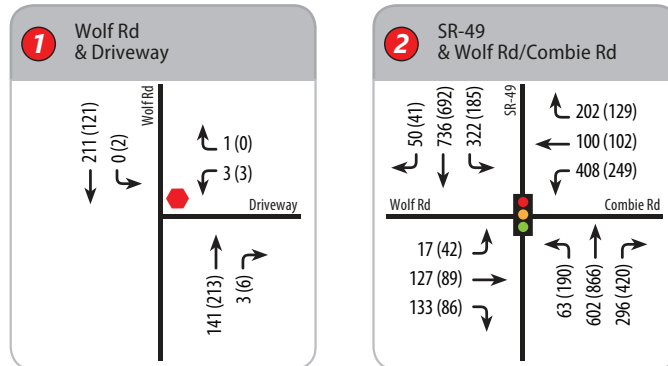
95<sup>th</sup> percentile queue lengths expressed in feet, rounded to the nearest five feet

\* Average storage per lane, where dual turn lanes provide different storage lengths

**Bold** indicates queue length exceeds storage capacity

**Red** indicates queue length increases by more than one vehicle length

Figure 9: Existing plus Project Conditions Peak Hour Traffic Volumes



LEGEND

- Project Site
- Stop Sign
- XX AM Peak Hour Volumes
- Study Intersection
- Traffic Signal
- (XX) PM Peak Hour Volumes



## 5.0 CUMULATIVE NO-PROJECT CONDITIONS (2040)

The Cumulative No-Project Conditions analysis forecasts how the study area’s transportation system would operate with the growth and changes of the surrounding community by the year 2040. Corridor volumes on Wolfe Road/Combie Road and SR-49 in the immediate project vicinity were obtained from baseline year 2018 and horizon year 2040 in the NCTC travel demand model. Based on the growth in these corridor volumes, an annual compounding growth rate of 0.54 was applied to Existing Conditions to project future 2040 traffic volumes.

**Figure 10** shows projected turning movement volumes at the study intersections for Cumulative Conditions for a.m. and p.m. peak hours.

### 5.1 INTERSECTIONS LEVEL OF SERVICE ANALYSIS – CUMULATIVE NO-PROJECT CONDITIONS

The intersection LOS analysis results for Cumulative No-Project Conditions are summarized in **Table 7**.

Under this scenario, both of the study intersections would continue to operate within applicable jurisdictional standards during both peak hours. The signalized intersection of CA-49 & Wolf Road/Combie Road would continue to operate at LOS D during both peak hours. LOS worksheets are provided in **Appendix E**.

**Table 7: Intersection Level of Service Analysis – Cumulative Conditions**

ID	Intersection	Intersection Control	Peak Hour	Cumulative Conditions	
				Average Delay <sup>1</sup>	LOS <sup>2</sup>
1	Wolf Rd. & Project Driveway	One-Way Stop Control	AM	0.0	A
			PM	0.0	A
2	CA-49 & Wolf Rd./Combie Rd.	Signal	AM	41.4	D
			PM	46.2	D

Notes:

AM – morning peak hour, PM – evening peak hour

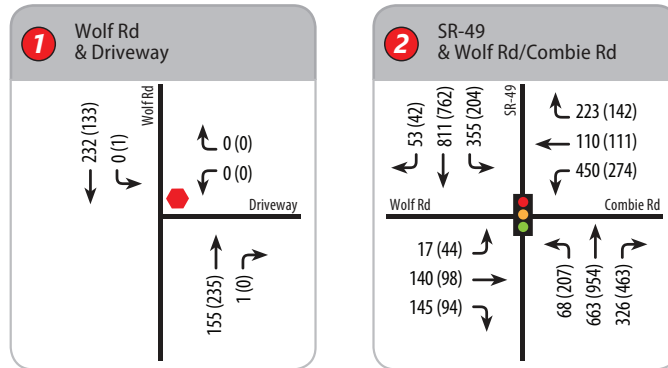
1. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.

2. LOS = Level of Service

\* CMP intersections with LOS E threshold

**Bold** indicates unacceptable operational conditions based on applicable jurisdictional standards.

Figure 10: Cumulative Conditions Peak Hour Traffic Volumes



LEGEND

- Project Site
- Study Intersection
- Stop Sign
- Traffic Signal
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes



## 6.0 CUMULATIVE PLUS PROJECT CONDITIONS

This scenario is identical to Cumulative No-Project Conditions, but with the addition of projected traffic from the proposed project. Trip generation, distribution, and assignment for the proposed project are identical to that assumed under Existing plus Project Conditions.

### 6.1 INTERSECTION LEVEL OF SERVICE ANALYSIS – CUMULATIVE PLUS PROJECT CONDITIONS

The intersection LOS analysis results for Cumulative plus Project Conditions are summarized in **Table 8**.

Under this scenario, both of the study intersections would continue to operate within applicable jurisdictional standards during both peak hours. The project driveway would operate at LOS B during both peak hours, and the signalized intersection of CA-49 & Wolf Road/Combie Road would continue to operate at LOS D during both peak hours. The amount of project traffic added to CA-49 & Wolf Road/Combie Road is sufficiently small that there would be no increase in average delay during either peak hour. The project **would be consistent** with level of service standards set forth under the Nevada County General Plan.

**Figure 11** shows projected turning movement volumes at all the study intersections for Cumulative plus Project Conditions. LOS worksheets are provided in **Appendix F**

**Table 8: Intersection Level of Service Analysis – Cumulative plus Project Conditions**

ID	Intersection	Intersection Control	Peak Hour	Cumulative Conditions		Cumulative plus Project Conditions		
				Average Delay <sup>1</sup>	LOS <sup>2</sup>	Average Delay <sup>1</sup>	LOS <sup>2</sup>	Change in Delay <sup>3</sup>
1	Wolf Rd. & Project Driveway	One-Way Stop Control	AM	0.0	A	11.2	B	-
			PM	0.0	A	11.3	B	-
2	CA-49 & Wolf Rd./Combie Rd.	Signal	AM	41.4	D	41.4	D	0.0
			PM	46.2	D	46.2	D	0.0

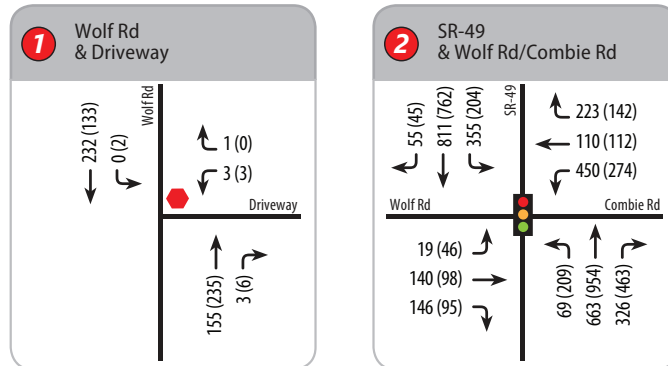
Notes: AM – morning peak hour, PM – evening peak hour, Weekend – Saturday noon peak hour,

**Bold** indicates unacceptable operational conditions based on applicable jurisdictional standards. **Red** indicates significant impact.

1. Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections.

2. LOS = Level of Service

Figure 11: Cumulative plus Project Conditions Peak Hour Traffic Volumes



LEGEND

- Project Site
- Study Intersection
- Stop Sign
- Traffic Signal
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes



## 7.0 ADDITIONAL ANALYSIS

The following sections provide additional analyses of other transportation issues associated with the project site, including:

- Site access and impacts
- Driveway site distance
- Parking analysis
- Recommendations

The analyses in these sections are based on professional judgment in accordance with the standards and methods employed by traffic engineers. Although operational issues are not considered CEQA impacts, they do describe traffic conditions that are relevant to describing the project environment.

### 7.1 SITE ACCESS, CIRCULATION, AND MULTIMODAL IMPACTS

This section analyzes site access and internal circulation based on the site plan dated November 16, 2023, shown in **Figure 2**.

#### Vehicle Access and Circulation

Access to the project site would be provided via the existing access point on Wolf Road. The existing driveway/internal road extends generally northward from this point. New internal roads would connect to the proposed crafting shops, tent cabins, owners' residence, and parking areas. Internal roads appear to conform to Nevada County requirements for fire vehicle access to structures on-site.

It should be noted that immediately northwest of the project driveway, there is a dedicated left turn pocket into a driveway on the west side of the road, and left turns are not currently permitted into the project driveway. As shown on the site plan, the existing striped taper would be modified to permit left turns into the project driveway.

Access to the project site and on-site vehicle circulation would be considered **adequate** and would not result in any significant impacts to the nearby roadways.

#### Pedestrian Access, Circulation, and Impacts

As noted in section 3.2, there are no pedestrian facilities in the immediate project vicinity, and it is expected that few, if any, visitors would travel to the site on foot. It is also expected that students and staff would walk around the site primarily using a combination of the same access roads used by vehicles and dedicated pedestrian pathways. The main roadways provide adequate width for vehicles to pass pedestrians. TJKM recommends that dedicated pedestrian pathways meet ADA design requirements. Accessible pathways should provide connectivity between structures/amenities, accessible parking spaces, and accessible camping spaces or cabins.

A significant impact occurs if the proposed project conflicts with applicable or adopted policies, plans or programs related to pedestrians facilities or otherwise decreases the performance or safety of pedestrian facilities. The proposed project will not result in any such conflicts and would not result in any significant impacts to the nearby pedestrian facilities.

### **Bicycle Access, Circulation, and Impacts**

As noted in section 3.3, there are no pedestrian facilities in the immediate project vicinity, and it is expected that few, if any, visitors would travel to the site via bicycle.

An impact to bicyclists occurs if the proposed project disrupt existing bicycle facilities; or conflict or create inconsistencies with adopted bicycle system plans, guidelines, and policies. A significant impact occurs if the proposed project conflicts with applicable or adopted policies, plans or programs related to bicycle facilities or otherwise decrease the performance or safety of bicycle facilities. The proposed project will not result in any such conflicts and would not result in any significant impacts to the nearby bicycle facilities.

### **Transit Access and Impacts**

A proposed project is considered to have a significant impact on transit if it conflicts with existing or planned transit facilities, or is expected to generate additional transit trips and does not provide adequate facilities for pedestrians and bicyclists to access transit routes and stops. It is expected that few, if any, visitors would travel to the project via transit without a vehicle trip between Higgins Corner and the project site. The transit service within the immediate project site operates within capacity, and additional trips generated by the proposed project could be accommodated by existing bus services. The proposed project would not result in any significant impacts to the nearby transit network.

## **7.2 DRIVEWAY SIGHT DISTANCE**

As shown on the site plan (**Figure 2**), the project would be accessed by an existing driveway on Wolf Road. The existing speed limit on Wolf Road is 40 mph. At that speed, the stopping sight distance is 300 ft. This means that a vehicle traveling on Wolf Road at the posted speed limit would require 300 ft. to stop from the point at which an obstruction or conflicting vehicle becomes visible. This distance is measured along the centerline of the lane in which the vehicle is traveling. Depending on the specific location of a driveway, sight lines may be obstructed due to road curvature, landscaping or other vegetation, or ground topography.

For both northbound and southbound vehicles on Wolf Road, the driveway becomes visible to drivers just before the minimum 300 ft. sight distance. The existing tree immediately north and the bushes to the south of the driveway provide slight screening, and the vegetation along the eastern side of the road to both the north and south have the potential to block sight lines. TJKM recommends that all vegetation between the roadway and fence line be trimmed back to ensure that the driveway remains visible. There is also a warning sign alerting northbound drivers to a driveway (W2-2), but it shows an access point on the left side. This sign should be reversed, to alert drivers to a driveway on the right side of the road.

## **7.3 PARKING**

This section analyzes parking based on the site plan dated November 16, 2023, shown in **Figure 2**. It should be noted that section L-II 4.2.9 of the Nevada County zoning regulations does not establish parking requirements for campgrounds or other uses similar to the proposed project.



The proposed site plan shows the specific locations of parking to be provided, including parking areas near the workshops and dining building and individual accessible spaces next to each accessible tent cabin site. A total of 61 parking spaces would be provided, including seven accessible spaces distributed near building entrances and marked pedestrian pathways/crosswalks. The proposed project would host occasional events of up to 100 people, generating the most parking demand at those times. If applicable, areas of the site that can be used for additional event parking should be identified. TJKM recommends a parking management plan be developed based on the number of vehicles and average vehicle occupancy at proposed events.

#### 7.4 RECOMMENDATIONS

TJKM recommends the following:

- Ensure that all pedestrian paths meet ADA requirements.
- Ensure that vegetation to the north and south of the project driveway be trimmed back between the roadway and fence.
- Reverse the W2-2 warning sign to the south of the project driveway, to alert drivers to an access point on the right side.
- If applicable, areas of the site that can be used for additional event parking should be identified.

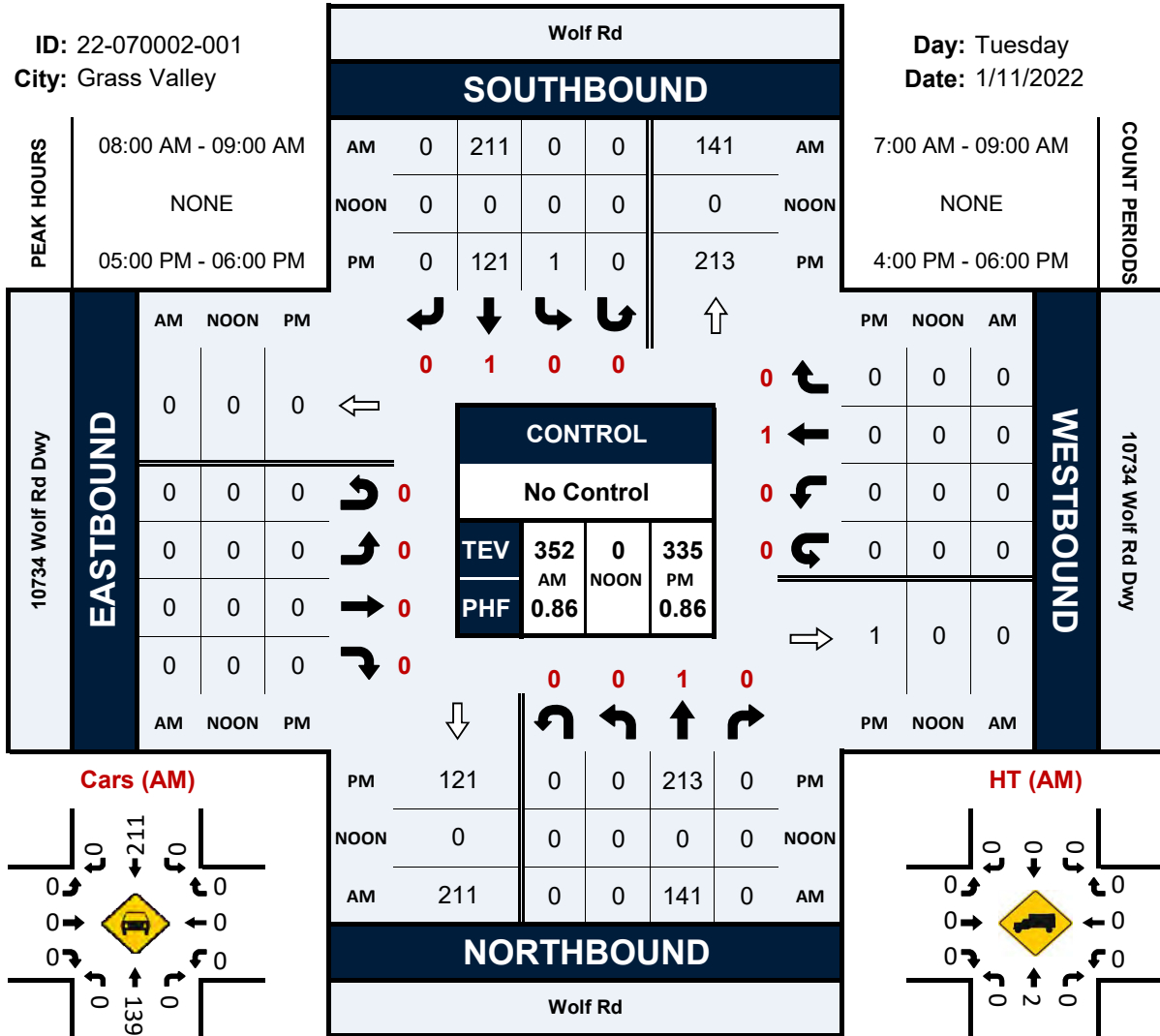
**Appendix A – Existing Turning Movement Counts**

# Wolf Rd & 10734 Wolf Rd Dwy

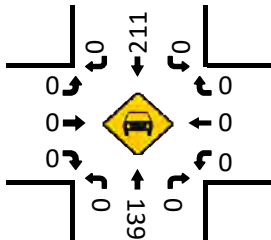
## Peak Hour Turning Movement Count

ID: 22-070002-001  
City: Grass Valley

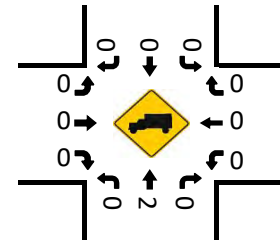
Day: Tuesday  
Date: 1/11/2022



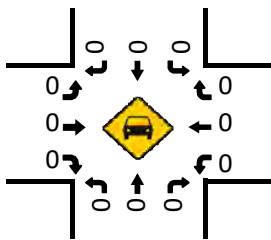
Cars (AM)



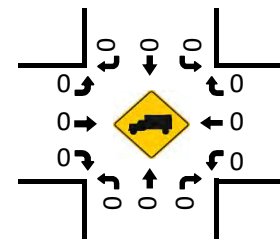
HT (AM)



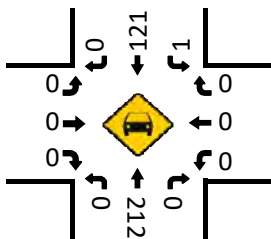
Cars (NOON)



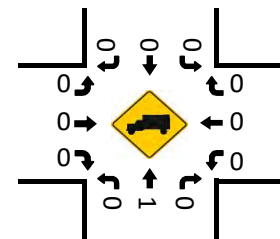
HT (NOON)



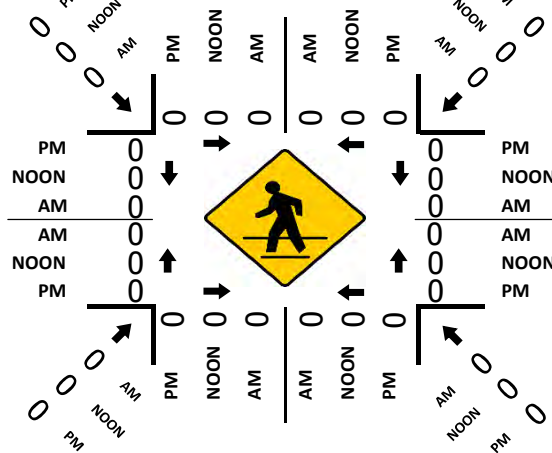
Cars (PM)



HT (PM)



Pedestrians (Crosswalks)



# National Data & Surveying Services Intersection Turning Movement Count

Location: Wolf Rd & 10734 Wolf Rd Dwy  
 City: Grass Valley  
 Control: No Control

Project ID: 22-070002-001  
 Date: 1/11/2022

## Data - Total

NS/EW Streets:	Wolf Rd				Wolf Rd				10734 Wolf Rd Dwy				10734 Wolf Rd Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	14	0	0	0	26	0	0	0	0	0	0	0	0	0	0	40
7:15 AM	0	13	0	0	0	41	0	0	0	0	0	0	0	0	0	0	54
7:30 AM	0	23	0	0	0	59	0	0	0	0	0	0	0	0	0	0	82
7:45 AM	0	28	0	0	0	52	0	0	0	0	0	0	0	0	0	0	80
8:00 AM	0	27	0	0	0	48	0	0	0	0	0	0	0	0	0	0	75
8:15 AM	0	28	0	0	0	62	0	0	0	0	0	0	0	0	0	0	90
8:30 AM	0	37	0	0	0	48	0	0	0	0	0	0	0	0	0	0	85
8:45 AM	0	49	0	0	0	53	0	0	0	0	0	0	0	0	0	0	102
<b>TOTAL VOLUMES :</b>	0	219	0	0	0	389	0	0	0	0	0	0	0	0	0	0	608
<b>APPROACH %'s :</b>	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%									
<b>PEAK HR :</b>	08:00 AM - 09:00 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	141	0	0	0	211	0	0	0	0	0	0	0	0	0	0	352
<b>PEAK HR FACTOR :</b>	0.000	0.719	0.000	0.000	0.000	0.851	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.863
	0.719				0.851												
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	48	0	0	0	44	0	0	0	0	0	0	0	0	0	0	92
4:15 PM	0	45	1	0	0	37	0	0	0	0	0	0	0	0	0	0	83
4:30 PM	0	55	0	0	0	27	0	0	0	0	0	0	0	0	0	0	82
4:45 PM	0	44	0	0	0	24	0	0	0	0	0	0	0	0	0	0	68
5:00 PM	0	64	0	0	0	33	0	0	0	0	0	0	0	0	0	0	97
5:15 PM	0	48	0	0	1	30	0	0	0	0	0	0	0	0	0	0	79
5:30 PM	0	56	0	0	0	29	0	0	0	0	0	0	0	0	0	0	85
5:45 PM	0	45	0	0	0	29	0	0	0	0	0	0	0	0	0	0	74
<b>TOTAL VOLUMES :</b>	0	405	1	0	1	253	0	0	0	0	0	0	0	0	0	0	660
<b>APPROACH %'s :</b>	0.00%	99.75%	0.25%	0.00%	0.39%	99.61%	0.00%	0.00%									
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	213	0	0	1	121	0	0	0	0	0	0	0	0	0	0	335
<b>PEAK HR FACTOR :</b>	0.000	0.832	0.000	0.000	0.250	0.917	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.863
	0.832				0.924												

# National Data & Surveying Services Intersection Turning Movement Count

Location: Wolf Rd & 10734 Wolf Rd Dwy  
 City: Grass Valley  
 Control: No Control

Project ID: 22-070002-001  
 Date: 1/11/2022

## Data - Cars

NS/EW Streets:	Wolf Rd				Wolf Rd				10734 Wolf Rd Dwy				10734 Wolf Rd Dwy					
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	7:00 AM	0	14	0	0	0	26	0	0	0	0	0	0	0	0	0	0	40
	7:15 AM	0	12	0	0	0	41	0	0	0	0	0	0	0	0	0	0	53
	7:30 AM	0	23	0	0	0	59	0	0	0	0	0	0	0	0	0	0	82
	7:45 AM	0	27	0	0	0	52	0	0	0	0	0	0	0	0	0	0	79
	8:00 AM	0	26	0	0	0	48	0	0	0	0	0	0	0	0	0	0	74
	8:15 AM	0	27	0	0	0	62	0	0	0	0	0	0	0	0	0	0	89
	8:30 AM	0	37	0	0	0	48	0	0	0	0	0	0	0	0	0	0	85
8:45 AM	0	49	0	0	0	53	0	0	0	0	0	0	0	0	0	0	102	
<b>TOTAL VOLUMES :</b>	0	215	0	0	0	389	0	0	0	0	0	0	0	0	0	0	604	
<b>APPROACH %'s :</b>	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0		
<b>PEAK HR :</b>	08:00 AM - 09:00 AM																TOTAL	
<b>PEAK HR VOL :</b>	0	139	0	0	0	211	0	0	0	0	0	0	0	0	0	0	350	
<b>PEAK HR FACTOR :</b>	0.000	0.709	0.000	0.000	0.000	0.851	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.858	
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
	4:00 PM	0	48	0	0	0	44	0	0	0	0	0	0	0	0	0	0	92
	4:15 PM	0	45	1	0	0	36	0	0	0	0	0	0	0	0	0	0	82
	4:30 PM	0	55	0	0	0	27	0	0	0	0	0	0	0	0	0	0	82
	4:45 PM	0	44	0	0	0	24	0	0	0	0	0	0	0	0	0	0	68
	5:00 PM	0	64	0	0	0	33	0	0	0	0	0	0	0	0	0	0	97
	5:15 PM	0	47	0	0	1	30	0	0	0	0	0	0	0	0	0	0	78
	5:30 PM	0	56	0	0	0	29	0	0	0	0	0	0	0	0	0	0	85
5:45 PM	0	45	0	0	0	29	0	0	0	0	0	0	0	0	0	0	74	
<b>TOTAL VOLUMES :</b>	0	404	1	0	1	252	0	0	0	0	0	0	0	0	0	0	658	
<b>APPROACH %'s :</b>	0.00%	99.75%	0.25%	0.00%	0.40%	99.60%	0.00%	0.00%	0	0	0	0	0	0	0	0		
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																TOTAL	
<b>PEAK HR VOL :</b>	0	212	0	0	1	121	0	0	0	0	0	0	0	0	0	0	334	
<b>PEAK HR FACTOR :</b>	0.000	0.828	0.000	0.000	0.250	0.917	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.861	



# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Wolf Rd & 10734 Wolf Rd Dwy  
**City:** Grass Valley  
**Control:** No Control

**Project ID:** 22-070002-001  
**Date:** 1/11/2022

## Data - Bikes

NS/EW Streets:	Wolf Rd				Wolf Rd				10734 Wolf Rd Dwy				10734 Wolf Rd Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>APPROACH %'s :</b>																	
<b>PEAK HR :</b>	08:00 AM - 09:00 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>APPROACH %'s :</b>																	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



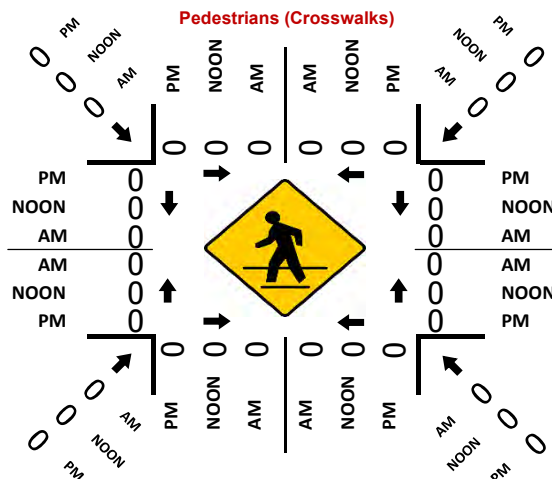
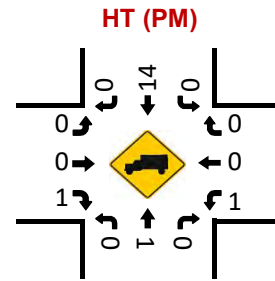
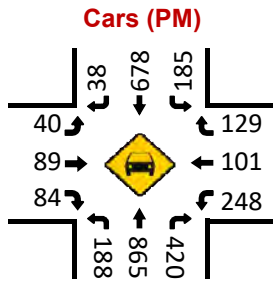
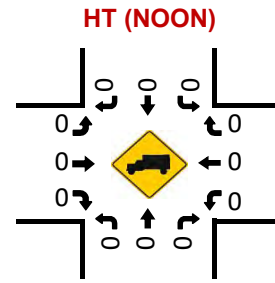
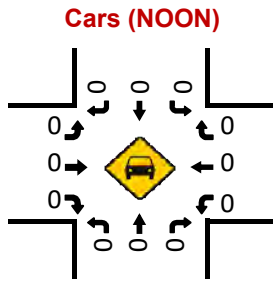
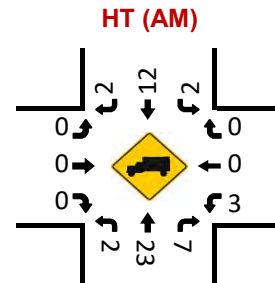
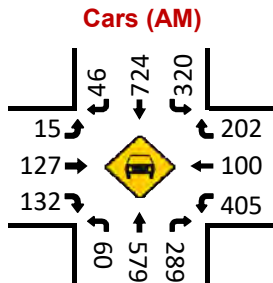
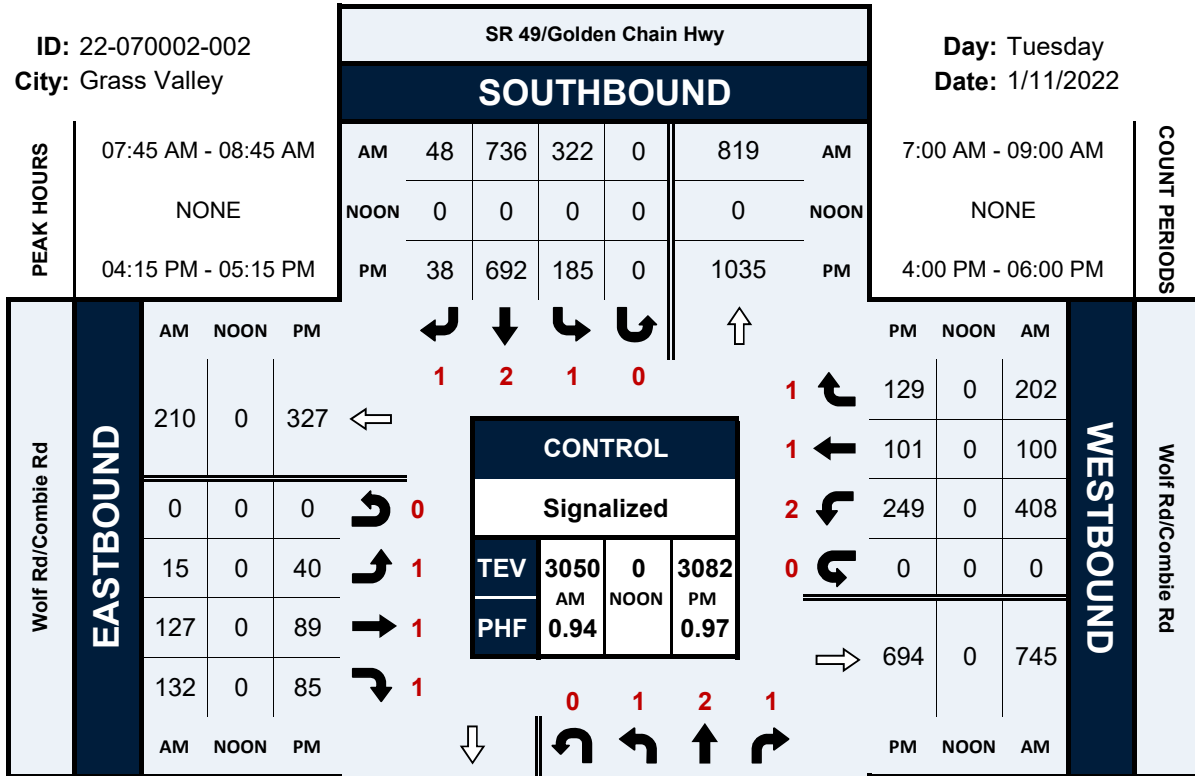


# SR 49/Golden Chain Hwy & Wolf Rd/Combie Rd

## Peak Hour Turning Movement Count

ID: 22-070002-002  
City: Grass Valley

Day: Tuesday  
Date: 1/11/2022



# National Data & Surveying Services Intersection Turning Movement Count

**Location:** SR 49/Golden Chain Hwy & Wolf Rd/Combie Rd  
**City:** Grass Valley  
**Control:** Signalized

**Project ID:** 22-070002-002  
**Date:** 1/11/2022

## Data - Total

NS/EW Streets:	SR 49/Golden Chain Hwy				SR 49/Golden Chain Hwy				Wolf Rd/Combie Rd				Wolf Rd/Combie Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	2	1	0	1	2	1	0	1	1	1	0	2	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	12	142	32	0	27	155	3	0	2	10	21	0	66	3	24	0	497
7:15 AM	11	144	48	0	56	177	7	0	4	10	46	0	75	13	31	0	622
7:30 AM	19	172	57	0	81	192	6	0	2	34	30	0	93	15	47	0	748
7:45 AM	14	143	67	0	74	199	13	0	3	25	42	0	104	23	65	0	772
8:00 AM	12	134	65	0	93	160	11	0	3	25	30	0	74	29	40	0	676
8:15 AM	15	153	109	0	91	179	8	0	3	50	27	0	87	24	44	0	790
8:30 AM	21	172	55	0	64	198	16	0	6	27	33	0	143	24	53	0	812
8:45 AM	20	124	48	0	61	160	16	0	5	16	45	0	92	40	59	0	686
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	124	1184	481	0	547	1420	80	0	28	197	274	0	734	171	363	0	5603
<b>APPROACH %'s :</b>	6.93%	66.18%	26.89%	0.00%	26.72%	69.37%	3.91%	0.00%	5.61%	39.48%	54.91%	0.00%	57.89%	13.49%	28.63%	0.00%	
<b>PEAK HR :</b>	<b>07:45 AM - 08:45 AM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	62	602	296	0	322	736	48	0	15	127	132	0	408	100	202	0	3050
<b>PEAK HR FACTOR :</b>	0.738	0.875	0.679	0.000	0.866	0.925	0.750	0.000	0.625	0.635	0.786	0.000	0.713	0.862	0.777	0.000	0.939
	0.866				0.967				0.856				0.807				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	2	1	0	1	2	1	0	1	1	1	0	2	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	39	227	96	0	39	132	9	0	6	19	28	0	82	17	25	0	719
4:15 PM	41	211	113	0	36	167	11	0	13	25	33	0	57	25	35	0	767
4:30 PM	41	215	94	0	38	175	9	0	4	16	18	0	80	25	33	0	748
4:45 PM	44	243	108	0	45	194	9	0	10	19	15	0	56	23	32	0	798
5:00 PM	62	197	105	0	66	156	9	0	13	29	19	0	56	28	29	0	769
5:15 PM	30	213	107	0	30	175	10	0	12	13	23	0	61	20	29	0	723
5:30 PM	38	204	115	0	44	155	7	0	17	24	26	0	51	24	30	0	735
5:45 PM	39	176	74	0	46	177	9	0	7	18	20	0	52	17	27	0	662
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	334	1686	812	0	344	1331	73	0	82	163	182	0	495	179	240	0	5921
<b>APPROACH %'s :</b>	11.79%	59.53%	28.67%	0.00%	19.68%	76.14%	4.18%	0.00%	19.20%	38.17%	42.62%	0.00%	54.16%	19.58%	26.26%	0.00%	
<b>PEAK HR :</b>	<b>04:15 PM - 05:15 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	188	866	420	0	185	692	38	0	40	89	85	0	249	101	129	0	3082
<b>PEAK HR FACTOR :</b>	0.758	0.891	0.929	0.000	0.701	0.892	0.864	0.000	0.769	0.767	0.644	0.000	0.778	0.902	0.921	0.000	0.966
	0.933				0.922				0.754				0.868				

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** SR 49/Golden Chain Hwy & Wolf Rd/Combie Rd  
**City:** Grass Valley  
**Control:** Signalized

**Project ID:** 22-070002-002  
**Date:** 1/11/2022

## Data - Cars

NS/EW Streets:	SR 49/Golden Chain Hwy				SR 49/Golden Chain Hwy				Wolf Rd/Combie Rd				Wolf Rd/Combie Rd				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	2	1	0	1	2	1	0	1	1	1	0	2	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	12	125	31	0	26	152	3	0	2	10	21	0	66	3	24	0	475
7:15 AM	11	137	44	0	56	174	6	0	4	10	46	0	75	13	31	0	607
7:30 AM	19	163	56	0	81	188	6	0	2	34	30	0	93	15	46	0	733
7:45 AM	13	132	64	0	74	198	12	0	3	25	42	0	104	23	65	0	755
8:00 AM	11	131	65	0	92	159	11	0	3	25	30	0	73	29	40	0	669
8:15 AM	15	150	105	0	91	176	7	0	3	50	27	0	87	24	44	0	779
8:30 AM	21	166	55	0	63	191	16	0	6	27	33	0	141	24	53	0	796
8:45 AM	20	120	48	0	60	143	16	0	5	16	45	0	91	40	58	0	662
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	122	1124	468	0	543	1381	77	0	28	197	274	0	730	171	361	0	5476
<b>APPROACH %'s :</b>	7.12%	65.58%	27.30%	0.00%	27.14%	69.02%	3.85%	0.00%	5.61%	39.48%	54.91%	0.00%	57.84%	13.55%	28.61%	0.00%	
<b>PEAK HR :</b>	07:45 AM - 08:45 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	60	579	289	0	320	724	46	0	15	127	132	0	405	100	202	0	2999
<b>PEAK HR FACTOR :</b>	0.714	0.872	0.688	0.000	0.870	0.914	0.719	0.000	0.625	0.635	0.786	0.000	0.718	0.862	0.777	0.000	0.942
	0.859				0.960				0.856				0.811				
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	2	1	0	1	2	1	0	1	1	1	0	2	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	39	227	95	0	39	128	9	0	6	19	28	0	81	17	25	0	713
4:15 PM	41	211	113	0	36	164	11	0	13	25	32	0	56	25	35	0	762
4:30 PM	41	215	94	0	38	172	9	0	4	16	18	0	80	25	33	0	745
4:45 PM	44	243	108	0	45	187	9	0	10	19	15	0	56	23	32	0	791
5:00 PM	62	196	105	0	66	155	9	0	13	29	19	0	56	28	29	0	767
5:15 PM	29	210	107	0	30	175	10	0	12	13	23	0	61	20	29	0	719
5:30 PM	38	203	115	0	44	154	7	0	17	24	26	0	51	24	30	0	733
5:45 PM	39	176	74	0	46	177	9	0	7	18	20	0	52	17	27	0	662
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	333	1681	811	0	344	1312	73	0	82	163	181	0	493	179	240	0	5892
<b>APPROACH %'s :</b>	11.79%	59.50%	28.71%	0.00%	19.90%	75.88%	4.22%	0.00%	19.25%	38.26%	42.49%	0.00%	54.06%	19.63%	26.32%	0.00%	
<b>PEAK HR :</b>	04:15 PM - 05:15 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	188	865	420	0	185	678	38	0	40	89	84	0	248	101	129	0	3065
<b>PEAK HR FACTOR :</b>	0.758	0.890	0.929	0.000	0.701	0.906	0.864	0.000	0.769	0.767	0.656	0.000	0.775	0.902	0.921	0.000	0.969
	0.932				0.935				0.761				0.866				

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** SR 49/Golden Chain Hwy & Wolf Rd/Combie Rd  
**City:** Grass Valley  
**Control:** Signalized

**Project ID:** 22-070002-002  
**Date:** 1/11/2022

## Data - HT

NS/EW Streets:	SR 49/Golden Chain Hwy				SR 49/Golden Chain Hwy				Wolf Rd/Combie Rd				Wolf Rd/Combie Rd				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	2	1	0	1	2	1	0	1	1	1	0	2	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	17	1	0	1	3	0	0	0	0	0	0	0	0	0	0	22
7:15 AM	0	7	4	0	0	3	1	0	0	0	0	0	0	0	0	0	15
7:30 AM	0	9	1	0	0	4	0	0	0	0	0	0	0	0	1	0	15
7:45 AM	1	11	3	0	0	1	1	0	0	0	0	0	0	0	0	0	17
8:00 AM	1	3	0	0	1	1	0	0	0	0	0	0	1	0	0	0	7
8:15 AM	0	3	4	0	0	3	1	0	0	0	0	0	0	0	0	0	11
8:30 AM	0	6	0	0	1	7	0	0	0	0	0	0	2	0	0	0	16
8:45 AM	0	4	0	0	1	17	0	0	0	0	0	0	1	0	1	0	24
<b>TOTAL VOLUMES :</b>	2	60	13	0	4	39	3	0	0	0	0	0	4	0	2	0	127
<b>APPROACH %'s :</b>	2.67%	80.00%	17.33%	0.00%	8.70%	84.78%	6.52%	0.00%	0.00%	0.00%	0.00%	0.00%	66.67%	0.00%	33.33%	0.00%	
<b>PEAK HR :</b>	07:45 AM - 08:45 AM																
<b>PEAK HR VOL :</b>	2	23	7	0	2	12	2	0	0	0	0	0	3	0	0	0	51
<b>PEAK HR FACTOR :</b>	0.500	0.523	0.438	0.000	0.500	0.429	0.500	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.750
	0.533 0.500																

NS/EW Streets:	SR 49/Golden Chain Hwy				SR 49/Golden Chain Hwy				Wolf Rd/Combie Rd				Wolf Rd/Combie Rd				
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	2	1	0	1	2	1	0	1	1	1	0	2	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	0	1	0	0	4	0	0	0	0	0	0	1	0	0	0	6
4:15 PM	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	5
4:30 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7
5:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	1	5	1	0	0	19	0	0	0	0	1	0	2	0	0	0	29
<b>APPROACH %'s :</b>	14.29%	71.43%	14.29%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
<b>PEAK HR :</b>	04:15 PM - 05:15 PM																
<b>PEAK HR VOL :</b>	0	1	0	0	0	14	0	0	0	0	1	0	1	0	0	0	17
<b>PEAK HR FACTOR :</b>	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.607
	0.250 0.500 0.250 0.250																

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** SR 49/Golden Chain Hwy & Wolf Rd/Combie Rd  
**City:** Grass Valley  
**Control:** Signalized

**Project ID:** 22-070002-002  
**Date:** 1/11/2022

## Data - Bikes

NS/EW Streets:	SR 49/Golden Chain Hwy				SR 49/Golden Chain Hwy				Wolf Rd/Combie Rd				Wolf Rd/Combie Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	1 NR	0 NU	1 SL	2 ST	1 SR	0 SU	1 EL	1 ET	1 ER	0 EU	2 WL	1 WT	1 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>APPROACH %'s :</b>																	
<b>PEAK HR :</b>	07:45 AM - 08:45 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

NS/EW Streets:	SR 49/Golden Chain Hwy				SR 49/Golden Chain Hwy				Wolf Rd/Combie Rd				Wolf Rd/Combie Rd				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	1 NR	0 NU	1 SL	2 ST	1 SR	0 SU	1 EL	1 ET	1 ER	0 EU	2 WL	1 WT	1 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
<b>TOTAL VOLUMES :</b>	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
<b>APPROACH %'s :</b>					0.00%	0.00%	100.00%	0.00%									
<b>PEAK HR :</b>	04:15 PM - 05:15 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



**VOLUME**

Wolf Rd Bet. 10734 Wolf Rd Dwy & Matthew Ln

Day: Tuesday  
 Date: 1/11/2022

City: Grass Valley  
 Project #: CA22\_070001\_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						1,915	1,939	0	0	3,854	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	2	0	0	2	12:00	24	34	0	0	58
00:15	0	1	0	0	1	12:15	42	39	0	0	81
00:30	0	2	0	0	2	12:30	27	31	0	0	58
00:45	3	3	0	5	8	12:45	29	122	37	141	263
01:00	1	1	0	0	2	13:00	37	42	0	0	79
01:15	0	1	0	0	1	13:15	40	42	0	0	82
01:30	2	0	0	0	2	13:30	39	32	0	0	71
01:45	0	3	1	3	6	13:45	33	149	38	154	303
02:00	0	1	0	0	1	14:00	38	37	0	0	75
02:15	1	1	0	0	2	14:15	38	31	0	0	69
02:30	1	0	0	0	1	14:30	36	30	0	0	66
02:45	0	2	1	3	5	14:45	41	153	35	133	286
03:00	0	0	0	0	0	15:00	34	46	0	0	80
03:15	0	2	0	0	2	15:15	51	30	0	0	81
03:30	0	0	0	0	0	15:30	65	29	0	0	94
03:45	0	2	4	0	4	15:45	49	199	35	140	339
04:00	1	4	0	0	5	16:00	43	47	0	0	90
04:15	0	1	0	0	1	16:15	52	38	0	0	90
04:30	0	5	0	0	5	16:30	55	28	0	0	83
04:45	1	2	4	14	16	16:45	44	194	24	137	331
05:00	2	5	0	0	7	17:00	59	34	0	0	93
05:15	0	8	0	0	8	17:15	48	31	0	0	79
05:30	0	14	0	0	14	17:30	55	24	0	0	79
05:45	1	3	13	40	43	17:45	44	206	32	121	327
06:00	5	18	0	0	23	18:00	40	17	0	0	57
06:15	5	11	0	0	16	18:15	30	18	0	0	48
06:30	7	22	0	0	29	18:30	23	13	0	0	36
06:45	9	26	34	85	111	18:45	19	112	13	61	173
07:00	13	26	0	0	39	19:00	28	8	0	0	36
07:15	15	38	0	0	53	19:15	13	9	0	0	22
07:30	22	58	0	0	80	19:30	19	7	0	0	26
07:45	29	79	54	176	255	19:45	23	83	3	27	110
08:00	26	47	0	0	73	20:00	10	14	0	0	24
08:15	27	63	0	0	90	20:15	22	6	0	0	28
08:30	37	46	0	0	83	20:30	15	3	0	0	18
08:45	51	141	56	212	353	20:45	5	52	1	24	76
09:00	28	52	0	0	80	21:00	11	4	0	0	15
09:15	22	48	0	0	70	21:15	8	4	0	0	12
09:30	21	30	0	0	51	21:30	13	3	0	0	16
09:45	28	99	31	161	260	21:45	5	37	2	13	50
10:00	21	38	0	0	59	22:00	5	2	0	0	7
10:15	27	38	0	0	65	22:15	7	3	0	0	10
10:30	21	25	0	0	46	22:30	3	1	0	0	4
10:45	29	98	29	130	228	22:45	2	17	1	7	24
11:00	24	37	0	0	61	23:00	1	1	0	0	2
11:15	31	32	0	0	63	23:15	5	1	0	0	6
11:30	33	41	0	0	74	23:30	2	1	0	0	3
11:45	36	124	33	143	267	23:45	3	11	2	5	16
<b>TOTALS</b>	580	976			1556	<b>TOTALS</b>	1335	963			2298
<b>SPLIT %</b>	37.3%	62.7%			40.4%	<b>SPLIT %</b>	58.1%	41.9%			59.6%

DAILY TOTALS						NB	SB	EB	WB	Total
						1,915	1,939	0	0	3,854

AM Peak Hour	08:15	07:30			08:15	PM Peak Hour	16:15	13:00			15:30
AM Pk Volume	143	222			360	PM Pk Volume	210	154			358
Pk Hr Factor	0.701	0.881			0.841	Pk Hr Factor	0.890	0.917			0.952
7 - 9 Volume	220	388	0	0	608	4 - 6 Volume	400	258	0	0	658
7 - 9 Peak Hour	08:00	07:30			08:00	4 - 6 Peak Hour	16:15	16:00			16:15
7 - 9 Pk Volume	141	222	0	0	353	4 - 6 Pk Volume	210	137	0	0	334
Pk Hr Factor	0.691	0.881	0.000	0.000	0.825	Pk Hr Factor	0.890	0.729	0.000	0.000	0.898





South Bound														
Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
<b>Totals</b>		2	25	176	765	717	210	38	6					1939
<b>% of Totals</b>		0%	1%	9%	39%	37%	11%	2%	0%					100%
<b>AM Volumes</b>		1	16	117	388	359	99	23	3					976
<b>AM Peak Hour</b>		0%	1%	4%	20%	19%	5%	1%	0%					50%
<b>Volume</b>		100%	103%	883%	881%	779%	115%	656%	040%					973%
<b>PM Volumes</b>		1	9	89	377	348	111	11	3					968
<b>PM Peak Hour</b>		0%	0%	5%	19%	18%	6%	1%	0%					50%
<b>Volume</b>		120%	120%	153%	130%	130%	121%	112%	113%					130%
<b>Directional Peak Periods</b>														
<b>All Classes</b>														
		Volume	%	Volume	%	Volume	%	Volume	%					
		388	20%	295	15%	258	13%	998	51%					

Street Name	Direction	Percentiles					ADT
		15th	50th	Average	85th	95th	
Wolf Rd	North Bound	36	41	41	45	49	1915
Wolf Rd	South Bound	36	40	40	45	49	1939



**SPEED**

Wolf Rd Bet. 10734 Wolf Rd Dwy &amp; Matthew Ln

Day: Tuesday  
Date: 1/11/2022City: Grass Valley  
Project #: CA22\_070001\_001n**North Bound**

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	1	0	1	1	0	0	0	3
01:00	0	0	0	0	0	0	0	1	1	1	0	0	0	3
02:00	0	0	0	0	1	0	0	1	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	1	0	1	0	0	0	0	2
05:00	0	0	0	0	0	0	3	0	0	0	0	0	0	3
06:00	0	0	0	0	3	6	11	6	0	0	0	0	0	26
07:00	0	0	0	1	8	25	34	11	0	0	0	0	0	79
08:00	0	0	0	1	9	51	55	21	4	0	0	0	0	141
09:00	0	0	0	0	7	39	40	12	1	0	0	0	0	99
10:00	0	0	0	0	11	34	38	11	4	0	0	0	0	98
11:00	0	0	0	0	7	45	50	21	1	0	0	0	0	124
12:00 PM	0	0	0	0	4	41	66	9	2	0	0	0	0	122
13:00	0	0	0	0	9	52	73	12	3	0	0	0	0	149
14:00	0	0	0	0	8	55	76	10	4	0	0	0	0	153
15:00	0	0	1	1	7	74	100	15	1	0	0	0	0	199
16:00	0	0	0	0	2	56	114	19	2	1	0	0	0	194
17:00	0	0	0	1	8	70	102	25	0	0	0	0	0	206
18:00	0	0	0	0	7	37	49	14	4	1	0	0	0	112
19:00	0	0	0	1	6	20	44	11	1	0	0	0	0	83
20:00	0	0	0	0	1	17	22	11	1	0	0	0	0	52
21:00	0	0	0	0	1	9	15	8	4	0	0	0	0	37
22:00	0	0	0	0	0	6	6	4	0	1	0	0	0	17
23:00	0	0	0	0	0	4	5	2	0	0	0	0	0	11
<b>Totals</b>			1	5	99	641	905	224	35	5				1915
<b>% of Totals</b>			0%	0%	5%	33%	47%	12%	2%	0%				100%

<b>AM Volumes</b>	0	0	0	2	46	200	233	84	13	2	0	0	0	580
<b>% AM</b>				0%	2%	10%	12%	4%	1%	0%				30%
<b>AM Peak Hour</b>				07:00	10:00	08:00	08:00	08:00	08:00					08:00
<b>Volume</b>				1	11	51	55	21	4	1				141
<b>PM Volumes</b>	0	0	1	3	53	441	672	140	22	3	0	0	0	1335
<b>% PM</b>			0%	0%	3%	23%	35%	7%	1%	0%				70%
<b>PM Peak Hour</b>			15:00	15:00	13:00	15:00	16:00	17:00	14:00	16:00				17:00
<b>Volume</b>			1	1	9	74	114	25	4	1				206
<b>Directional Peak Periods</b>			<b>AM 7-9</b>				<b>NOON 12-2</b>				<b>PM 4-6</b>		<b>Off Peak Volumes</b>	
<b>All Speeds</b>			Volume		%	Volume		%	Volume		%	Volume		%
			220	↔	11%	271	↔	14%	400	↔	21%	1024	↔	53%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Wolf Rd	North Bound	36	41	41	45	49	1915
Wolf Rd	South Bound	36	40	40	45	49	1939

# SPEED

Wolf Rd Bet. 10734 Wolf Rd Dwy & Matthew Ln

Day: Tuesday  
Date: 1/11/2022

City: Grass Valley  
Project #: CA22\_070001\_001s

## South Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	1	2	1	1	0	0	0	0	0	5
01:00	0	0	0	0	0	3	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	1	2	0	0	0	0	0	0	3
03:00	0	0	0	0	0	1	2	1	0	0	0	0	0	4
04:00	0	0	0	0	0	1	6	4	0	3	0	0	0	14
05:00	0	0	0	0	0	1	24	10	5	0	0	0	0	40
06:00	0	0	0	0	4	24	35	13	9	0	0	0	0	85
07:00	0	0	0	2	14	68	73	18	1	0	0	0	0	176
08:00	0	0	0	1	20	104	73	14	0	0	0	0	0	212
09:00	0	0	0	3	25	72	52	9	0	0	0	0	0	161
10:00	0	0	1	6	12	49	49	9	4	0	0	0	0	130
11:00	0	0	0	4	11	62	42	20	4	0	0	0	0	143
12:00 PM	0	0	1	3	10	47	66	13	1	0	0	0	0	141
13:00	0	0	0	0	11	66	58	17	2	0	0	0	0	154
14:00	0	0	0	0	11	56	46	19	1	0	0	0	0	133
15:00	0	0	0	2	14	51	55	17	1	0	0	0	0	140
16:00	0	0	0	3	25	54	41	10	3	1	0	0	0	137
17:00	0	0	0	0	5	57	50	8	1	0	0	0	0	121
18:00	0	0	0	1	9	15	23	12	1	0	0	0	0	61
19:00	0	0	0	0	0	16	6	4	1	0	0	0	0	27
20:00	0	0	0	0	2	7	6	6	2	1	0	0	0	24
21:00	0	0	0	0	2	3	2	4	2	0	0	0	0	13
22:00	0	0	0	0	0	2	4	1	0	0	0	0	0	7
23:00	0	0	0	0	0	3	1	0	0	1	0	0	0	5
<b>Totals</b>			2	25	176	765	717	210	38	6				1939
<b>% of Totals</b>			0%	1%	9%	39%	37%	11%	2%	0%				100%

<b>AM Volumes</b>	0	0	1	16	87	388	359	99	23	3	0	0	0	976	
<b>% AM</b>			0%	1%	4%	20%	19%	5%	1%	0%				50%	
<b>AM Peak Hour</b>			10:00	10:00	09:00	08:00	07:00	11:00	06:00	04:00				08:00	
<b>Volume</b>			1	6	25	104	73	20	9	3				212	
<b>PM Volumes</b>	0	0	1	9	89	377	358	111	15	3	0	0	0	963	
<b>% PM</b>			0%	0%	5%	19%	18%	6%	1%	0%				50%	
<b>PM Peak Hour</b>			12:00	12:00	16:00	13:00	12:00	14:00	16:00	16:00				13:00	
<b>Volume</b>			1	3	25	66	66	19	3	1				154	
<b>Directional Peak Periods All Speeds</b>			<b>AM 7-9</b>				<b>NOON 12-2</b>			<b>PM 4-6</b>			<b>Off Peak Volumes</b>		
			Volume		%	Volume		%	Volume		%	Volume		%	
			388	↔	20%	295	↔	15%	258	↔	13%	998	↔	51%	

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Wolf Rd	North Bound	36	41	41	45	49	1915
Wolf Rd	South Bound	36	40	40	45	49	1939

**SPEED**

Wolf Rd Bet. 10734 Wolf Rd Dwy &amp; Matthew Ln

Day: Tuesday  
Date: 1/11/2022City: Grass Valley  
Project #: CA22\_070001\_001**Summary**

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	1	2	2	1	1	1	0	0	0	8
01:00	0	0	0	0	0	3	0	1	1	1	0	0	0	6
02:00	0	0	0	0	1	1	2	1	0	0	0	0	0	5
03:00	0	0	0	0	0	1	2	1	0	0	0	0	0	4
04:00	0	0	0	0	0	1	7	4	1	3	0	0	0	16
05:00	0	0	0	0	0	1	27	10	5	0	0	0	0	43
06:00	0	0	0	0	7	30	46	19	9	0	0	0	0	111
07:00	0	0	0	3	22	93	107	29	1	0	0	0	0	255
08:00	0	0	0	2	29	155	128	35	4	0	0	0	0	353
09:00	0	0	0	3	32	111	92	21	1	0	0	0	0	260
10:00	0	0	1	6	23	83	87	20	8	0	0	0	0	228
11:00	0	0	0	4	18	107	92	41	5	0	0	0	0	267
12:00 PM	0	0	1	3	14	88	132	22	3	0	0	0	0	263
13:00	0	0	0	0	20	118	131	29	5	0	0	0	0	303
14:00	0	0	0	0	19	111	122	29	5	0	0	0	0	286
15:00	0	0	1	3	21	125	155	32	2	0	0	0	0	339
16:00	0	0	0	3	27	110	155	29	5	2	0	0	0	331
17:00	0	0	0	1	13	127	152	33	1	0	0	0	0	327
18:00	0	0	0	1	16	52	72	26	5	1	0	0	0	173
19:00	0	0	0	1	6	36	50	15	2	0	0	0	0	110
20:00	0	0	0	0	3	24	28	17	3	1	0	0	0	76
21:00	0	0	0	0	3	12	17	12	6	0	0	0	0	50
22:00	0	0	0	0	0	8	10	5	0	1	0	0	0	24
23:00	0	0	0	0	0	7	6	2	0	1	0	0	0	16
<b>Totals</b>			3	30	275	1406	1622	434	73	11				3854
<b>% of Totals</b>			0%	1%	7%	36%	42%	11%	2%	0%				100%

<b>AM Volumes</b>	0	0	1	18	133	588	592	183	36	5	0	0	0	1556
<b>% AM</b>			0%	0%	3%	15%	15%	5%	1%	0%				40%
<b>AM Peak Hour</b>			10:00	10:00	09:00	08:00	08:00	11:00	06:00	04:00				08:00
<b>Volume</b>			1	6	32	155	128	41	9	3				353
<b>PM Volumes</b>	0	0	2	12	142	818	1030	251	37	6	0	0	0	2298
<b>% PM</b>			0%	0%	4%	21%	27%	7%	1%	0%				60%
<b>PM Peak Hour</b>			12:00	12:00	16:00	17:00	15:00	17:00	21:00	16:00				15:00
<b>Volume</b>			1	3	27	127	155	33	6	2				339
<b>Directional Peak Periods All Speeds</b>			<b>AM 7-9</b>				<b>NOON 12-2</b>				<b>PM 4-6</b>		<b>Off Peak Volumes</b>	
			Volume		%	Volume		%	Volume		%	Volume		%
			608	↔	16%	566	↔	15%	658	↔	17%	2022	↔	52%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Wolf Rd	Summary	36	41	41	45	49	3854

**VOLUME**

Wolf Rd N/O 10734 Wolf Rd Dwy

Day: Tuesday  
 Date: 1/11/2022

City: Grass Valley  
 Project #: CA22\_070001\_002

DAILY TOTALS						NB	SB	EB	WB	Total		
						1,909	1,933	0	0	3,842		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	0	2	0	0	2	12:00	24	34	0	0	58	
00:15	0	2	0	0	2	12:15	41	39	0	0	80	
00:30	0	1	0	0	1	12:30	25	36	0	0	61	
00:45	3	3	0	5	0	12:45	31	121	32	141	0	262
01:00	1	1	0	0	2	13:00	37	42	0	0	79	
01:15	0	1	0	0	1	13:15	39	41	0	0	80	
01:30	2	0	0	0	2	13:30	39	34	0	0	73	
01:45	0	3	1	3	0	13:45	32	147	36	153	0	300
02:00	0	1	0	0	1	14:00	39	40	0	0	79	
02:15	1	1	0	0	2	14:15	35	34	0	0	69	
02:30	1	0	0	0	1	14:30	40	24	0	0	64	
02:45	0	2	1	3	0	14:45	40	154	35	133	0	287
03:00	0	0	0	0	0	15:00	35	45	0	0	80	
03:15	0	2	0	0	2	15:15	50	31	0	0	81	
03:30	0	1	0	0	1	15:30	65	28	0	0	93	
03:45	0	1	4	0	0	15:45	50	200	37	141	0	341
04:00	1	5	0	0	6	16:00	42	48	0	0	90	
04:15	0	0	0	0	0	16:15	49	36	0	0	85	
04:30	0	5	0	0	5	16:30	59	28	0	0	87	
04:45	1	2	4	14	0	16:45	42	192	25	137	0	329
05:00	2	5	0	0	7	17:00	61	34	0	0	95	
05:15	0	8	0	0	8	17:15	48	31	0	0	79	
05:30	0	15	0	0	15	17:30	50	24	0	0	74	
05:45	1	3	12	40	0	17:45	47	206	32	121	0	327
06:00	5	18	0	0	23	18:00	39	16	0	0	55	
06:15	5	12	0	0	17	18:15	31	18	0	0	49	
06:30	7	21	0	0	28	18:30	24	12	0	0	36	
06:45	9	26	36	87	0	18:45	17	111	13	59	0	170
07:00	13	25	0	0	38	19:00	30	8	0	0	38	
07:15	15	38	0	0	53	19:15	10	9	0	0	19	
07:30	22	59	0	0	81	19:30	21	7	0	0	28	
07:45	29	79	54	176	0	19:45	22	83	3	27	0	110
08:00	26	46	0	0	72	20:00	11	14	0	0	25	
08:15	27	64	0	0	91	20:15	21	6	0	0	27	
08:30	37	44	0	0	81	20:30	15	3	0	0	18	
08:45	48	138	57	211	0	20:45	5	52	1	24	0	76
09:00	30	53	0	0	83	21:00	11	4	0	0	15	
09:15	22	45	0	0	67	21:15	8	4	0	0	12	
09:30	22	30	0	0	52	21:30	13	3	0	0	16	
09:45	28	102	31	159	0	21:45	4	36	2	13	0	49
10:00	20	37	0	0	57	22:00	6	2	0	0	8	
10:15	29	38	0	0	67	22:15	7	3	0	0	10	
10:30	20	30	0	0	50	22:30	3	1	0	0	4	
10:45	28	97	24	129	0	22:45	2	18	1	7	0	25
11:00	22	37	0	0	59	23:00	1	1	0	0	2	
11:15	31	33	0	0	64	23:15	5	1	0	0	6	
11:30	34	39	0	0	73	23:30	2	1	0	0	3	
11:45	36	123	32	141	0	23:45	3	11	2	5	0	16
<b>TOTALS</b>	578	972			1550	<b>TOTALS</b>	1331	961			2292	
<b>SPLIT %</b>	37.3%	62.7%			40.3%	<b>SPLIT %</b>	58.1%	41.9%			59.7%	

DAILY TOTALS						NB	SB	EB	WB	Total
						1,909	1,933	0	0	3,842

AM Peak Hour	08:15	07:30			08:15	PM Peak Hour	16:15	13:00			15:30
AM Pk Volume	142	223			360	PM Pk Volume	211	153			355
Pk Hr Factor	0.740	0.871			0.857	Pk Hr Factor	0.865	0.911			0.954
7 - 9 Volume	217	387	0	0	604	4 - 6 Volume	398	258	0	0	656
7 - 9 Peak Hour	08:00	07:30			08:00	4 - 6 Peak Hour	16:15	16:00			16:15
7 - 9 Pk Volume	138	223	0	0	349	4 - 6 Pk Volume	211	137	0	0	334
Pk Hr Factor	0.719	0.871	0.000	0.000	0.831	Pk Hr Factor	0.865	0.714	0.000	0.000	0.879







Summary	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	2
00:15	0	0	0	0	1	0	0	1	0	0	0	0	0	2
00:30	0	0	0	0	0	0	1	0	0	0	0	0	0	1
00:45	0	0	0	0	0	0	1	0	1	0	1	0	0	3
01:00	0	0	0	0	0	1	0	0	0	0	1	0	0	2
01:15	0	0	0	0	1	0	0	0	0	0	0	0	0	1
01:30	0	0	0	0	0	0	1	0	0	1	0	1	0	2
01:45	0	0	0	0	0	1	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	1	0	0	0	0	0	0	1
02:15	0	0	0	0	0	0	1	1	0	0	0	0	0	2
02:30	0	0	0	1	0	0	0	0	0	0	0	0	0	1
02:45	0	0	0	0	0	0	0	1	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	1	0	1	0	0	0	0	0	2
03:30	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:45	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:00	0	0	0	0	2	2	1	1	1	0	0	0	0	6
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	3	1	0	1	0	0	0	5
04:45	0	0	0	0	0	0	3	0	2	0	0	0	0	5
05:00	0	0	0	0	0	1	6	2	0	0	0	0	0	9
05:15	0	0	0	0	0	0	6	2	0	0	0	0	0	8
05:30	0	0	0	0	0	0	7	7	1	0	0	0	0	15
05:45	0	0	0	0	0	0	8	4	1	0	0	0	0	13
06:00	0	0	0	0	0	4	12	7	0	0	0	0	0	23
06:15	0	0	0	0	2	5	5	3	2	0	0	0	0	17
06:30	0	0	0	1	1	4	13	9	0	0	0	0	0	28
06:45	0	0	0	1	2	12	24	5	1	0	0	0	0	45
07:00	0	0	0	0	8	7	18	4	1	0	0	0	0	38
07:15	0	0	0	0	1	26	16	10	0	0	0	0	0	53
07:30	0	0	0	1	8	34	31	7	0	0	0	0	0	81
07:45	0	0	0	6	26	39	8	1	0	0	0	0	0	83
08:00	0	0	0	5	30	26	7	4	0	0	0	0	0	72
08:15	0	0	1	0	6	31	47	5	1	0	0	0	0	91
08:30	0	0	0	0	13	28	32	8	0	0	0	0	0	81
08:45	0	0	0	0	14	44	37	9	1	0	0	0	0	105
09:00	0	1	0	0	6	37	30	6	3	0	0	0	0	89
09:15	0	0	0	1	15	25	20	5	1	0	0	0	0	67
09:30	0	0	0	1	8	16	21	5	1	0	0	0	0	52
09:45	0	0	0	2	8	26	17	6	0	0	0	0	0	59
10:00	0	0	0	2	5	28	19	2	1	0	0	0	0	57
10:15	0	0	1	0	3	23	29	8	1	2	0	0	0	67
10:30	0	0	0	0	12	18	16	3	0	1	0	0	0	50
10:45	0	0	0	1	9	19	17	5	1	0	0	0	0	52
11:00	0	0	0	1	6	23	21	6	2	0	0	0	0	59
11:15	0	0	0	0	10	21	23	8	2	0	0	0	0	64
11:30	0	0	0	1	4	24	34	9	1	0	0	0	0	73
11:45	0	0	0	2	6	25	22	11	2	0	0	0	0	68
12:00 PM	0	0	0	1	4	27	19	7	1	0	0	0	0	58
12:15	0	0	0	0	7	30	37	6	0	0	0	0	0	80
12:30	0	0	0	0	10	25	20	4	2	0	0	0	0	61
12:45	0	0	0	0	5	20	27	9	2	0	0	0	0	63
13:00	0	0	0	0	6	32	31	7	3	0	0	0	0	79
13:15	0	0	0	0	7	34	33	6	0	0	0	0	0	80
13:30	0	0	0	0	8	31	25	6	1	0	0	0	0	73
13:45	0	0	0	0	3	21	29	8	7	0	0	0	0	68
14:00	0	0	0	0	1	39	31	7	1	0	0	0	0	79
14:15	0	0	0	1	2	23	26	13	4	0	0	0	0	69
14:30	0	0	1	1	5	23	24	6	2	0	0	0	0	64
14:45	0	0	0	0	10	29	27	8	0	1	0	0	0	75
15:00	0	0	0	4	12	26	32	6	0	0	0	0	0	80
15:15	0	0	0	0	5	28	39	7	2	0	0	0	0	81
15:30	0	0	1	0	20	29	32	10	1	0	0	0	0	93
15:45	0	0	0	0	2	31	39	12	2	1	0	0	0	87
16:00	0	0	0	1	15	40	26	7	1	0	0	0	0	90
16:15	0	0	0	0	5	16	36	14	3	0	0	0	0	85
16:30	0	0	0	0	2	28	43	11	3	0	0	0	0	87
16:45	0	0	0	0	5	40	18	4	0	0	0	0	0	67
17:00	0	0	1	1	15	31	40	7	0	0	0	0	0	95
17:15	0	0	0	1	19	34	20	5	0	0	0	0	0	79
17:30	0	0	1	1	31	26	12	1	0	0	0	0	0	74
17:45	0	0	0	2	2	28	31	14	2	0	0	0	0	79
18:00	0	0	0	2	8	19	16	8	2	0	0	0	0	55
18:15	0	0	0	0	3	11	27	8	0	0	0	0	0	49
18:30	0	0	0	0	1	17	12	5	1	0	0	0	0	36
18:45	0	0	0	0	4	12	10	3	0	1	0	0	0	30
19:00	0	0	0	0	5	14	14	3	2	0	0	0	0	38
19:15	0	0	0	0	0	6	9	3	1	0	0	0	0	19
19:30	0	0	0	0	3	9	8	6	2	0	0	0	0	28
19:45	0	0	0	3	1	5	13	3	0	0	0	0	0	25
20:00	0	0	0	0	1	6	12	5	1	0	0	0	0	25
20:15	0	0	0	0	0	12	8	3	0	1	0	0	0	21
20:30	0	0	0	0	3	6	5	3	0	1	0	0	0	18
20:45	0	0	0	0	1	4	1	0	0	0	0	0	0	6
21:00	0	0	0	0	2	5	4	2	1	1	0	0	0	15
21:15	0	0	0	0	1	1	2	6	2	0	0	0	0	12
21:30	0	0	0	0	0	2	9	4	0	1	0	0	0	16
21:45	0	0	0	0	0	3	2	1	0	0	0	0	0	6
22:00	0	0	0	0	2	1	0	3	1	0	1	0	0	8
22:15	0	0	0	0	0	4	3	3	0	0	0	0	0	10
22:30	0	0	0	0	0	3	1	0	0	0	0	0	0	4
22:45	0	0	0	0	0	2	1	0	0	0	0	0	0	3
23:00	0	0	0	0	0	1	1	0	0	0	0	0	0	2
23:15	0	0	0	0	0	0	4	1	1	0	0	0	0	6
23:30	0	0	0	0	0	0	1	1	1	0	0	0	0	3
23:45	0	0	0	0	0	1	2	1	1	0	0	0	0	5
Totals			10	38	370	1397	1482	445	84	13	3			3842
% of Totals			0%	1%	10%	36%	39%	12%	2%	0%	0%			100%

AM Volumes	% AM	AM Peak Hour	PM Volumes	% PM	PM Peak Hour
0	0%	08:15	0	0%	08:15
0	0%	09:15	0	0%	09:15
0	0%	10:15	0	0%	10:15
0	0%	11:15	0	0%	11:15
0	0%	12:15	0	0%	12:15
0	0%	13:15	0	0%	13:15
0	0%	14:15	0	0%	14:15
0	0%	15:15	0	0%	15:15
0	0%	16:15	0	0%	16:15
0	0%	17:15	0	0%	17:15
0	0%	18:15	0	0%	18:15
0	0%	19:15	0	0%	19:15
0	0%	20:15	0	0%	20:15
0	0%	21:15	0	0%	21:15
0	0%	22:15	0	0%	22:15
0	0%	23:15	0	0%	23:15

Street Name	Direction	Percentiles					ADT
		15th	50th	Average	85th	95th	
Wolf Rd	Summary	36	40	40	45	49	3842

**SPEED**

Wolf Rd N/O 10734 Wolf Rd Dwy

Day: Tuesday  
Date: 1/11/2022City: Grass Valley  
Project #: CA22\_070001\_002n**North Bound**

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	1	0	1	0	1	0	0	3
01:00	0	0	0	0	0	0	0	1	0	1	1	0	0	3
02:00	0	0	0	1	0	0	0	1	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	1	0	0	1	0	0	0	0	2
05:00	0	0	0	0	0	1	2	0	0	0	0	0	0	3
06:00	0	0	0	1	3	4	11	6	1	0	0	0	0	26
07:00	0	0	0	4	15	30	22	8	0	0	0	0	0	79
08:00	0	0	0	0	17	53	48	15	5	0	0	0	0	138
09:00	0	0	0	1	12	40	36	9	4	0	0	0	0	102
10:00	0	0	1	2	10	33	37	10	2	2	0	0	0	97
11:00	0	0	0	2	11	41	48	19	2	0	0	0	0	123
12:00 PM	0	0	0	0	11	43	44	20	3	0	0	0	0	121
13:00	0	0	0	2	11	61	54	14	5	0	0	0	0	147
14:00	0	0	1	1	10	65	55	15	6	1	0	0	0	154
15:00	0	0	0	3	23	67	87	17	3	0	0	0	0	200
16:00	0	0	0	0	5	75	83	25	3	1	0	0	0	192
17:00	0	0	2	4	21	74	73	29	3	0	0	0	0	206
18:00	0	0	0	2	10	37	40	18	3	1	0	0	0	111
19:00	0	0	0	3	6	24	34	12	4	0	0	0	0	83
20:00	0	0	0	0	7	19	18	8	0	0	0	0	0	52
21:00	0	0	0	0	3	9	12	8	2	2	0	0	0	36
22:00	0	0	0	0	1	8	3	4	1	0	1	0	0	18
23:00	0	0	0	0	0	5	3	3	0	0	0	0	0	11
<b>Totals</b>			4	26	176	690	711	242	49	8	3			1909
<b>% of Totals</b>			0%	1%	9%	36%	37%	13%	3%	0%	0%			100%

<b>AM Volumes</b>	0	0	1	11	68	203	205	69	16	3	2	0	0	578
<b>% AM</b>			0%	1%	4%	11%	11%	4%	1%	0%	0%			30%
<b>AM Peak Hour</b>			10:00	07:00	08:00	08:00	08:00	11:00	08:00	10:00				08:00
<b>Volume</b>			1	4	17	53	48	19	5	2	1			138
<b>PM Volumes</b>	0	0	3	15	108	487	506	173	33	5	1	0	0	1331
<b>% PM</b>			0%	1%	6%	26%	27%	9%	2%	0%	0%			70%
<b>PM Peak Hour</b>			17:00	17:00	15:00	16:00	15:00	17:00	14:00	21:00	22:00			17:00
<b>Volume</b>			2	4	23	75	87	29	6	2	1			206
<b>Directional Peak Periods</b>			<b>AM 7-9</b>				<b>NOON 12-2</b>				<b>PM 4-6</b>		<b>Off Peak Volumes</b>	
<b>All Speeds</b>			Volume		%	Volume		%	Volume		%	Volume		%
			217	↔	11%	268	↔	14%	398	↔	21%	1026	↔	54%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Wolf Rd	North Bound	36	40	41	45	49	1909
Wolf Rd	South Bound	36	40	40	45	49	1933

**SPEED**

Wolf Rd N/O 10734 Wolf Rd Dwy

Day: Tuesday  
Date: 1/11/2022City: Grass Valley  
Project #: CA22\_070001\_002s**South Bound**

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	1	0	2	2	0	0	0	0	0	5
01:00	0	0	0	0	1	2	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	2	1	0	0	0	0	0	3
03:00	0	0	0	0	0	1	2	1	0	0	0	0	0	4
04:00	0	0	0	0	0	1	8	2	2	1	0	0	0	14
05:00	0	0	0	0	0	0	25	13	2	0	0	0	0	40
06:00	0	0	0	1	2	21	43	18	2	0	0	0	0	87
07:00	0	0	0	0	8	63	82	21	2	0	0	0	0	176
08:00	0	0	1	0	21	80	94	14	1	0	0	0	0	211
09:00	0	0	1	3	25	64	52	13	1	0	0	0	0	159
10:00	0	0	0	1	19	55	44	8	1	1	0	0	0	129
11:00	0	0	0	2	15	52	52	15	5	0	0	0	0	141
12:00 PM	0	0	0	1	15	59	58	6	2	0	0	0	0	141
13:00	0	0	0	0	13	57	64	13	6	0	0	0	0	153
14:00	0	0	2	1	8	49	53	19	1	0	0	0	0	133
15:00	0	0	1	1	16	47	55	18	2	1	0	0	0	141
16:00	0	0	0	1	22	59	40	11	4	0	0	0	0	137
17:00	0	0	1	1	16	50	44	9	0	0	0	0	0	121
18:00	0	0	0	0	6	22	25	6	0	0	0	0	0	59
19:00	0	0	0	0	3	10	10	3	1	0	0	0	0	27
20:00	0	0	0	0	1	9	8	3	1	2	0	0	0	24
21:00	0	0	0	0	0	2	5	5	1	0	0	0	0	13
22:00	0	0	0	0	1	2	2	2	0	0	0	0	0	7
23:00	0	0	0	0	1	2	1	0	1	0	0	0	0	5
<b>Totals</b>			6	12	194	707	771	203	35	5				1933
<b>% of Totals</b>			0%	1%	10%	37%	40%	11%	2%	0%				100%

<b>AM Volumes</b>	0	0	2	7	92	339	406	108	16	2	0	0	0	972	
<b>% AM</b>			0%	0%	5%	18%	21%	6%	1%	0%				50%	
<b>AM Peak Hour</b>			08:00	09:00	09:00	08:00	08:00	07:00	11:00	04:00				08:00	
<b>Volume</b>			1	3	25	80	94	21	5	1				211	
<b>PM Volumes</b>	0	0	4	5	102	368	365	95	19	3	0	0	0	961	
<b>% PM</b>			0%	0%	5%	19%	19%	5%	1%	0%				50%	
<b>PM Peak Hour</b>			14:00	12:00	16:00	12:00	13:00	14:00	13:00	20:00				13:00	
<b>Volume</b>			2	1	22	59	64	19	6	2				153	
<b>Directional Peak Periods</b>			<b>AM 7-9</b>				<b>NOON 12-2</b>			<b>PM 4-6</b>			<b>Off Peak Volumes</b>		
<b>All Speeds</b>			Volume		%	Volume		%	Volume		%	Volume		%	
			387	↔	20%	294	↔	15%	258	↔	13%	994	↔	51%	

Street Name	Direction	Percentiles					ADT
		15th	50th	Average	85th	95th	
Wolf Rd	North Bound	36	40	41	45	49	1909
Wolf Rd	South Bound	36	40	40	45	49	1933

**SPEED**

Wolf Rd N/O 10734 Wolf Rd Dwy

Day: Tuesday  
Date: 1/11/2022City: Grass Valley  
Project #: CA22\_070001\_002**Summary**

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	1	0	3	2	1	0	1	0	0	8
01:00	0	0	0	0	1	2	0	1	0	1	1	0	0	6
02:00	0	0	0	1	0	0	2	2	0	0	0	0	0	5
03:00	0	0	0	0	0	1	2	1	0	0	0	0	0	4
04:00	0	0	0	0	0	2	8	2	3	1	0	0	0	16
05:00	0	0	0	0	0	1	27	13	2	0	0	0	0	43
06:00	0	0	0	2	5	25	54	24	3	0	0	0	0	113
07:00	0	0	0	4	23	93	104	29	2	0	0	0	0	255
08:00	0	0	1	0	38	133	142	29	6	0	0	0	0	349
09:00	0	0	1	4	37	104	88	22	5	0	0	0	0	261
10:00	0	0	1	3	29	88	81	18	3	3	0	0	0	226
11:00	0	0	0	4	26	93	100	34	7	0	0	0	0	264
12:00 PM	0	0	0	1	26	102	102	26	5	0	0	0	0	262
13:00	0	0	0	2	24	118	118	27	11	0	0	0	0	300
14:00	0	0	3	2	18	114	108	34	7	1	0	0	0	287
15:00	0	0	1	4	39	114	142	35	5	1	0	0	0	341
16:00	0	0	0	1	27	134	123	36	7	1	0	0	0	329
17:00	0	0	3	5	37	124	117	38	3	0	0	0	0	327
18:00	0	0	0	2	16	59	65	24	3	1	0	0	0	170
19:00	0	0	0	3	9	34	44	15	5	0	0	0	0	110
20:00	0	0	0	0	8	28	26	11	1	2	0	0	0	76
21:00	0	0	0	0	3	11	17	13	3	2	0	0	0	49
22:00	0	0	0	0	2	10	5	6	1	0	1	0	0	25
23:00	0	0	0	0	1	7	4	3	1	0	0	0	0	16
<b>Totals</b>			10	38	370	1397	1482	445	84	13	3			3842
<b>% of Totals</b>			0%	1%	10%	36%	39%	12%	2%	0%	0%			100%

<b>AM Volumes</b>	0	0	3	18	160	542	611	177	32	5	2	0	0	1550
<b>% AM</b>			0%	0%	4%	14%	16%	5%	1%	0%	0%			40%
<b>AM Peak Hour</b>			08:00	07:00	08:00	08:00	08:00	11:00	11:00	10:00				08:00
<b>Volume</b>			1	4	38	133	142	34	7	3	1			349
<b>PM Volumes</b>	0	0	7	20	210	855	871	268	52	8	1	0	0	2292
<b>% PM</b>			0%	1%	5%	22%	23%	7%	1%	0%	0%			60%
<b>PM Peak Hour</b>			14:00	17:00	15:00	16:00	15:00	17:00	13:00	20:00	22:00			15:00
<b>Volume</b>			3	5	39	134	142	38	11	2	1			341
<b>Directional Peak Periods</b>			<b>AM 7-9</b>			<b>NOON 12-2</b>			<b>PM 4-6</b>			<b>Off Peak Volumes</b>		
<b>All Speeds</b>			Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
			604		16%	562		15%	656		17%	2020		53%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Wolf Rd	Summary	36	40	40	45	49	3842

**Appendix B – Existing Conditions Intersections Level of Service  
Worksheets**

HCM 6th TWSC  
1: Wolf Rd & Driveway

Timing Plan: AM Peak

02/09/2022

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	141	0	0	211
Future Vol, veh/h	0	0	141	0	0	211
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	72	72	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	196	0	0	248

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	444	196	0	0	196
Stage 1	196	-	-	-	-
Stage 2	248	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	571	845	-	-	1377
Stage 1	837	-	-	-	-
Stage 2	793	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	571	845	-	-	1377
Mov Cap-2 Maneuver	571	-	-	-	-
Stage 1	837	-	-	-	-
Stage 2	793	-	-	-	-

























Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1377
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

HCM 6th Signalized Intersection Summary  
 2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: AM Peak

02/09/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	127	132	408	100	202	62	602	296	322	736	48
Future Volume (veh/h)	15	127	132	408	100	202	62	602	296	322	736	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	148	153	474	116	235	71	692	340	332	759	49
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.87	0.87	0.87	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	246	209	578	521	442	93	857	647	379	1428	669
Arrive On Green	0.02	0.13	0.13	0.17	0.28	0.28	0.05	0.24	0.24	0.21	0.40	0.40
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	17	148	153	474	116	235	71	692	340	332	759	49
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.7	5.4	6.8	9.6	3.5	9.1	2.9	13.4	11.8	13.1	11.8	1.3
Cycle Q Clear(g_c), s	0.7	5.4	6.8	9.6	3.5	9.1	2.9	13.4	11.8	13.1	11.8	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	36	246	209	578	521	442	93	857	647	379	1428	669
V/C Ratio(X)	0.48	0.60	0.73	0.82	0.22	0.53	0.76	0.81	0.53	0.88	0.53	0.07
Avail Cap(c_a), veh/h	125	462	392	688	703	596	225	976	700	477	1478	691
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	29.8	30.4	29.3	20.2	22.2	34.1	26.0	16.2	27.7	16.6	12.6
Incr Delay (d2), s/veh	9.6	2.4	4.9	6.7	0.2	1.0	12.0	4.6	0.7	14.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.4	2.7	4.2	1.4	3.2	1.4	5.4	3.8	6.3	4.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	32.2	35.3	36.0	20.4	23.2	46.1	30.6	16.9	41.7	16.9	12.6
LnGrp LOS	D	C	D	D	C	C	D	C	B	D	B	B
Approach Vol, veh/h		318			825			1103			1140	
Approach Delay, s/veh		34.4			30.2			27.4			23.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	22.1	16.7	14.1	8.3	33.8	6.0	24.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	19.5	20.0	14.5	18.0	9.2	30.3	5.1	27.4				
Max Q Clear Time (g_c+I1), s	15.1	15.4	11.6	8.8	4.9	13.8	2.7	11.1				
Green Ext Time (p_c), s	0.4	2.2	0.5	0.8	0.0	4.2	0.0	1.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				27.6								
HCM 6th LOS				C								

HCM 6th TWSC  
1: Wolf Rd & Driveway

Timing Plan: PM Peak

02/09/2022

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	213	0	1	121
Future Vol, veh/h	0	0	213	0	1	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	83	83	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	257	0	1	132

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	391	257	0	0	257
Stage 1	257	-	-	-	-
Stage 2	134	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	613	782	-	-	1308
Stage 1	786	-	-	-	-
Stage 2	892	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	612	782	-	-	1308
Mov Cap-2 Maneuver	612	-	-	-	-
Stage 1	786	-	-	-	-
Stage 2	891	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	- 1308	-
HCM Lane V/C Ratio	-	-	- 0.001	-
HCM Control Delay (s)	-	-	0 7.8	0
HCM Lane LOS	-	-	A A	A
HCM 95th %tile Q(veh)	-	-	- 0	-



# HCM 6th Signalized Intersection Summary

## 2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: PM Peak

02/09/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	89	85	249	101	129	188	866	420	185	692	38
Future Volume (veh/h)	40	89	85	249	101	129	188	866	420	185	692	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	119	113	286	116	148	202	931	452	201	752	41
Peak Hour Factor	0.75	0.75	0.75	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	210	178	395	333	282	250	1213	722	247	1209	616
Arrive On Green	0.05	0.11	0.11	0.11	0.18	0.18	0.14	0.34	0.34	0.14	0.34	0.34
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	53	119	113	286	116	148	202	931	452	201	752	41
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.8	3.7	4.2	4.9	3.3	5.2	6.7	14.3	13.3	6.7	10.9	1.0
Cycle Q Clear(g_c), s	1.8	3.7	4.2	4.9	3.3	5.2	6.7	14.3	13.3	6.7	10.9	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	210	178	395	333	282	250	1213	722	247	1209	616
V/C Ratio(X)	0.61	0.57	0.64	0.72	0.35	0.52	0.81	0.77	0.63	0.81	0.62	0.07
Avail Cap(c_a), veh/h	192	549	465	479	607	514	334	1448	827	305	1390	697
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	25.8	26.1	26.2	22.1	22.9	25.6	18.0	12.7	25.6	16.9	11.8
Incr Delay (d2), s/veh	6.9	2.4	3.7	4.3	0.6	1.5	10.4	2.1	1.2	12.7	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.6	1.6	2.1	1.4	1.9	3.1	4.9	4.0	3.3	3.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	28.2	29.8	30.5	22.7	24.4	36.0	20.1	13.9	38.4	17.6	11.8
LnGrp LOS	D	C	C	C	C	C	D	C	B	D	B	B
Approach Vol, veh/h		285			550			1585			994	
Approach Delay, s/veh		30.2			27.2			20.4			21.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	25.5	11.5	11.4	13.1	25.4	7.5	15.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	25.0	8.5	18.0	11.5	24.0	6.6	19.9				
Max Q Clear Time (g_c+I1), s	8.7	16.3	6.9	6.2	8.7	12.9	3.8	7.2				
Green Ext Time (p_c), s	0.1	4.6	0.2	0.7	0.1	3.5	0.0	0.8				

### Intersection Summary

HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

**Queues**  
**2: CA-49 & Wolf Rd/Combie Rd**

Timing Plan: AM Peak

02/09/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	17	148	153	474	116	235	71	692	340	332	759	49
v/c Ratio	0.15	0.55	0.36	0.80	0.20	0.36	0.41	0.83	0.38	0.83	0.55	0.06
Control Delay	42.2	41.2	3.0	45.2	24.4	5.3	43.9	41.0	4.4	50.6	22.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	41.2	3.0	45.2	24.4	5.3	43.9	41.0	4.4	50.6	22.8	0.1
Queue Length 50th (ft)	9	74	0	124	49	0	36	182	13	166	166	0
Queue Length 95th (ft)	29	124	3	#196	87	45	77	#275	58	#326	246	0
Internal Link Dist (ft)		591			688			1106			656	
Turn Bay Length (ft)	100		50	235		130	820		730	505		310
Base Capacity (vph)	111	414	536	616	638	697	201	875	899	427	1389	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.36	0.29	0.77	0.18	0.34	0.35	0.79	0.38	0.78	0.55	0.06

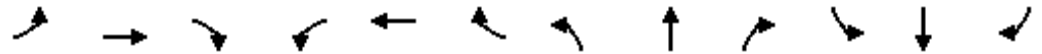
**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

**Queues**  
**2: CA-49 & Wolf Rd/Combie Rd**

Timing Plan: PM Peak

02/09/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	53	119	113	286	116	148	202	931	452	201	752	41
v/c Ratio	0.33	0.45	0.33	0.68	0.31	0.34	0.72	0.80	0.45	0.76	0.66	0.05
Control Delay	37.5	33.9	6.0	40.5	28.5	7.4	46.1	27.9	3.4	50.9	24.3	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	33.9	6.0	40.5	28.5	7.4	46.1	27.9	3.4	50.9	24.3	0.9
Queue Length 50th (ft)	23	49	0	63	46	0	86	188	10	87	146	0
Queue Length 95th (ft)	48	79	13	#114	88	41	#192	278	57	#203	219	5
Internal Link Dist (ft)		591			688			1106			656	
Turn Bay Length (ft)	100		50	235		130	820		730	505		310
Base Capacity (vph)	168	483	516	420	534	559	293	1274	1011	267	1223	802
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.25	0.22	0.68	0.22	0.26	0.69	0.73	0.45	0.75	0.61	0.05

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

**Appendix C – Existing plus Project Conditions Intersections  
Level of Service Worksheets**

HCM 6th TWSC  
1: Wolf Rd & Driveway

Timing Plan: AM Peak

02/17/2022

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Traffic Vol, veh/h	3	1	141	3	0	211
Future Vol, veh/h	3	1	141	3	0	211
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	72	72	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	1	196	4	0	248

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	446	198	0	0	200
Stage 1	198	-	-	-	-
Stage 2	248	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	570	843	-	-	1372
Stage 1	835	-	-	-	-
Stage 2	793	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	570	843	-	-	1372
Mov Cap-2 Maneuver	570	-	-	-	-
Stage 1	835	-	-	-	-
Stage 2	793	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0
HCM LOS	B		

























Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	620	1372
HCM Lane V/C Ratio	-	-	0.007	-
HCM Control Delay (s)	-	-	10.8	0
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

# HCM 6th Signalized Intersection Summary

## 2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: AM Peak

02/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	127	133	408	100	202	63	602	296	322	736	50
Future Volume (veh/h)	17	127	133	408	100	202	63	602	296	322	736	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	148	155	474	116	235	72	692	340	332	759	52
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.87	0.87	0.87	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	248	210	577	518	439	94	856	647	379	1426	672
Arrive On Green	0.02	0.13	0.13	0.17	0.28	0.28	0.05	0.24	0.24	0.21	0.40	0.40
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	20	148	155	474	116	235	72	692	340	332	759	52
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.8	5.4	6.9	9.7	3.5	9.2	2.9	13.4	11.8	13.2	11.9	1.4
Cycle Q Clear(g_c), s	0.8	5.4	6.9	9.7	3.5	9.2	2.9	13.4	11.8	13.2	11.9	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	41	248	210	577	518	439	94	856	647	379	1426	672
V/C Ratio(X)	0.49	0.60	0.74	0.82	0.22	0.54	0.77	0.81	0.53	0.88	0.53	0.08
Avail Cap(c_a), veh/h	124	461	391	686	702	595	224	973	699	476	1474	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	29.8	30.4	29.4	20.4	22.4	34.2	26.1	16.3	27.8	16.6	12.5
Incr Delay (d2), s/veh	8.9	2.3	5.0	6.8	0.2	1.0	12.3	4.6	0.7	14.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.4	2.7	4.3	1.4	3.2	1.5	5.4	3.9	6.3	4.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.2	32.1	35.4	36.2	20.6	23.4	46.5	30.7	17.0	41.9	17.0	12.6
LnGrp LOS	D	C	D	D	C	C	D	C	B	D	B	B
Approach Vol, veh/h		323			825			1104			1143	
Approach Delay, s/veh		34.4			30.4			27.5			24.0	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	22.1	16.7	14.2	8.3	33.8	6.2	24.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	19.5	20.0	14.5	18.0	9.2	30.3	5.1	27.4				
Max Q Clear Time (g_c+I1), s	15.2	15.4	11.7	8.9	4.9	13.9	2.8	11.2				
Green Ext Time (p_c), s	0.4	2.2	0.5	0.8	0.0	4.2	0.0	1.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				27.7								
HCM 6th LOS				C								

HCM 6th TWSC  
1: Wolf Rd & Driveway

Timing Plan: PM Peak

02/17/2022

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	3	0	213	6	2	121
Future Vol, veh/h	3	0	213	6	2	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	83	83	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	0	257	7	2	132

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	397	261	0	0	264
Stage 1	261	-	-	-	-
Stage 2	136	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	608	778	-	-	1300
Stage 1	783	-	-	-	-
Stage 2	890	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	607	778	-	-	1300
Mov Cap-2 Maneuver	607	-	-	-	-
Stage 1	783	-	-	-	-
Stage 2	888	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	607	1300
HCM Lane V/C Ratio	-	-	0.005	0.002
HCM Control Delay (s)	-	-	11	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th Signalized Intersection Summary  
2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: PM Peak

02/17/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	89	86	249	102	129	190	866	420	185	692	41
Future Volume (veh/h)	42	89	86	249	102	129	190	866	420	185	692	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	56	119	115	286	117	148	204	931	452	201	752	45
Peak Hour Factor	0.75	0.75	0.75	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	212	179	395	332	281	252	1212	722	247	1203	616
Arrive On Green	0.05	0.11	0.11	0.11	0.18	0.18	0.14	0.34	0.34	0.14	0.34	0.34
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	56	119	115	286	117	148	204	931	452	201	752	45
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.9	3.7	4.3	4.9	3.4	5.2	6.8	14.4	13.4	6.7	10.9	1.1
Cycle Q Clear(g_c), s	1.9	3.7	4.3	4.9	3.4	5.2	6.8	14.4	13.4	6.7	10.9	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	212	179	395	332	281	252	1212	722	247	1203	616
V/C Ratio(X)	0.63	0.56	0.64	0.72	0.35	0.53	0.81	0.77	0.63	0.81	0.62	0.07
Avail Cap(c_a), veh/h	191	547	464	478	605	513	333	1444	825	304	1387	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	25.8	26.1	26.3	22.2	23.0	25.6	18.1	12.8	25.7	17.1	11.8
Incr Delay (d2), s/veh	7.1	2.3	3.8	4.3	0.6	1.5	10.7	2.1	1.2	12.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.6	1.7	2.1	1.4	1.9	3.2	4.9	4.0	3.3	3.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	28.2	29.9	30.6	22.8	24.5	36.3	20.2	14.0	38.5	17.8	11.9
LnGrp LOS	D	C	C	C	C	C	D	C	B	D	B	B
Approach Vol, veh/h		290			551			1587			998	
Approach Delay, s/veh		30.3			27.3			20.5			21.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	25.5	11.5	11.5	13.2	25.3	7.6	15.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	25.0	8.5	18.0	11.5	24.0	6.6	19.9				
Max Q Clear Time (g_c+I1), s	8.7	16.4	6.9	6.3	8.8	12.9	3.9	7.2				
Green Ext Time (p_c), s	0.1	4.6	0.2	0.7	0.1	3.5	0.0	0.8				

Intersection Summary												
HCM 6th Ctrl Delay				22.8								
HCM 6th LOS				C								



**Queues**  
**2: CA-49 & Wolf Rd/Combie Rd**

Timing Plan: AM Peak

02/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	20	148	155	474	116	235	72	692	340	332	759	52
v/c Ratio	0.18	0.55	0.36	0.80	0.22	0.38	0.42	0.83	0.38	0.83	0.55	0.06
Control Delay	42.9	41.2	3.2	45.2	25.5	5.5	44.1	41.0	4.4	50.6	22.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	41.2	3.2	45.2	25.5	5.5	44.1	41.0	4.4	50.6	22.8	0.1
Queue Length 50th (ft)	10	74	0	124	49	0	36	182	13	166	166	0
Queue Length 95th (ft)	32	124	4	#196	87	45	78	#275	58	#326	246	0
Internal Link Dist (ft)		591			688			1106			656	
Turn Bay Length (ft)	100		50	235		130	820		730	505		310
Base Capacity (vph)	111	414	536	616	631	692	201	875	899	427	1389	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.36	0.29	0.77	0.18	0.34	0.36	0.79	0.38	0.78	0.55	0.06

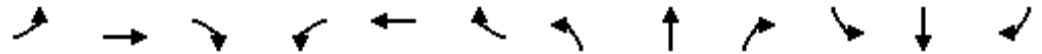
**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Queues  
2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: PM Peak

02/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	56	119	115	286	117	148	204	931	452	201	752	45
v/c Ratio	0.35	0.45	0.33	0.68	0.31	0.34	0.73	0.80	0.45	0.76	0.66	0.06
Control Delay	38.0	33.9	6.3	40.5	28.5	7.4	46.5	27.9	3.4	50.9	24.3	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	33.9	6.3	40.5	28.5	7.4	46.5	27.9	3.4	50.9	24.3	1.2
Queue Length 50th (ft)	24	49	0	63	47	0	87	188	10	87	146	0
Queue Length 95th (ft)	50	79	14	#114	89	41	#194	278	57	#203	219	7
Internal Link Dist (ft)		591			688			1106			656	
Turn Bay Length (ft)	100		50	235		130	820		730	505		310
Base Capacity (vph)	168	483	516	420	534	559	293	1274	1011	267	1223	802
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.25	0.22	0.68	0.22	0.26	0.70	0.73	0.45	0.75	0.61	0.06

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

**Appendix D – Cumulative Conditions Intersections Level of Service  
Worksheets**

HCM 6th TWSC  
1: Wolf Rd & Driveway

Timing Plan: AM Peak

02/18/2022

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	155	0	0	232
Future Vol, veh/h	0	0	155	0	0	232
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	72	72	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	215	0	0	273

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	488	215	0	0	215
Stage 1	215	-	-	-	-
Stage 2	273	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	539	825	-	-	1355
Stage 1	821	-	-	-	-
Stage 2	773	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	539	825	-	-	1355
Mov Cap-2 Maneuver	539	-	-	-	-
Stage 1	821	-	-	-	-
Stage 2	773	-	-	-	-

























Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1355	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th Signalized Intersection Summary  
2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: AM Peak

02/18/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	140	145	450	110	223	68	663	326	355	811	53
Future Volume (veh/h)	17	140	145	450	110	223	68	663	326	355	811	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	163	169	523	128	259	78	762	375	366	836	55
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.87	0.87	0.87	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	258	218	600	541	458	101	855	656	404	1459	686
Arrive On Green	0.02	0.14	0.14	0.17	0.29	0.29	0.06	0.24	0.24	0.23	0.41	0.41
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	20	163	169	523	128	259	78	762	375	366	836	55
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.9	6.7	8.4	12.0	4.2	11.3	3.5	16.8	14.8	16.3	14.7	1.7
Cycle Q Clear(g_c), s	0.9	6.7	8.4	12.0	4.2	11.3	3.5	16.8	14.8	16.3	14.7	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	40	258	218	600	541	458	101	855	656	404	1459	686
V/C Ratio(X)	0.50	0.63	0.77	0.87	0.24	0.57	0.77	0.89	0.57	0.91	0.57	0.08
Avail Cap(c_a), veh/h	112	414	351	617	631	535	202	875	665	428	1459	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	33.1	33.8	32.7	22.0	24.5	37.8	29.8	18.3	30.6	18.5	13.5
Incr Delay (d2), s/veh	9.5	2.6	5.8	12.7	0.2	1.1	11.8	11.2	1.1	22.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.1	3.4	5.8	1.8	4.1	1.7	7.7	5.1	8.7	5.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.7	35.6	39.6	45.4	22.3	25.6	49.7	41.0	19.4	52.6	19.0	13.6
LnGrp LOS	D	D	D	D	C	C	D	D	B	D	B	B
Approach Vol, veh/h		352			910			1215			1257	
Approach Delay, s/veh		38.3			36.5			34.9			28.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.9	24.0	18.6	15.7	9.1	37.9	6.3	28.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	19.5	20.0	14.5	18.0	9.2	30.3	5.1	27.4				
Max Q Clear Time (g_c+I1), s	18.3	18.8	14.0	10.4	5.5	16.7	2.9	13.3				
Green Ext Time (p_c), s	0.2	0.7	0.1	0.8	0.0	4.3	0.0	1.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				33.5								
HCM 6th LOS				C								

HCM 6th TWSC  
1: Wolf Rd & Driveway

Timing Plan: PM Peak

02/18/2022

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	0	0	235	0	1	133
Future Vol, veh/h	0	0	235	0	1	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	83	83	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	283	0	1	145

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	430	283	0	0	283
Stage 1	283	-	-	-	-
Stage 2	147	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	582	756	-	-	1279
Stage 1	765	-	-	-	-
Stage 2	880	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	581	756	-	-	1279
Mov Cap-2 Maneuver	581	-	-	-	-
Stage 1	765	-	-	-	-
Stage 2	879	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1279
HCM Lane V/C Ratio	-	-	-	0.001
HCM Control Delay (s)	-	-	0	7.8
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

# HCM 6th Signalized Intersection Summary

## 2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: PM Peak

02/18/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	98	94	274	111	142	207	954	463	204	762	42
Future Volume (veh/h)	44	98	94	274	111	142	207	954	463	204	762	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	131	125	315	128	163	223	1026	498	222	828	46
Peak Hour Factor	0.75	0.75	0.75	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	218	185	411	348	295	268	1230	737	265	1226	626
Arrive On Green	0.05	0.12	0.12	0.12	0.19	0.19	0.15	0.35	0.35	0.15	0.34	0.34
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	59	131	125	315	128	163	223	1026	498	222	828	46
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.2	4.5	5.1	5.9	4.0	6.2	8.1	17.8	16.4	8.1	13.3	1.2
Cycle Q Clear(g_c), s	2.2	4.5	5.1	5.9	4.0	6.2	8.1	17.8	16.4	8.1	13.3	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	218	185	411	348	295	268	1230	737	265	1226	626
V/C Ratio(X)	0.67	0.60	0.68	0.77	0.37	0.55	0.83	0.83	0.68	0.84	0.68	0.07
Avail Cap(c_a), veh/h	176	503	426	439	556	471	306	1328	781	280	1275	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	28.1	28.3	28.6	23.8	24.7	27.6	20.1	13.9	27.7	18.7	12.6
Incr Delay (d2), s/veh	8.3	2.6	4.3	7.5	0.6	1.6	15.9	4.5	2.2	18.7	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.0	2.0	2.7	1.7	2.3	4.2	6.6	5.2	4.4	4.6	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	30.7	32.6	36.0	24.4	26.3	43.5	24.6	16.1	46.4	20.1	12.7
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		315			606			1747			1096	
Approach Delay, s/veh		33.1			31.0			24.6			25.1	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	27.7	12.5	12.3	14.6	27.6	7.8	16.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	25.0	8.5	18.0	11.5	24.0	6.6	19.9				
Max Q Clear Time (g_c+I1), s	10.1	19.8	7.9	7.1	10.1	15.3	4.2	8.2				
Green Ext Time (p_c), s	0.0	3.4	0.1	0.8	0.1	3.3	0.0	0.9				

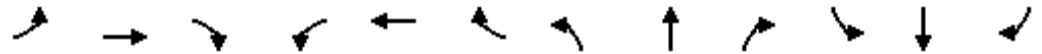
### Intersection Summary

HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Queues  
2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: AM Peak

02/18/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	20	163	169	523	128	259	78	762	375	366	836	55
v/c Ratio	0.19	0.59	0.39	0.89	0.24	0.41	0.46	0.91	0.43	0.90	0.60	0.06
Control Delay	43.8	42.4	3.9	54.2	25.5	5.4	46.1	49.0	6.8	60.2	24.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	42.4	3.9	54.2	25.5	5.4	46.1	49.0	6.8	60.2	24.2	0.1
Queue Length 50th (ft)	10	82	0	141	54	0	39	208	34	190	192	0
Queue Length 95th (ft)	33	136	12	#232	94	45	84	#326	95	#379	282	0
Internal Link Dist (ft)		591			688			1106			656	
Turn Bay Length (ft)	100		50	235		130	820		730	505		310
Base Capacity (vph)	106	396	522	589	603	688	192	837	870	408	1400	868
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.41	0.32	0.89	0.21	0.38	0.41	0.91	0.43	0.90	0.60	0.06

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



**Queues**  
**2: CA-49 & Wolf Rd/Combie Rd**

Timing Plan: PM Peak

02/18/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	59	131	125	315	128	163	223	1026	498	222	828	46
v/c Ratio	0.38	0.49	0.36	0.77	0.34	0.36	0.79	0.86	0.50	0.85	0.72	0.06
Control Delay	39.4	34.8	7.3	46.2	28.8	7.2	52.4	31.6	5.0	62.5	25.9	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	34.8	7.3	46.2	28.8	7.2	52.4	31.6	5.0	62.5	25.9	1.3
Queue Length 50th (ft)	25	55	0	71	52	0	97	218	28	98	167	0
Queue Length 95th (ft)	52	85	18	#133	95	42	#222	#355	94	#231	249	7
Internal Link Dist (ft)		591			688			1106				656
Turn Bay Length (ft)	100		50	235		130	820		730	505		310
Base Capacity (vph)	163	469	505	408	518	558	285	1238	1000	260	1188	804
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.28	0.25	0.77	0.25	0.29	0.78	0.83	0.50	0.85	0.70	0.06

**Intersection Summary**

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

**Appendix E – Cumulative plus Project Conditions Intersections Level of  
Service Worksheets**

HCM 6th TWSC  
1: Wolf Rd & Driveway

Timing Plan: AM Peak

02/18/2022

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Traffic Vol, veh/h	3	1	155	3	0	232
Future Vol, veh/h	3	1	155	3	0	232
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	72	72	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	1	215	4	0	273

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	490	217	0	0	219
Stage 1	217	-	-	-	-
Stage 2	273	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	537	823	-	-	1350
Stage 1	819	-	-	-	-
Stage 2	773	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	537	823	-	-	1350
Mov Cap-2 Maneuver	537	-	-	-	-
Stage 1	819	-	-	-	-
Stage 2	773	-	-	-	-

























Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	588	1350
HCM Lane V/C Ratio	-	-	0.007	-
HCM Control Delay (s)	-	-	11.2	0
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th Signalized Intersection Summary  
2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: AM Peak

02/18/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	140	146	450	110	223	69	663	326	355	811	55
Future Volume (veh/h)	19	140	146	450	110	223	69	663	326	355	811	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	163	170	523	128	259	79	762	375	366	836	57
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.87	0.87	0.87	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	259	219	600	538	456	102	854	656	403	1456	687
Arrive On Green	0.02	0.14	0.14	0.17	0.29	0.29	0.06	0.24	0.24	0.23	0.41	0.41
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	22	163	170	523	128	259	79	762	375	366	836	57
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	6.7	8.4	12.0	4.3	11.3	3.6	16.9	14.8	16.3	14.8	1.7
Cycle Q Clear(g_c), s	1.0	6.7	8.4	12.0	4.3	11.3	3.6	16.9	14.8	16.3	14.8	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	259	219	600	538	456	102	854	656	403	1456	687
V/C Ratio(X)	0.51	0.63	0.78	0.87	0.24	0.57	0.77	0.89	0.57	0.91	0.57	0.08
Avail Cap(c_a), veh/h	112	414	351	616	630	534	201	874	665	427	1456	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	33.1	33.8	32.7	22.1	24.7	37.8	29.9	18.3	30.6	18.5	13.5
Incr Delay (d2), s/veh	9.2	2.5	5.8	12.8	0.2	1.1	11.7	11.3	1.2	22.1	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.1	3.4	5.8	1.8	4.1	1.8	7.7	5.1	8.7	5.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	35.6	39.6	45.5	22.4	25.8	49.5	41.2	19.5	52.8	19.1	13.6
LnGrp LOS	D	D	D	D	C	C	D	D	B	D	B	B
Approach Vol, veh/h		355			910			1216			1259	
Approach Delay, s/veh		38.3			36.7			35.0			28.6	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.9	24.1	18.6	15.8	9.2	37.8	6.5	27.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	19.5	20.0	14.5	18.0	9.2	30.3	5.1	27.4				
Max Q Clear Time (g_c+I1), s	18.3	18.9	14.0	10.4	5.6	16.8	3.0	13.3				
Green Ext Time (p_c), s	0.2	0.7	0.1	0.8	0.0	4.3	0.0	1.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				33.6								
HCM 6th LOS				C								

HCM 6th TWSC  
1: Wolf Rd & Driveway

Timing Plan: PM Peak  
02/18/2022

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	3	0	235	6	2	133
Future Vol, veh/h	3	0	235	6	2	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	83	83	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	0	283	7	2	145

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	436	287	0	0	290
Stage 1	287	-	-	-	-
Stage 2	149	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	578	752	-	-	1272
Stage 1	762	-	-	-	-
Stage 2	879	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	577	752	-	-	1272
Mov Cap-2 Maneuver	577	-	-	-	-
Stage 1	762	-	-	-	-
Stage 2	877	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	577	1272
HCM Lane V/C Ratio	-	-	0.006	0.002
HCM Control Delay (s)	-	-	11.3	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

# HCM 6th Signalized Intersection Summary

## 2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: PM Peak

02/18/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	98	95	274	112	142	209	954	463	204	762	45
Future Volume (veh/h)	46	98	95	274	112	142	209	954	463	204	762	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	131	127	315	129	163	225	1026	498	222	828	49
Peak Hour Factor	0.75	0.75	0.75	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	220	187	411	348	295	270	1229	737	265	1220	625
Arrive On Green	0.05	0.12	0.12	0.12	0.19	0.19	0.15	0.35	0.35	0.15	0.34	0.34
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	61	131	127	315	129	163	225	1026	498	222	828	49
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.3	4.5	5.2	5.9	4.0	6.3	8.2	17.8	16.4	8.1	13.4	1.3
Cycle Q Clear(g_c), s	2.3	4.5	5.2	5.9	4.0	6.3	8.2	17.8	16.4	8.1	13.4	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	220	187	411	348	295	270	1229	737	265	1220	625
V/C Ratio(X)	0.68	0.59	0.68	0.77	0.37	0.55	0.83	0.83	0.68	0.84	0.68	0.08
Avail Cap(c_a), veh/h	175	502	426	438	555	470	306	1325	779	279	1272	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	28.1	28.4	28.6	23.8	24.7	27.6	20.2	14.0	27.7	18.8	12.7
Incr Delay (d2), s/veh	8.5	2.5	4.3	7.5	0.7	1.6	16.2	4.5	2.2	18.8	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.0	2.0	2.7	1.7	2.3	4.3	6.7	5.3	4.4	4.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	30.6	32.6	36.1	24.5	26.4	43.9	24.7	16.2	46.6	20.2	12.8
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		319			607			1749			1099	
Approach Delay, s/veh		33.2			31.0			24.7			25.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	27.7	12.5	12.4	14.6	27.5	7.9	17.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	25.0	8.5	18.0	11.5	24.0	6.6	19.9				
Max Q Clear Time (g_c+I1), s	10.1	19.8	7.9	7.2	10.2	15.4	4.3	8.3				
Green Ext Time (p_c), s	0.0	3.4	0.1	0.8	0.1	3.3	0.0	0.9				

### Intersection Summary

HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Queues  
2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: AM Peak

02/18/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	22	163	170	523	128	259	79	762	375	366	836	57
v/c Ratio	0.21	0.59	0.39	0.89	0.24	0.41	0.46	0.91	0.43	0.90	0.60	0.07
Control Delay	44.3	42.4	4.0	54.2	25.5	5.4	46.2	49.0	6.8	60.2	24.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	42.4	4.0	54.2	25.5	5.4	46.2	49.0	6.8	60.2	24.2	0.1
Queue Length 50th (ft)	11	82	0	141	54	0	40	208	34	190	193	0
Queue Length 95th (ft)	35	136	13	#232	94	45	85	#326	95	#379	282	0
Internal Link Dist (ft)		591			688			1106			656	
Turn Bay Length (ft)	100		50	235		130	820		730	505		310
Base Capacity (vph)	106	396	522	589	603	688	192	837	870	408	1400	868
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.41	0.33	0.89	0.21	0.38	0.41	0.91	0.43	0.90	0.60	0.07

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Queues  
2: CA-49 & Wolf Rd/Combie Rd

Timing Plan: PM Peak

02/18/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	61	131	127	315	129	163	225	1026	498	222	828	49
v/c Ratio	0.39	0.49	0.36	0.77	0.34	0.36	0.80	0.86	0.50	0.85	0.72	0.06
Control Delay	39.8	34.8	7.5	46.2	28.9	7.2	52.9	31.6	5.0	62.5	25.9	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	34.8	7.5	46.2	28.9	7.2	52.9	31.6	5.0	62.5	25.9	1.4
Queue Length 50th (ft)	26	55	0	71	52	0	98	218	28	98	167	0
Queue Length 95th (ft)	53	85	19	#133	96	42	#224	#355	94	#231	249	8
Internal Link Dist (ft)		591			688			1106			656	
Turn Bay Length (ft)	100		50	235		130	820		730	505		310
Base Capacity (vph)	163	469	505	408	518	558	285	1238	1000	260	1188	803
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.28	0.25	0.77	0.25	0.29	0.79	0.83	0.50	0.85	0.70	0.06

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.