Project Narrative-Babu Vineyard Block C APN 027-010-033

This narrative complements the Babu Vineyards Block C Erosion Control Plan (November 2021, 2 sheets) prepared by O'Connor Environmental, Inc. The table below summarizes the documents submitted in the ECPA package

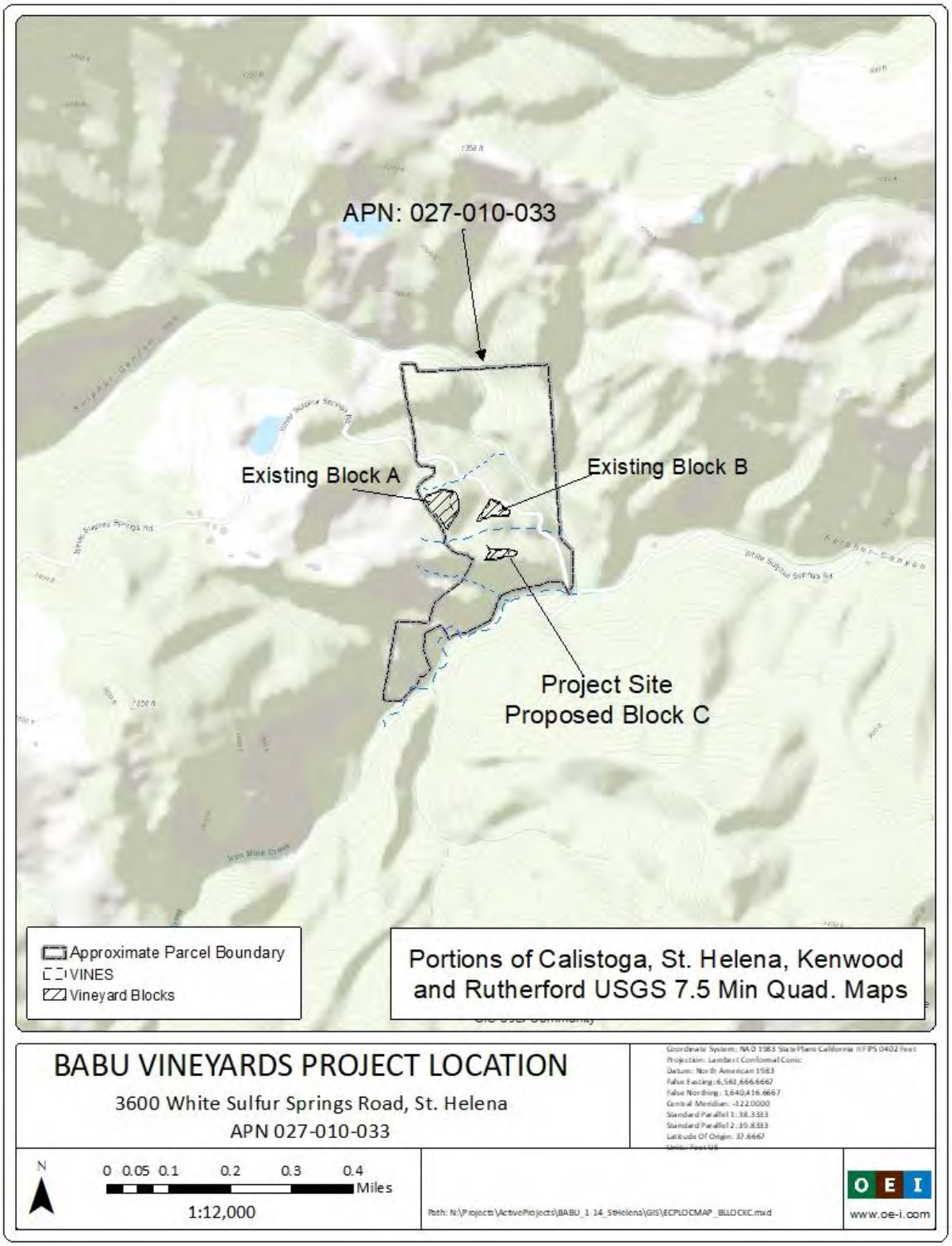
Documents Submitted
Basic Application for Erosion Control Plan Review
Erosion Control Plan OEI (2 sheets, 24x36)
Project Narrative
Supplemental Environmental Information
Attachment A - Supplemental Environmental Information
Attachment B/C – Habitat Assessment, WRA & Valerius Env. Consulting
CALFIRE WSS Emergency Notice 1-21EM-00056-NAP – Scott Butler, RPF
Attachment B/C –Special Plant Survey Report, 2021, Valerius
Attachment D – WAA
Attachment E – Cultural Resources Survey, Tom Origer & Associates
Attachment F – Geological Assessment of Slope Stability, OEI
Attachment G – Runoff Analysis, OEI
Attachment H – Erosion Analysis, OEI
BABUSTHELENA_TR55Calculations to be submitted Electronically

Site Overview**.** The Project is the proposed Babu Vineyard at 3300 White Sulphur Springs Road in St. Helena (APN 027-010-033, 67± acres), in the northwest portion of the Sulphur Creek watershed, part of the Heath Canyon planning watershed approximately 2 miles west of the town of St. Helena (following page). Existing development on the parcel includes 2.06 acres (gross) of vineyard and associated irrigation planted in 2018 along with existing paved, gravel and native surface roads and a water well which was drilled in 2015. Vegetation on the parcel prior to the Glass Fire and development of 2.06 acres of vineyard was about 89% forest; the remaining 11% was shrub and grass. The Project site is accessible via a paved private drive and a gravel truck road that begin at a gated entrance at the end of the public right-of-way of White Sulfur Springs Road. A conservation easement of 20 acres on the parcel occupies an approximately 400 ft-wide strip of land adjacent to the parcel's eastern and southern boundaries. In October 2020 the Glass Fire burned intensely across the project parcel including proposed Vineyard Block C. Nearly all underbrush was destroyed and all trees within the proposed project area were killed along with a large proportion of trees on the property. An emergency salvage logging permit was obtained from CALFIRE (No:1-21EM-00056-NAP, Permit included in the Application packet) in February 2021. Felling and removal of damaged trees by a Licensed Timber Operator (Galen Bullock) has been occurring throughout summer and fall 2021. Removal of dead trees and debris under the CALFIRE permit. No mature trees or shrubs will be required to be removed as a part of this ECP; some stump-sprouts of madrone will be removed.

Project Overview. The Project is comprised of vineyard Block C which is 0.42 gross acres on a parcel of about 67.8 acres. Proposed Block C is to be accessed from the existing paved driveway via a short ramp connecting the road grade to the upper vineyard avenue immediately adjacent to the existing paved driveway. Prior to the implementation of this ECP the vineyard block area of about 0.41 acres will have been cleared of trees killed by the Glass Fire which have been felled and are being removed. All vineyard preparation (ripping and grading) will be performed consistent with recommendations of the Biological Assessment (Attachments B/C) on timing and procedure to mitigate potential impacts on wildlife (see Environmental Commitments).

Slope Gradient. Slope determination sections are shown on the ECP map and range from 22% to 30% with an average project-wide slope of 26%. Some small areas with slopes between 30% and 40% are included in the ECP area, these areas total to approximately 0.04 acres.

Cut & Fill. At the eastern edge of the proposed vineyard block, a runoff attenuation basin will be constructed through a combination of cut and fill. Estimated cut volume is 100 cubic yards and estimated fill volume for attenuation berms is 98 cubic yards. At the western edge of the vineyard block a short entrance drive will be constructed to allow access from the private portion of White Sulfur Springs Road. Estimated required cut is 17 cubic yards and estimated fill volume is 6 cubic yards. Estimated excess cut material from both areas (13 cubic yards) is likely to include a portion of rock > 12 inches that can be utilized in various erosion control structures. Excess soil material will be spread across Block C.


APN: 027-010-033
Existing Block A
Existing Block B
Project Site
Proposed Block C
Approximate Parcel Boundary
VINES
Vineyard Blocks
Portions of Calistoga, St. Helena, Kenwood and Rutherford USGS 7.5 Min Quad. Maps
BABU VINEYARDS PROJECT LOCATION
3600 White Sulfur Springs Road, St. Helena
APN 027-010-033
N
0 0.05 0.1 0.2 0.3 0.4
Miles
1:12,000
www.oe-i.com

Drainage and Watercourses. Existing drainage infrastructure that affects the proposed Project site is the road ditch that runs along the paved private road adjacent to Blocks C. This road and associated ditch have the effect of separating the vineyard block from upstream surface runoff.

Two "blue-line" streams lie on or within the parcel boundary; Sulphur Creek bisects the northern portion of the parcel while Iron Mine Creek flows along its southern boundary. The proposed vineyard block is located on a divergently sloping ridge and drains south to Iron Mine Creek and north and east to a small tributary to Sulphur Creek. An unnamed tributary of Sulphur Creek that meets criteria of a "County definition" stream flows to the north of the project area and meets Sulphur Creek about 500 feet downstream of vineyard Block B. A 125-ft set back is provided between the north edge of Block C and the top-of-bank of this County definition stream as required for slopes 50-60% adjacent to top-of-bank. Additionally, a channel that is an unnamed tributary to Iron Mine Creek which does not meet the criteria of a "County definition" stream lies down hill of the south edge of proposed vineyard Block C. This channel meets Iron Mine Creek 90 ft downstream of Block C and then hits Sulphur Creek approximately 550 feet downstream. The project boundary is located at a distance of 215 ft or greater from this stream, as such, no setbacks is required.

Runoff. Storm runoff from the project area was analyzed using USDA TR-55 as described in Babu Vineyard Hydrologic Analysis (Attachment G). Estimated increases in peak flows resulting from the proposed project are mitigated using cross-field diversion ditches, rock lined ditches, and an attenuation basin equipped with a flow spreader. No increase in peak flows or erosion is expected owing to these mitigation measures.

Drainage Infrastructure. About 64 feet of drainage pipe will be installed in trenches to convey water collected in cross-field drainage ditches to a flow attenuation basin in Block C. About 280 feet of cross-field drainage ditches and about 370 feet of rocked ditch will be incorporated in Block C.

Water Supply. A well drilled in 2015 near the western edge of existing vineyard Block A will be the source of water for the Project. The well capacity is at least 50 gpm based on an eight-hour pump test that produced only 17 feet of drawdown. A 2-inch diameter PVC (Schedule 80) water line will be extended to Block C from existing piping running to Block B from the well. Expected irrigation demand for the 0.4 acres of vineyard is 0.2 acre-feet per year. A drip irrigation system will be installed to deliver water to the grape vines. See the Water Availability Study (Attachment I, Updated August 2021) for more information.

Soils. Per data from USDA Web Soil Survey, soils on the project site are:

- Boomer-Forward-Felta complex (111) 5-30% slopes, found in the upper (western) portion vineyard Block C, and
- Felton Gravelly loam (136) 30-50% slopes, are found in the remainder of vineyard Block C.

The spatial extent of these soils are shown on the ECP (Sheet 1).

Soil preparation of the vineyard area will include soil ripping to a depth of 24 to 36 inches; soil amendments that may be required remain to be determined. Rock excavated during site preparation that is determined to be suitable by a qualified professional (PE or CEG) for use in rock slope protection structures (12 inch minus size range) or rock check structures (6 inch minus size range) may be stockpiled for later use.

Erosion and Slope Instability. No critical areas of erosion or slope stability were identified within the development site. Much of the site is underlain by a dormant rock slide, described in detail in the Landslide Hazard Evaluation (Attachment F).

Erosion Control Measures. Erosion rate estimates were made using the Universal Soil Loss Equation (USLE) and are summarized in the Babu Vineyard Erosion Analysis (Attachment H).

The proposed project ECP utilizes "permanent" erosion control methods including permanent cover crop, cross-slope diversion ditches, rock lined ditches, water bars and rock slope protection. Locations and design typical drawings are documented in the ECP design sheets. All erosion control devices shall be inspected for damage and repaired if necessary following significant precipitation events.

The permanent vineyard cover crop requires 85% ground cover to achieve proposed erosion mitigation . Once the permanent cover crop has been established there shall be no ripping, discing or tilling within the vineyard rows and avenues. The cover crop may be mowed but no herbicide spray shall be used.

Interim erosion control practices during the periods between site preparation and ECP implementation (summer/fall 2022) and planting (spring 2023) [MS1][MO2]shall include seeding and straw mulching of all disturbed areas at rates prescribed below along with installation of straw wattles on contour at all work area boundaries and at other locations as shown in the ECP (Sheet 1).

Cover Crop Mix (Apply at 100 lbs./acre):

Blando Brome	50%
Zorro Fescue	20%
Rose Clover	20%
Crimson Clover	10%

Fertilizer Application

Year 1 & 2: NPK (8-8-8) fertilizer applied through drip lines in equal amounts in June, July and September with application rate of 50 lbs per acre per year.

Year 3 and beyond: NPK (8-8-8) fertilizer applied through drip lines in equal amounts in May and October (post-harvest) with application rate of 50 lbs per acre per year.

Straw Mulch Application

2 tons / acre

Implementation Schedule[MS3][MO4]

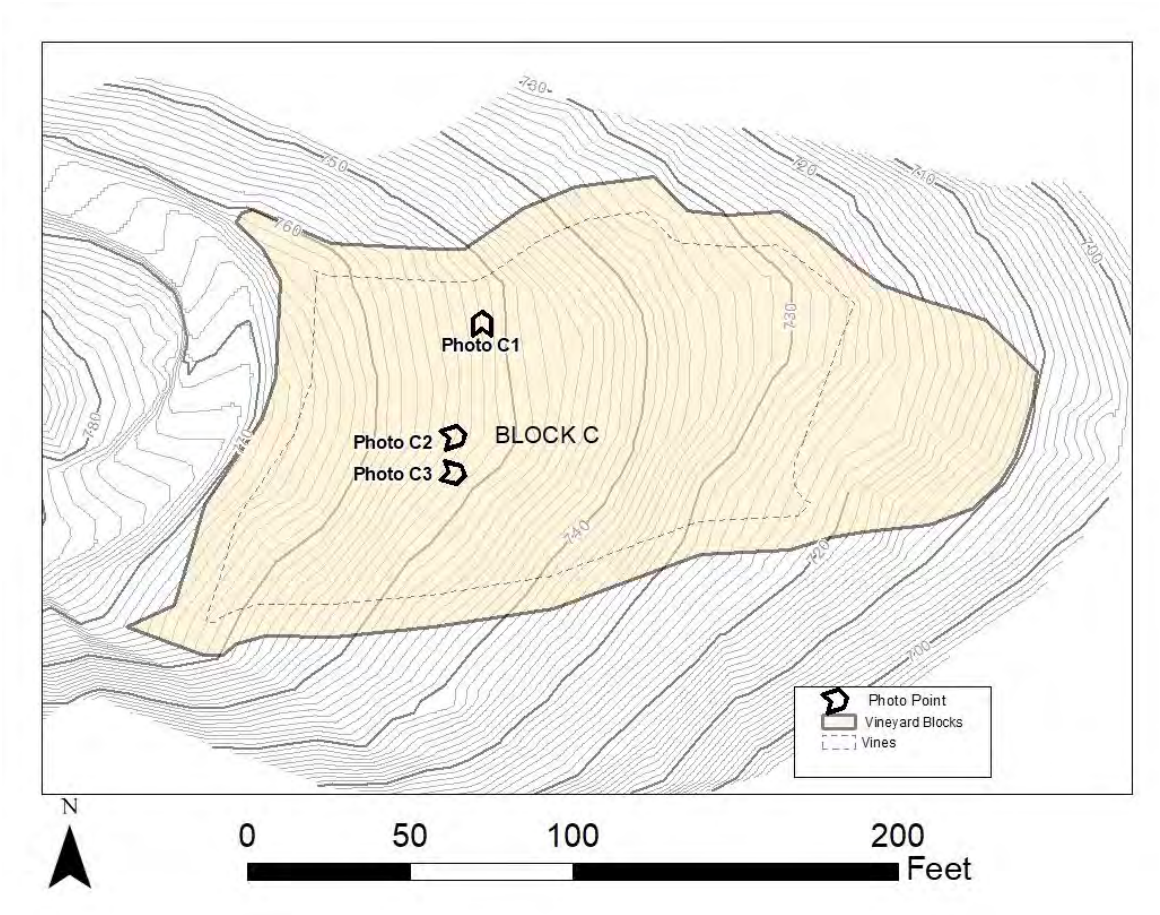
Removal of dead trees and vegetation per CALFIRE WSS Emergency Permit: Summer/Fall 2021
Phase 1-Site Preparation and Planting: Fall 2022 (September 1 -October 15th)

Cost of implementation of seeding and mulching is estimated to be about $2,000 per acre.
Source: UC Cooperative Extension (2012). Sample Costs to Establish a Vineyard and Produce Winegrapes, Cabernet Sauvignon, North Coast Region, Napa County.

Environmental Commitments

All grading and site preparation activities shall occur after September 1 and before February 15 to avoid potential impacts on wildlife habitat as described in the project biological analyses (Attachments B/C). This time interval is associated with potential harm to the Northern Spotted Owl (tree removal and grading acceptable after September 1 and before March 1) and with potential harm to special-status passerines and raptors (grading acceptable after August 15 and before February 15). Although no trees will be removed as a result of this ECP all vineyard preparation and earthwork will be scheduled to avoid disturbances to the Northern Spotted Owl and any special-status passerines and raptors that may be adjacent to the project area.

All ground-disturbing activities shall be completed by October 1, and all disturbed areas shall be seeded and mulched with straw wattles installed by October 15, notwithstanding the potential request for an extension of the work period.



Map of Site Photo Locations
Three photos taken on 7/9/2021 on following three pages.

Site Photos

Photo C1 Block C

Photo C2 Block C

Photo C3 Block C