



Forest Ecosystem Management, pllc

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RE: Arrow & Branch Winery (P21-00087)

This is in response to Napa County Planning, Building & Environmental Services' Application status letter dated May 19, 2021 for the Arrow & Branch Winery (Formerly Ideology) listed as P21-00087. The County was requesting clarification to: "Confirm that the proposed physical improvements will not impact nearby riparian woodland or sensitive biotic vegetation."

Arrow & Branch Winery General Information

Project Location: nkn Solano Avenue; Napa, California (Attachment #1)

Legal of Project Area: Portions of Section 18, T06N, R04W MDB&M

APN: 034-190-040-000

County: Napa County

Proposed Project: Building a Winery including structure, parking area, driveway, and landscaping within an existing vineyard.

Property Description: The Arrow & Branch Winery Project is located off Solano Avenue, which travels parallel to St Helena Highway (HWY 29) in Oak Knoll, California. A portion of the parcel boundary is Dry Creek on the northern end, with agricultural land surrounding the remaining parcel boundaries (Attachment #2). Vineyards is the primary agricultural product. The northern side of Dry Creek is Urban and includes houses, wineries, and commercial properties. There is a strip of trees/shrubs approximately 100' to 250' wide along Dry Creek throughout this area.

The vegetation types described by CDFW within ¼ mile of the Project Area includes a strip of Mixed Riparian Hardwoods along Dry Creek, Urban, and Agricultural (Vineyards); with a small amount of Annual Grasses and Forbes, and Valley Oak to the east (Attachment #3). Mixed Riparian Hardwoods

(CalVeg Classification) or Montane Riparian Zones (CWHR Type) is often quite variable and often structurally diverse. Usually, the montane riparian zone occurs as a narrow, often dense grove of broad-leaved, winter deciduous trees up to 98' tall with a sparse understory. In the southern Coast Range and Transverse and Peninsular ranges, bigleaf maple and California bay are typical dominant trees; however, cottonwood, alder, willow, and dogwood may also be present. The transition between montane riparian zones and adjacent non-riparian vegetation is often abrupt.

Current Conditions: A site visit was conducted on 28JUL21 by Heather Morrison. Dry Creek, a perennial stream, flows along the northern boundary of the property. The channel of this watercourse is located approximately ten feet below the upland area, where the proposed winery and current vineyards are located.

There is a lack of aquatic vegetation such as bulrush, alisma, or duckweed because of perpetually dry summers prohibiting the establishment and long-term survival of these species. Within the riparian area, the predominant tree species is dusky willow (*Salix melanopsis*) and Oregon ash (*Fraxinus latifolius*). Herbaceous species include torrent sedge (*Carex nudatum*), Smilo grass (*Stipa milliacea*), mugwort (*Artemisia douglasiana*) and tall flatsedge (*Cyperus eragrostis*). Within the transitional zone and upland area, common shrubs and herbaceous species include upright snowberry (*Symphoricarpos albus*) and wild grape (*Vitis californica*). Oaks, specifically coastal live oak (*Quercus agrifolia*) and valley oak (*Quercus lobata*) are found generally at the edge of the upland area and above the transitional zone which extends down into the main creek zone.

Figure #1: Edge of Upland Area – Immediately above the transitional zone down into riparian area.





Figure #2: The main channel of Dry Creek (July 2021). Dusky willow can be seen in the immediate area of the channel. Larger, mature oaks are located at the top of the bank and adjacent to the vineyards.

There are vineyard avenues/roads located immediately adjacent to the transitional zone, within the upland vegetation area. These roads are rocky and are located on flat gradients, thus decreasing the chance for erosion into the riparian area. A small informal parking lot is also located near the creek.



Evidence of dumping vegetation trimmings from vineyard maintenance can be found in various areas below the main bank.

Figure #3: Vegetative material thrown over the edge of the bank.

Riparian Area Benefits: Historically, dense riparian vegetation grew along virtually all of Napa County's rivers, creeks, and streams; however, they have declined significantly due to human land-use activities. Today they cover a relatively small portion of Napa County's watersheds, but their ecosystem functions are important to maintaining biological diversity, water quality, and water reliability.

Riparian areas are distinctly different from surrounding lands because of unique soil and vegetation characteristics that are strongly influenced by the presence of water. Riparian habitat can range from dense thickets of shrubs to a closed canopy of large mature trees; while providing riverbank protection, erosion control and improved water quality, recreational and aesthetic values, as well as provide wildlife habitat. The riparian vegetation stabilizes streambanks and resists the flow of floodwaters, while increasing the time available for water to infiltrate into the soil recharging groundwater and alluvial aquifers.

The signs of a healthy riparian area include a well-vegetated area with a diversity of native plants overhanging water channels. Other indications include stable streambanks, well-defined stream channels, and a high diversity and abundance of wildlife. Unhealthy riparian areas are characterized by sparse vegetation, infestations of invasive plant species, eroded banks, poorly defined stream channels, and low wildlife diversity and abundance.

There is not a single figure of how wide the Riparian zone needs to be to keep water clean, stabilize banks, protect fish and wildlife, and satisfy human demands. Widths can range from 35' to well over 300' depending on slopes, surrounding land-use, and type of vegetation (vertical structure and density). Wider widths are needed for wildlife habitat than for erosion control and water quality purposes. The Project plans include a minimum of 35' stream setback from the top of the bank on slopes less than 1%. The overall width of the riparian vegetation along Dry Creek is relatively narrow and abrupt with the surrounding area being urbanized and/or agricultural; therefore, the species currently using the vegetated area, either as a corridor or residential home would be adapted to disturbance.

Sensitive Species: The cnddb does not have any known listed plant or animal species detections within the Property Parcel (Attachment #4). The closest known listed species that depend upon riparian areas include:

- Western Pond Turtles (*Emys marmorata*) – California Species of Special Concern. There are known western pond turtles approximately 1.7 air-miles to the south of this Project located within private agricultural ponds. Western pond turtles are aquatic turtles of ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Basking sites and sandy banks or grassy open fields within 2,000' from water is needed for egg-laying.

There are no known detections of western pond turtles in Dry Creek; however, the habitat is suitable, during normal climatic years. No western pond turtles were identified during a field visit to the Project Area. There was no water within this stretch of Dry Creek during the July site visit, recognizing the area is currently under drought conditions.

- Foothill Yellow-Legged Frogs (*Rana boylei*) – California Species of Special Concern. There are known foothill yellow-legged frogs approximately 1.6 air-miles to the north of this project located within Hooper Creek, a downstream tributary to Dry Creek. Foothill yellow-legged frogs are frogs are rarely far from permanent rocky streams. Tadpoles need water for at least 3 to 4 months for development.

There are no known detections of foothill yellow-legged frogs in the segment of Dry Creek within 5 miles of the Project Area. No foothill yellow-legged frogs were identified during a field visit to the Project Area. There was no water within this stretch of Dry Creek during the July site visit, recognizing the area is currently under drought conditions.

The National Oceanic & Atmospheric Administration's Essential Fish Habitat (EFH) mapper (NOAA 2021), does not list any Habitat Areas of Particular Concern (HAPC) or Areas Protected from Fishing (EFHA) for the Project Area.

Riparian habitats have an exceptionally high value for many wildlife species, both protected and common. These areas provide water, thermal cover, migratory corridors, as well as diverse nesting and foraging opportunities.

Invasive/Non-Native Species: While non-native species are present in great abundance within the riparian area up into the upland area, a few species are characteristically considered invasive including Himalayan berry (*Rubus armeniacus*), French broom (*Genista monspessulana*), mustard (*Brassica nigra*) and Madagascar periwinkle (*Vinca major*).

Potential Impacts to Dry Creek & Associated Vegetative Communities

The primary threats to riparian areas are hydrological modifications, land conversion, invasive species, and overgrazing or direct disturbances by livestock. The following are potential issues that may arise and recommendations on how this Project can avoid or reduce impacts to the riparian area around Dry Creek and the native vegetative community within the Property Boundary.

Direct Disturbance of Native Vegetation:

- There will be no removing, downgrading, or alteration of the existing native vegetation. Existing vineyards will be the only vegetation disturbed/removed as a result of this project.
- There will be no livestock grazing on the Arrow & Branch Winery property, without proper fencing to keep livestock outside the riparian area. Livestock grazing is not anticipated.
- Temporary orange construction fences shall be installed along the edge of the native vegetative zone prior to Project construction and will be maintained throughout Project construction to assist in keeping equipment outside the native vegetation (including riparian area) zone.
- Leftover material from vineyard/property maintenance has been thrown over the edge of the bank. This material can be a fire hazard and hinder growth of native vegetation. Non-organic material can also contribute to degradation of the watercourse.
 - Existing non-organic material should be manually removed and disposed of property.
 - Existing organic material can be left and allowed to decomposed.
 - Future organic vineyard material can be mulched, removed from the property, or piled outside the native vegetation zone.
 - Storage drums/containers should be stored within a way so potential spills can be property cleaned up, and located well away from the native vegetation zone.

Invasive Species:

- During Project Construction, heavy equipment shall be cleaned prior to coming onto the property and cleaned again if they are removed from the property and brought back.
- Avoid planting invasive non-native plants. Non-native plants that particularly threaten riparian areas in Napa County include: giant reed; Himalayan blackberry; periwinkle; German and English ivy; black locust; French, Scotch and Spanish broom; tamarisk; acacia; eucalyptus; and tree of heaven. **Planting of local, native vegetation is encouraged when landscaping.**
- Monitor and remove invasive non-native plants.

Hydrological/Land-Use:

- Existing vineyards will be the only vegetation disturbed/removed as a result of this project.
- Stormwater control, flood hazard, septic, and plumbing will all adhere to the standards set forth by Federal, State, County, and Local requirements, codes, and permits.
- Vegetative Receiving Areas and Bioretention Areas are anticipated between the Project and the vegetative strip along Dry Creek (Attachment #5).
- There will be no new road crossings across Dry Creek installed or completed as a result of this Project.
- There will be no new water withdrawal from Dry Creek as a result of this Project.

Direct Disturbance to Wildlife:

- The native vegetation along Dry Creek is not expected to change; therefore, no change in habitat is anticipated.
- The native vegetative width along Dry Creek is not expected to change. Species currently using this area are used to disturbance issues.

Monitoring:

Adaptive Management Practices should be utilized. The Landowner should monitor the Riparian Area at least once a year. Photographs can help monitoring efforts by showing any changes over time. Some issues that may need addressing include:

- Trampling of native vegetation by humans may require installing fencing to block human access to the riparian area, but still allow for wildlife passage (i.e., decorative post and pole fences can be used).
 - If public access is desirable, further consulting with someone familiar with landscaping/recreational issues should be consulted regarding design of trails that encourages people to stay on designated trails (i.e. boardwalks). Public Access is not anticipated.
- Invasive plant eradication may have to be completed in multiple years.
- Vineyard workers should be educated on the importance of vegetated Riparian Areas. Informational signs can be posted (“Leave No Trace” or other educational signs can be purchased or specifically made).
- Trash removal – make sure organic (i.e., vineyard waste) or non-organic material is not being dumped within the riparian area.

Attachments:

Attachment #1 = Topographic Project Location
Attachment #2 = Aerial Project Area
Attachment #3 = Vegetation Types Around Project Area
Attachment #4 = Map cnddb Around Project Area
Attachment #5 = Project Plans supplied by Applied

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References:

California Department Fish & Wildlife. California Natural Diversity Database (CNDDDB). California Department of Fish and Wildlife, Biogeographic Data Branch. RareFind Version 5. Accessed 2021.

California Department Fish & Wildlife. California Vegetation Classification and Mapping Program (vegCAMP). California Department of Fish and Wildlife. Accessed 2021.

California Natural Diversity Database (cnddb). April 2021. Special Animal List. California Department of Fish & Wildlife. Sacramento, CA.

National Oceanic & Atmospheric Administration (NOAA). United States Department of Commerce. NOAA Essential Fish Habitat Mapper. www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper. Accessed July 2021.

San Francisco Estuary Institute (SFEI). 2017. California Aquatic Resource Inventory (CARI). Version 0.3. Accessed July 2021. <https://www.sfei.org/data/california-aquatic-resource-inventory-cari>