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PROPOSED CORRECTIVE ACTION WORKPLAN AND MITIGATION AND MONITORING REPORT IN RESPONSE TO SF BAY REGIONAL WATER QUALITY CONTROL BOARD CEASE AND ABATEMENT ORDER NO. R2-2017-0025 RE: CONSTRUCTION IMPACTS TO AN UNNAMED EPHEMERAL CREEK AND HABITAT AT THE BREMER FAMILY WINERY VINEYARD BLOCKS K-EE, 881 DEER PARK ROAD, NAPA COUNTY, CA

Prepared for:

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Dec. 6, 2017

TABLE OF CONTENTS

1.0 INTRODUCTION AND OVERVIEW

This proposed Corrective Action Workplan (CAW) and Mitigation and Monitoring Plan (MMP) outline for the Bremer Family Winery Vineyard CAO (No. R2-2017-0025) is submitted to address Items 2 and 3 of the CAO. It is based on the estimate of the extent of waters of the State described in the amended Technical Impact Assessment Report which is attached as Appendix B. The amended report addresses the Board's comment letter, dated Nov. 1, 2017, on the submitted Technical Impact Assessment Report (Clearwater Hydrology Sept. 2017), which identified a lack of definition and estimation of the extent of waters of the State as the report's primary omission. The estimate of the extent of waters of the State was based on the following source assessments:

- Hydrogeomorphic analysis of the pre-project condition of the ephemeral channel (herein referred to as the "subject channel"), including average floodplain widths for representative single thread channel segments within and upstream of the impacted project reach;

- Pre-project channel plan form and cross-section through bifurcated sub-reaches of the subject channel along the impacted project reach;

- Pre-project Biological Assessment and aerial photo inspection and interpretation of riparian/floodplain vegetation and bedrock channel bed features and their photographic signatures;

- Professional experience with hydrogeomorphic design for restoration, flood analysis and riparian corridor characteristics.

Given the results of our assessments and the provisions cited under Item 2 of the CAO, we have developed the present CAW which incorporates the following design components:

- Removal of placed rock and restoration of the maximum attainable extent of vegetation of like-type to preexisting condition (e.g. chaparral grassland and shrub) over a minimum channel and floodplain width of 20 feet that retrieves the full extent of the pre-disturbance channel thalweg alignment, including dual thalweg (i.e. bifurcated) sub-reaches, where the restored width would average roughly 40 feet. As described in the revised Technical Impact Assessment Report, the 20 ft. floodplain width represents the average 100-yr. floodplain width for the representative pre-disturbance channel, and our estimated extent of waters of the State. (Note that due to the limited watershed size and peak discharges it generates, and the low hydraulic roughness and very steep channel gradient, the 100-yr. flow depth is estimated at 1.1 ft. for a single thread sub-reach.)

- Maintenance of portions of the flanking rock levees which perform a critical structural function, buttressing the vineyard fills and isolating them from the channel environs.

- Attainment of a maximum angle of 1.5:1 for all finished rocked slopes, i.e. following removal of excess rock to achieve the design cross-section.

- Associated removal of the two existing road crossings and either plugging or removal of the installed culverts, as well as elimination of approximately 740 ft. of existing service roads paralleling the bulk of the subject channel reach.

- Restoration of vegetation of like-type to preexisting condition (i.e. chaparral) outside of the low flow, bedrock channel bed over the remainder of the cleared channel/floodplain extent. In some

instances where rock removal eliminates the prior soil substrate, this could require rebuilding of the 6-12 inch soil substrate using fabric encapsulated soil lifts.

- Erosion control measures targeted at isolating any residual loose sediment placed in conjunction with the construction of the flanking rock levees from the restored channel cross-section.

In addition, to address Item 3 of the CAO, the CAW is attended by a proposed Mitigation and Monitoring Plan (MMP) which will include the following actions:

- A riparian restoration and planting plan that provides measures to restore the water quality functions of the channel/riparian corridor within the minimum 20 ft. channel/floodplain width. This will include an irrigation design and plan to provide sustaining water during the initial establishment period.

- Establishment of an on-site, off-channel riparian vegetation area to mitigate the temporal impacts to vegetation by the violating fills during the 2013-2018 period, leading to the planned 2018 implementation of remedial measures. As with the in-channel restoration plan, the mitigation area plan will include an irrigation design and plan.

- Conduct of a post-remediation, as-built topographic survey and mapping, and report documenting the field implementation of the remediation/restoration and mitigation design. The report will include a description of construction methods and timelines, field-adjustments, a map of photo monitoring points and as-built photos at those points, as well as a an as-built planting plan citing locations and species of native grasses and chaparral shrubs installed during the restoration.

- Annual hydrogeomorphic monitoring of channel and slope stability and revegetation success within the restored project reach of the subject channel for a minimum period of 5 years, with specific performance criteria and maintenance prescriptions to ensure attainment of the restoration revegetation targets and water quality protection objectives.

- Submission of annual monitoring reports documenting the results of the hydrogeomorphic and vegetation monitoring (of both in-channel and off-channel planted areas), recommended actions to correct geomorphic instabilities or lack of revegetation progress, and photographic evidence of the reach condition from the established monitoring points.

2.0 DISCUSSION OF CORRECTIVE ACTION WORKPLAN DESIGN

The proposed CAW is depicted in the preliminary grading plan, channel profile and cross-sections that are attached in Appendix A. As cited above in the Introduction, the proposed CAW includes clearance and retrieval of a minimum 20 ft.-wide channel and floodplain and restoration of riparian vegetation of the chaparral type previously documented along the project reach and observed by CH further upstream. The retrieved channel/floodplain width would be extended to roughly 40 feet through the two sub-reaches where pre-disturbance topographic mapping and aerial photos indicated the presence of dual thalwegs, i.e. a bifurcated channel. Portions of the flanking rock levees would be substantially removed as part of the corrective measures, although some of the levee rock would be retained to provide structural support for the vineyard fills.

Plan Sheet 1 shows the proposed grading plan and the retrieval of the pre-disturbance thalweg alignments and the 20-40 ft. channel/floodplain width. Note the removal of the roadway crossing fills and the removal or plugging/decommissioning of the existing culverts. The retained segments of service roads are highlighted in yellow.

Plan Sheet 2 depicts the restoration of the pre-disturbance, channel longitudinal profile. The post-project longitudinal profile minimally altered this profile, except where the culverted roadway fills were installed.

Plan Sheet 3 depicts the restored CAW cross-sections and channel floodplain extents which range from a minimum of 20 ft. in the single thalweg sub-reaches to roughly 40 ft. within the bifurcated channel sub-reaches. The extent of rock removed from the existing rock levees is shown in red cross-hatch, while the likely extent of floodplain reconstruction- including soil backfill and/or stabilization- is shown in brown stipple. Since some of the former floodplain soils may remain under the emplaced rock, their extents and condition will have to be assessed during the construction process. Careful removal of rock from the corridor could salvage some or most of the soil and some of the vegetation (likely the grass component).

Once the CAW is approved in concept, details regarding the restoration of soils and vegetation will be developed and presented. Sub-reaches along the project channel consist of wide (6-10 ft.) bedrock sheets, much wider than incised channel width surveyed in the upstream reference reach by CH for the Technical Impact Assessment Report. For the next phase of the CAW design, these sub-reaches will be identified on the grading plan and cross-sections and will include a proportionally reduced net revegetated width, although the channel/floodplain extent will remain as determined by the waters of the State estimation.

Roughly 370 feet of service roads (indicated on Plan Sheet 1 by dashed red lines) would be eliminated under the proposed CAW. The remaining segments located toward the lower end of the project reach would accommodate a future bridged crossing which is necessary for maintenance access to the lower vineyard block. However, for purposes of the CAO, this planned bridge crossing is excluded and will be proposed under a separate permit application process with the regulatory agencies and the County.

2.1 Additional Provisions for Implementation of CAW

Implementation of the measures described above for the CAW will result in two impacts that will be necessary to mitigate through the cooperative efforts of the Board, the County of Napa and the Bremer Family Winery. The first is the fate of the large volume of rock that will be removed from the channel environs. Under current County provisions, this waste rock was to be repurposed on-site, rather than transported off-site. Excess rock may be present that is not repurposed for on-site use however. Crushing the rock on site was opposed by neighbors for its noise impacts. Thus, off-site transport would be preferred to the immediate noise impacts stemming from on-site crushing operations, which are also very costly. As such both on-site reuse and storage, and removal of excess material by truck, may be undertaken.

The second impact of the remediation program will be the elimination of access to the northern vineyard block for vineyard maintenance and harvesting operations. Thus, the Winery will propose a bridged crossing consistent with its previous county-approved Erosion Control Plan. Whether this new crossing can be incorporated into the permitting for the CAW implementation or is addressed under a separate permit, the Bremers would appreciate the Board's and County's cooperation in the timely processing this project review and permitting, to the extent additional permits may be necessary.

3.0 OUTLINE OF PROPOSED MITIGATION AND MONITORING PLAN FOR CAW

The proposed Mitigation and Monitoring Plan (MMP) outlined under Section 1.0 above will address the monitoring and maintenance of the implemented corrective measures that will comprise the channel remediation and restoration, i.e. the CAW, as well as the establishment of on-site chaparral mitigation to compensate for temporal losses to water quality functions and creekside habitat, and a monitoring and maintenance plan for ensuring revegetation success.

Plan Sheet 4 of Appendix A depicts the proposed area for on-site, off-channel mitigation of creekside corridor impacts during the post-construction, pre-remediation period (2013-2018). The proposed area

lies around and adjoining the constructed stormwater detention basin, which is currently bordered by unvegetated soil with straw mulch. The detention basin is located just west and downstream of the subject channel reach.

The area of the proposed mitigation was computed based on the RWQCB's typically applied formula for mitigating temporal wetland losses: 0.1 * impacted area of waters of State * no. years of impact period. Based on CH's estimate of waters of the State as comprising a minimum 20 ft. channel/floodplain width for single thread sub-reaches and roughly 40 ft. channel/floodplain width for bifurcated sub-reaches, the total impact area was computed to be 13,859 sq. ft. (sf). Applying the wetland impact conversion formula, the total mitigation area requirement for temporal losses in water quality function and habitat is 0.16 ac for a 1:1 mitigation replacement ratio and 0.32 ac. for a 2:1 mitigation ratio. The mitigation ratio proposed for the MMP is 2:1, which is twice that required to mitigate for the project's temporal impacts under the Board's formula.

All areas of planting for mitigation of project impacts, both in-channel and off-channel will be planted with a mix of the same native chaparral grasses and shrubs surveyed through the project reach and upstream by the project botanist. The botanist will provide planting plan densities, spacing and a species list for inclusion in the CAW and MMP planting plans. The botanist will also establish irrigation rates for the first 2-3 years of plant establishment, which will be incorporated into the irrigation system design for implementation of the remediation and restoration plans.

4.0 PROPOSED SCHEDULE FOR CAW/MMP IMPLEMENTATION

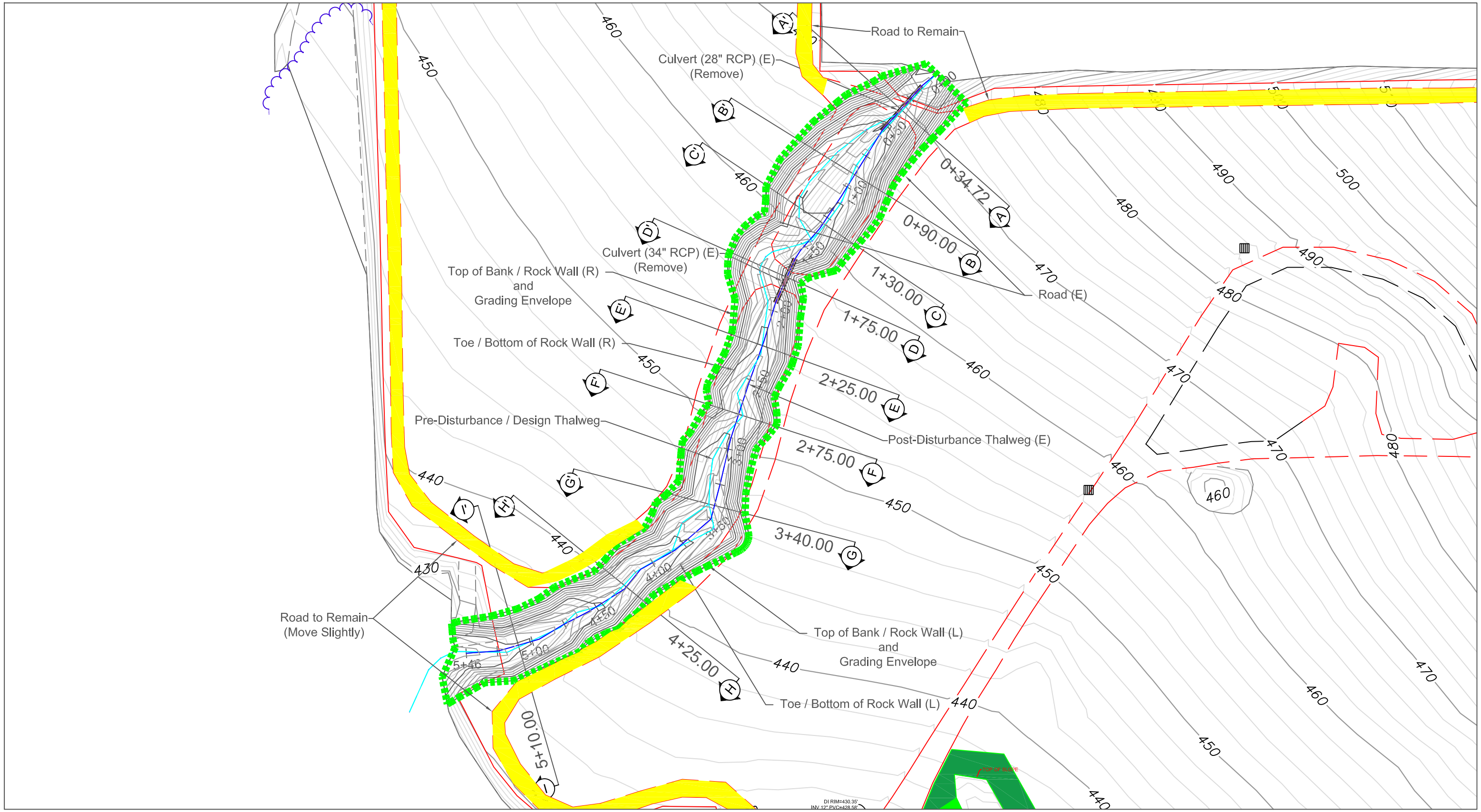
The Bremer Family Winery Vineyard will initiate the work to complete the CAW engineering design and plans and the MMP no later than 60 days following receipt of RWQCB's written approval of the proposed CAW and MMP. Additional timelines proposed for submission of work products related to the CAW and MMP design, permitting and implementation as follows:

	Time After Initial RWQCB Approval
➢ Submission of 90% design, design basis report and engineering plans:	10 weeks
➢ Submission of 100% design, design basis report, engineering plans and construction specifications and completed agency (USACE, RWQCB and CDFW) and County permit applications:	14-16 weeks*
➢ Field construction of CAW design and MMP corrective actions and mitigation measures:	July-Sept. 2018**

* Depends on 1-2 week turnaround for RWQCB review, otherwise, time period would increase proportionally.

** Implementation projected to take two months, thus the cited timeline would require that permits were received by no later than July 1 in order to ensure implementation during the 2018 construction season (June 1-Oct. 1).

APPENDIX A: PRELIMINARY ENGINEERING PLANS FOR PROPOSED CORRECTIVE ACTION WORKPLAN AND MITIGATION AND MONITORING PLAN



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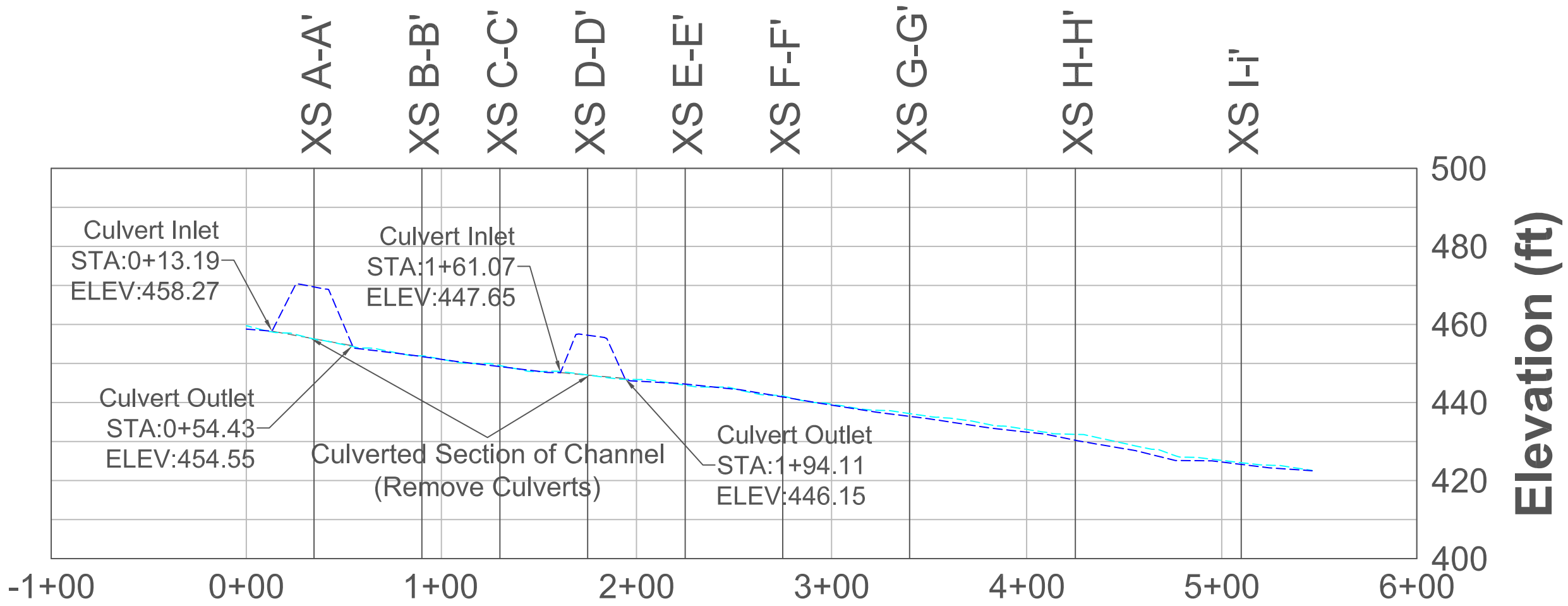
INFORMATION SOURCE:
Terra Firma Surveys, Inc.
Napa Valley Vineyard Engineering, Inc.

N

0 50 100 Feet

Sheet 1 : Post-Disturbance and Design Topography

Project: Bremer Family Winery Cleanup and Abatement Order
Corrective Action Workplan
Date: 12/1/2017



---------- Pre-Disturbance / Design Thalweg Profile

---------- Post-Disturbance Thalweg Profile (not including culverts)

---------- Culvert Profile

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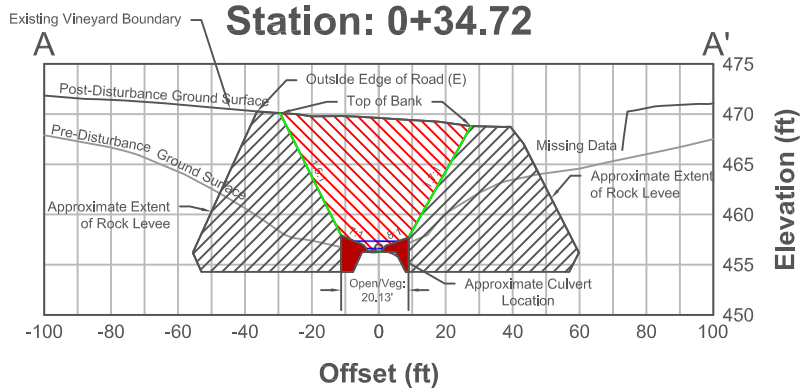
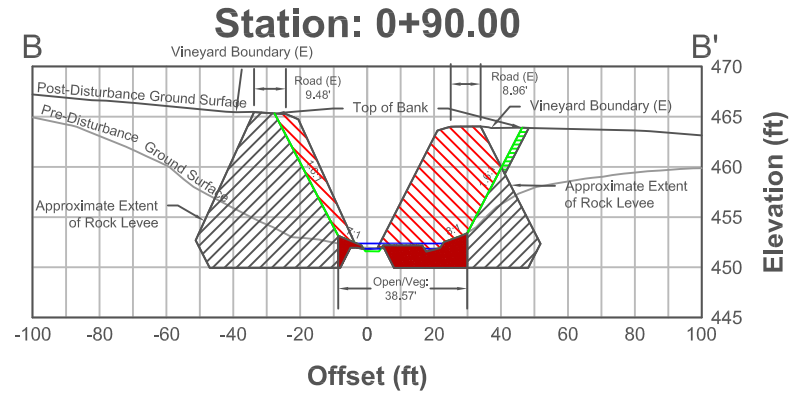
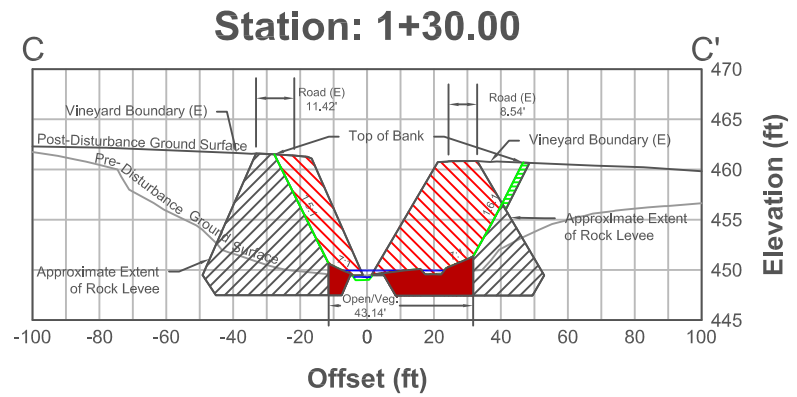
INFORMATION SOURCE:
Terra Firma Surveys, Inc.
Napa Valley Vineyard Engineering, Inc.

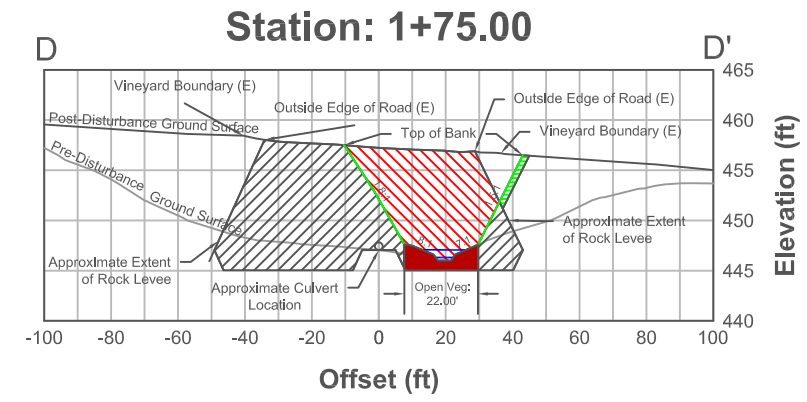
Sheet 2 : Post-Disturbance and Design Longitudinal Profiles

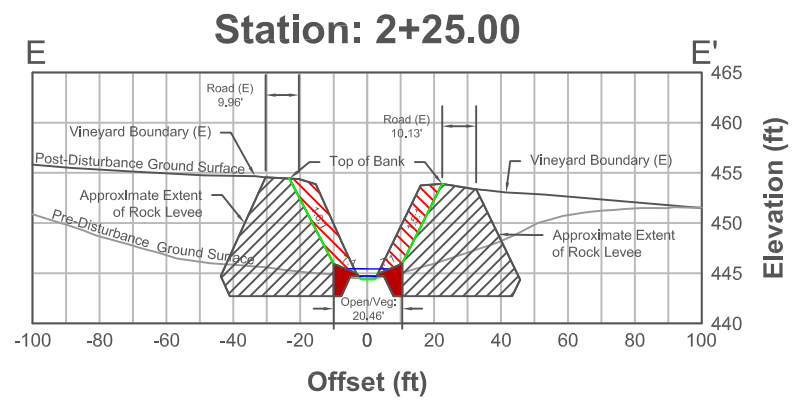
Project: Bremer Family Winery Cleanup and Abatement Order
Corrective Action Workplan
Date: 12/1/2017

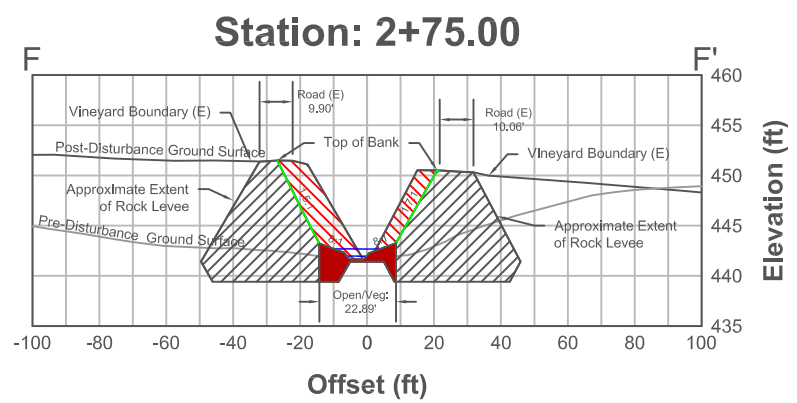


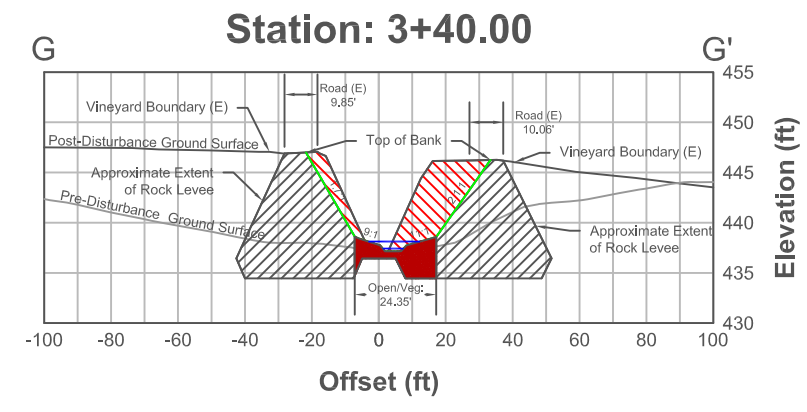


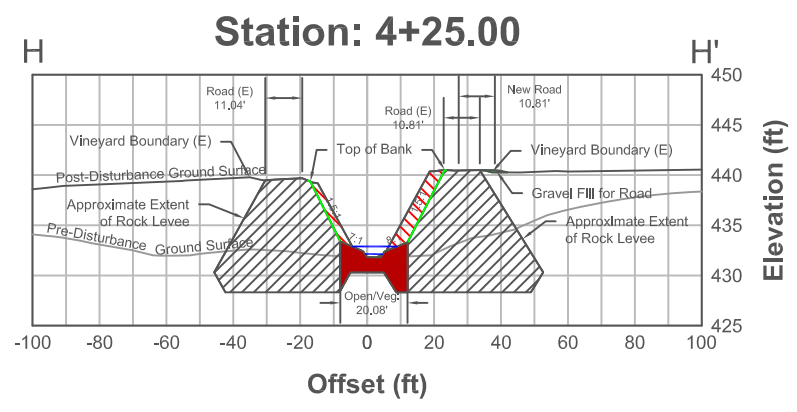


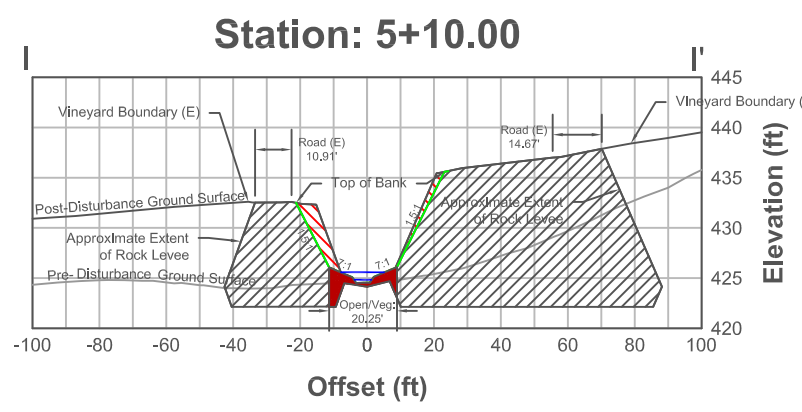












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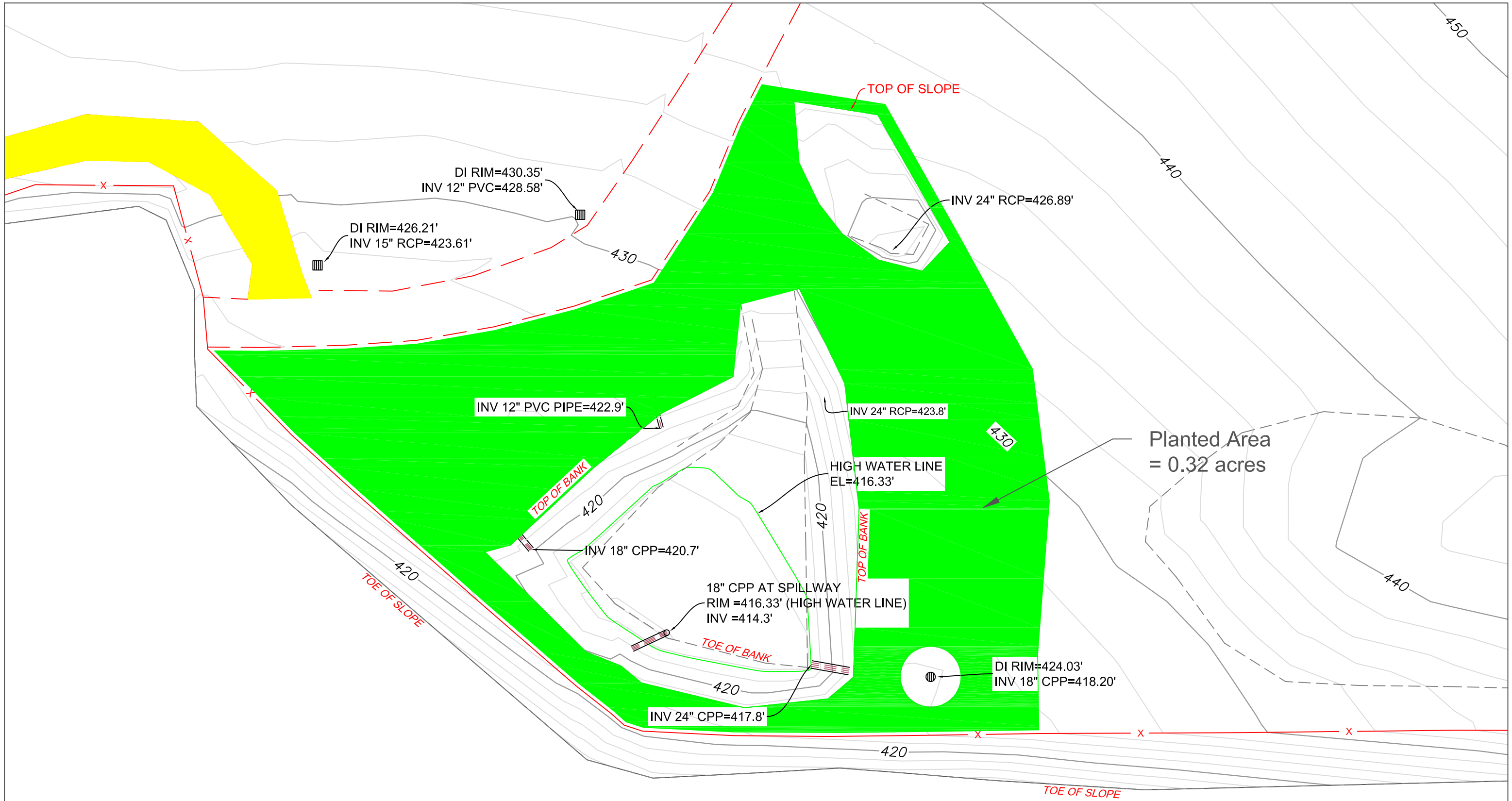
Design Surface
Rock to Cut/Remove
Rock to Remain
Rock to Fill
Soil to Fill
2-year / 100-year Flood Stage

Sheet 3 : Pre/Post-Disturbance and Design Cross Sections

Project: Bremer Family Winery Cleanup and Abatement Order
Corrective Action Workplan
Date: 12/1/2017



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INFORMATION SOURCE:
Terra Firma Surveys, Inc.
Napa Valley Vineyard Engineering, Inc.

N

0 50 100 Feet

Sheet 4 : Planted Areas

Project: Bremer Family Winery Cleanup and Abatement Order
Mitigation and Monitoring Plan
Date: 12/1/2017

APPENDIX B: REVISED CH TECHNICAL IMPACT ASSESSMENT REPORT

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TECHNICAL ASSESSMENT REPORT IN RESPONSE TO SF BAY REGIONAL WATER QUALITY CONTROL BOARD CEASE AND ABATEMENT ORDER NO. R2-2017-0025 RE: CONSTRUCTION IMPACTS TO AN UNNAMED EPHEMERAL CREEK AND HABITAT AT THE BREMER FAMILY WINERY VINEYARD BLOCKS K-EE, 881 DEER PARK ROAD, NAPA COUNTY, CA

Prepared for:

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Sept. 15, 2017
(Rev. Nov. 15, 2017)

TABLE OF CONTENTS

1.0 INTRODUCTION

During the period ranging from the summer of 2013 to May 2016, John and Laura Bremer, owners of the Bremer Family Winery and Vineyards (henceforth, the owners), and their contractors implemented a vineyard development project (the project) on Napa County parcels APNs 021-400-004 and 021-400 -005 located at 881 and 975 Deer Park Road, just north of the town of St. Helena.. Proposed work on additional parcels 021-400-002, 021-420-027, and 025-370-057 and -058 has not yet been constructed, although it was identified as part of the same project originally approved by Napa County. According to the project's approved Erosion Control Plan (ECP, Napa Valley Vineyard Engineering (NVVE) 2010, see Technical Appendix), the total disturbed area proposed for the project within the 156-acre properties was estimated at 34.6 acres. Figure 1 is a site location map showing the main winery complex at 975 Deer Park Road. [Note that while the CAO cites Gregory and Maryann Nowell as parties to the project, they have no interest in the current project, aside from Greg Nowell's involvement as the Bremers' consulting landscape architect. The small parcel upslope and east of vineyard Block C they owned until recently was only included in order to leave open the possibility that they could develop a small vineyard in the future. (J. Bremer, pers. communication)]

The project comprised several contiguous and non-contiguous vineyard sub-areas, identified as Blocks A-H and Blocks K- EE and positioned approximately as shown on Plan Sheets 2 and 3 the project's approved ECP (NVVE ibid). Due to misinterpretation of regulatory jurisdictions over what were perceived to be non-'blue line' streams, the owners and their consultants did not file for permits from any of the state and federal agencies with jurisdiction over natural channels. This oversight extended to the US Army Corps of Engineers' (USACE) Section 404 Fill Permit, the SF Bay Regional Water Quality Control Board (RWQCB) Sec. 401 Water Quality Certification and the CA Dept. of Fish and Wildlife's (CDFW) Section 1602 Streambed Alteration Agreement.

During project construction, the owners and their contractors instituted changes to the approved ECP. These changes included amendments to the block configurations, maintenance of an existing road alignment (rather than the approved re-alignment) in order to reduce oak tree removals, changes to the alignments and character of roadway drainage structures, and increases in the height of the rock levees used to buttress the imported soil for the vineyard planting blocks. The outboard faces of these rock levees also comprised the exposed rock slope protection that formed the new reinforced banks of the main ephemeral tributary channel (the subject channel) entering the project area along its northern boundary, between Block K and L/M. More importantly, the contractors installed two culverted road crossings along the ephemeral channel, neither of which were part of the approved ECP. At the upstream crossing, a 28-inch RCP culvert was installed in place of the clear span bridge specified for that location in the ECP. At roughly mid-reach, a second culverted crossing was installed. Neither feature was removed prior to the issuance of a Stop Work Order from the County in May 2016. According to the owners, at least one of the changes- the increased height of the channel sidewalls/levees- was tacitly approved during construction by County inspectors. Both the subject channel and the developed vineyard blocks are visible in the annotated aerial photo in Figure 2.

Opponents of the project and/or its constructed features, including modifications to the subject channel, filed complaints with the County and with the SF Bay Regional Water Quality Control Board (RWQCB). On Sept. 16, 2016, the County issued a Notice of Violation to the owners which outlined County Code violations and the associated descriptions. One of those conditions pertained to the subject channel: the excess constructed height of the rock walls/levees, the approved limit of which was cited as four feet. The then-approved ECP cited the maximum height as five feet (see Technical Appendix- Plan Sheet 3, "Channel" detail).

RWQCB staff conducted a site inspection on Sept. 19, 2016 and issued a formal inspection report on Dec. 13, 2016, citing the various modifications to the subject channel, and encroachment below the estimated Ordinary High Water (OHW) stage by the rock walls (levees) and unauthorized culverted crossings. Additional concerns included potentially under-designed peak flow detention facilities for the developed vineyard areas, lack of constructed measures to prevent piping of fine vineyard soils through the rock walls, and possible instability of the rocked channel banks under vehicular loading. Based on the staff inspection report and the assessment of violations to California Water Code (CWC) sections 13269 and 13264, federal Clean Water Act sections 301 and 401 and the SF Bay Basin Plan, the Board issued Cleanup and Abatement Order No. R2-2017-0025 (CAO).

The project owners retained Clearwater Hydrology (CH) in August 2017 to assist them in complying with the CAO. Provision 1 of the CAO instructs the owners (referred to in the CAO as "the Dischargers") to submit a technical report providing a description of the recent unauthorized construction activites at the Site and an assessment of the impacts to the Creek and associated riparian habitat. This Technical Impact Assessment Report is intended to satisfy this provision of the CAO. Once accepted, it will serve as a baseline document for the development of a Corrective Action Workplan, the details of which are outlined under Provision 2 of the CAO.

2.0 PROJECT BACKGROUND

2.1 Project Team Interpretation of Setback Requirements for Affected Creeks and Drainageways

According to the owners, the initial project design by NVVE extended creek setbacks per County Code Section 18.108.025- General Provisions which pertains to intermittent and perennial streams to the subject channel. During the design process, the consulting team which included NVVE, the project biologist and consulting forester decided that the channel did not meet the criteria for an intermittent stream. The deciding factors appear to have included the bedrock channel bed, the xeric nature of the near channel environs and related lack of riparian vegetation, and a more literal interpretation of the County Code as applying to intermittent and perennial streams and not to channels conveying ephemeral flows. Following this decision, the 40-50 ft. setbacks were eliminated and a 10 ft. minimum unobstructed channel bottom width was substituted in the submitted ECP, which was then approved by the County in April 2013.

2.2 CEQA Environmental Review

An Initial Study under CEQA was completed for the project by Napa County Planning, Building & Environmental Services under the project name "Bremer Family Winery Vineyard Conversion: Agricultural Erosion Control Plan (ECPA) #P11- 00317- ECPA" in 2012. A mitigated negative declaration (MND) was adopted and a Notice of Determination (NOD) was certified in April 2013. Descriptions of the drainage channels on and adjacent to the project parcels specified two channels as meeting the County criterion for "intermittent/perennial streams" (p. 4), including the Canon Creek tributary bisecting the existing winery parcel at 975 Deer Park Road and another tributary located just off-site and southeast of the project parcels at 881 Deer Park Road (APNs 021-400-004, -005). The subject channel was described as "seasonal" but was not cited as falling under the aforementioned County criterion for creek setbacks. It should be noted that the authors of the MND were not clear as to what constitutes an ephemeral stream, which in the hydrology and geomorphology literature refers to streams that "flow only in response to a water-input event and are usually losing" (Dingman, Physical Hydrology 1994). For example, on p. 13 of the Draft Initial Study, under Mitigation Measure Biological Resources (BR)-3b.

"There is one primary seasonal (ephemeral) drainage feature occurring subject property as shown on the St. Helena, Calif. Topographic Quadrangle map (USGS 1978), an unnamed blue-line tributary to Canon Creek."
Blue-line streams are identified on USGS topographic maps and are labeled as either perennial (solid blue line) or intermittent (dotted blue line). Ephemeral channels are not represented per se on USGS maps, only inferred by the topography.

The MND evaluated the hydrologic and water quality impacts and referenced the implementation of the approved ECP as the primary avenue for mitigating potentially significant project impacts on site erosion and sediment yield, The certified NOD also included a fee paid receipt from the CA Dept. of Fish and Wildlife (CDFW) for the agency's environmental filing fee. In Sept. of 2012, CDFW commented on the MND, citing concerns regarding the project's biological and rare plant studies, potential restrictions on wildlife movement and corridors, and noted potential impacts to drainage features, including the on-site tributaries to Canon Creek. The channels were not mapped or identified, and were described as "intermittent". The present assessment found no evidence of similar letters or notifications from the SF Bay Regional Water Quality Control Board (RWQCB) or the US Army Corps of Engineers (USACE) regarding the project CEQA assessment.

A Mitigation, Monitoring and Reporting Program (MMRP) plan was prepared by the County as an adjunct to the MND to address potential impacts to biological resources. The MMRP components included protections for and mitigation of impacts to the holly ceanothus plant community, revegetation plan requirements and creek setbacks and other protections for the "blue line tributary" located adjacent to vineyard Blocks A and B. Additionally, the conditions noted field marking of creek setbacks "in accordance with County Code Section 18.108.025 (General provisions- Intermittent/perennial streams)."

The County PB&ES department did mention on at least two occasions that it was the project applicant's responsibility to obtain the necessary local, state and federal permits prior to implementation of the project (Draft IS/MND, dated June 2012 and Letter to L. Bremer from D. Borrella, dated April 10, 2013).

2.3 Implementation of Project Grading and Vineyard Creation

Based on a rough chronology of site work provided by NVVE, project grading began in the summer of 2013 following County approval of the ECP in April of that year. Construction was projected to occur over two seasons (Year 1, Year 2), each extending from spring (April 1) to October 1, followed by implementation of site winterization measures for erosion and sediment control. Planting of the vineyard stock and installation of irrigation infrastructure was projected for Year 3. NVVE provided some degree of construction observation during the period, which for Block L/M was extended into the summer of 2015.

Construction of vineyard Blocks K and L/M and the subject channel reach involved the clearing and grubbing of existing vegetation and excavation of thin surface soils and bedrock to a depth of 36 inches, plus a 2 ft. keyway extending longitudinally along either side of the notched bedrock channel where the bases of the rock levees (also referred to in design documents as "rockery walls") were formed. The excavated rock and some of the surface soil was then pushed to the channel margins with dozers assisted by a large bucket excavator to form the quasi stable rock levees. As the levees were built, imported soil from the Napa River Rutherford Reach restoration project was emplaced and compacted between the bordering rock levees/walls to achieve the finished vineyard grades (cited in IS/MND). This imported soil was identified as Bale loam in the approved ECP. According to the ECP Narrative, roughly 15,000 cubic yards (cy) of soil was imported and placed during the development of all of vineyard Blocks K, L/M and N/O. In addition, all-weather gravel roads were completed along the levee crests, paralleling the modified subject channel, and two culverted road crossings were constructed. The approved ECP cited one bridged crossing at the upstream end of the modified reach, i.e. at the contiguous northern boundary of vineyard Blocks K and L/M.

A special notation on Plan Sheet 4- Details indicated that non-woven filter fabric shall be placed between all RSP (rock slope protection) and earthen material. Based on conversations with the owners and their consultants, it is clear that their definition of RSP was narrowly prescribed to apply only to rock lined drainage ditches and not to the rock levees that flanked the subject channel. This is evident in the depiction of Details 5/4 and 6/4, labeled "Rock Lined Ditch" and "Rock Lined Channel" on Plan Sheet 4 of the approved ECP. In both of these details, the rock linings are specifically labeled "RSP", with the attendant call-outs for "filter fabric". In other details related to the construction of rock walls/levees, the labels "RSP" and "filter fabric" are absent. The possible absence of filter fabric at the contacts between the rock walls/levees was cited as an item of concern by the RWQCB staff that conducted the field inspection.

According to Mr. Aspegren, the County was active in its inspection oversight of the project. Mr. Aspegren also indicated that the County inspectors were accepting of some of the changes to the ECP implemented during construction, including the higher than designed heights for the rock levees flanking the subject channel and the associated elevated roadways. The culverted road

crossings of the subject channel were initially installed to expedite construction equipment access and material transfers. No explanation was provided by the owners as to why these crossings were not eventually removed (downstream crossing) or replaced with a clear span bridge (upstream crossing) per the approved ECP.

In response to County PB&ES objections regarding the constructed project and its variances from the approved ECP, the owners and the project civil engineer (Napa Valley Vineyard Engineering, NVVE) filed a revised ECPA for a slightly reduced project with the County on June 26, 2016. The revised ECP incorporated the constructed changes already implemented to the approved ECP. The County replied on July 28, 2016 with an Application Completeness Determination that contained an Exhibit A listing additional documentation required to deem the application complete. The letter also indicated that the revised ECPA was under review by County Engineering staff and that those comments would be additional to the ones listed in the July 28 letter. A deadline of 120 days was set for the owners to submit adequate responses and supplemental information to achieve a completed application. The County's NOV was issued on Sept. 19, 2016.

Prior to the wet winter of 2016-2017, the owners and their consultants complied with ECP requirements for site erosion control, including seeding, application of broadcast and crimped straw in vineyard furrows and other disturbed areas. They also responded quickly to the County's late inspection of erosion control measures and requested amendments to those measures where indicated. Furthermore, the owners made post- rain event inspections and voluntarily submitted inspection reports to the County. Two of these reports are attached for reference in the Technical Appendix.

On July 12, 2017, the owners resubmitted the revised ECPA, which intended to address comments received from Patrick Ryan of Napa County Engineering Services, dated May 2, 2017. However, a subsequent Aug. 11, 2017 memo from Ryan confirmed that the County still considered the revised ECPA incomplete, in part due to their position that the remediation plan required by the RWQCB's CAO should be integrated into the ECPA.

As noted in the CAO, the project did not obtain a Section 1602 permit from CDFW. The owners met on-site with CDFW scientist, Suzanne Gilmore, on July 25, 2016. Based on an internal project memo, Ms. Gilmore confirmed that the project would have required the 1602 permit and that CDFW would not have approved the ECP's proposed channelization of the subject ephemeral channel.

3.0 HYDROLOGIC AND WATER QUALITY SETTING

As shown in Figure 1, the Bremer winery and vineyard lands lie north-northeast of the Napa River. The subject channel reach is confluent with an intermittent tributary of Canon Creek which joins with Canon Creek roughly 0.6 miles south of the project site. Canon Creek continues due west for approximately 1.2 miles to its confluence with the Napa River.

Figure 3 is a watershed map showing the tributary area for the subject channel reach at its confluence with the intermittent Canon Creek tributary. The watershed encompasses an area of roughly 80 acres. Elevations in the watershed range from approximately 710 ft. NAVD88 at the confluence to 1,480 ft. along the ridgeline. As noted in the approved ECP, (NVVE 2010-2013), pre-project ground slopes ranged from 6% to 40%. Mean annual precipitation for the St. Helena gage (047643, elev. 230 ft. NAVD88) is 34.6 inches (WRCC,wrcc@dri.edu). For the higher elevation project watershed, the MAP was estimated at 40 inches based on the Sulphur Creek gaging station data cited in Rantz (USGS 1971, Table 2).

According the US Department of Agriculture's National Resources Conservation Service (NRCS) Web Soil Survey, 99 percent of the watershed is composed of the Rock outcrop- Kidd complex, 50 to 75% slopes (see Technical Appendix). The typical profile of the Kidd complex is about 14-18 inches of loam atop unweathered bedrock. However, CH observed floodplain soil depths closer to 6-12 inches. The Kidd complex is categorized as belonging to Hydrologic Soil Group D, indicating a high runoff potential.

Prior to project development, the watershed was essentially unurbanized and the dominant cover type was Mixed Chaparral/Scrub, with inclusions of Serpentine Chaparral and Chamise Chaparral (Botanical Resources Report, Kjeldsen 2011). This continues to be the dominant land use and cover type in the watershed upstream of the developed vineyard area. A 2008 wildlife burned roughly 80 acres of the Bremer properties (Wooster 2011). This likely converted some prior stands of Douglas fir or grey pine to chaparral. Riparian habitat within the project area was limited to the Canon Creek tributary corridor, which parallels Deer Park Road to the east and extends up through the winery grounds. The lack of riparian habitat along the subject channel upstream of the channelized reach was confirmed by CH during its walking inspections and channel surveys in August and Sept. 2017. The bedrock channel bed, steep gradient and thin floodplain soils do not support the development of a shallow groundwater table or seasonally elevated soil moisture levels required for the establishment of riparian species. No vegetation gradients were observed in the floodplain and hillslope terrain adjoining the narrow bedrock channel bed.

3.1 Potentially Impacted Beneficial Uses

Beneficial uses are not listed in the Basin Plan for Canon Creek. Beneficial uses listed for the Upper Napa River above St. Helena include:

- Water supply (agricultural, municipal, and domestic);
- Recreation (fishing, swimming, boating, etc.);
- Navigation;
- Fish migration and spawning;
- Cold and warm freshwater habitats;
- Wildlife habitat; and
- Preservation of rare and endangered species.

Of particular relevance to the potential project impacts on beneficial uses are those related to sediment yields, including the erosion and transport of fine sediments from steep upland

tributaries. These sediments reduce the quantity and quality of spawning and rearing habitat in the River and its tributaries. Hillside vineyards have been identified as one of the principal sources of fine sediment yield to the Napa River, particularly where upland bedrock units are relatively soft and more erodible. (Stillwater Sciences and Dietrich, 2002; SF RWQCB 2005).

The Bremer Family Winery Vineyard Inspection Report (RWQCB 2017) identified ash-flow tuffs as the primary geologic unit in the project area. The *Napa River Sediment Total Maximum Daily Load Technical Report* (RWQCB 2005) classified this volcanic unit as moderately to highly erodible.

4.0 PEAK FLOW RATES AND HYDROGEOMORPHIC ASSESSMENT

4.1 Peak Flow Rates

Flow estimates for the stream were performed using the USGS Flood Frequency Method (Rantz 1971) using the following general equation:

$$Q_t = KA^a P^b$$

where Q = peak discharge (cfs), t = recurrence interval (years), A = drainage area (sq mi), P = mean annual basinwide precipitation (in), and K, a, and b are all empirically derived coefficients/exponents.

The equations used to calculate each of the five recurrence intervals are as follows:

Recurrence Interval	Multiple regression equation
2-year	$0.069A^{0.913}P^{1.965}$
5-year	$2A^{0.925}P^{1.206}$
10-year	$7.38A^{0.922}P^{0.928}$
25-year	$16.5A^{0.912}P^{0.797}$
50-year	$69.6A^{0.847}P^{0.511}$

The peak discharge levels computed using the above equations were plotted on arithmetic probability paper per Rantz and a best-fit curve was fitted through the plotted points and extrapolated to estimate the 100-year peak discharge. Final peak discharge values used for the hydraulic and geomorphic analyses were extracted from the fitted curve for each of the recurrence interval flood events. The peak flow computations are attached in the Technical Appendix).

The design peak flow rates for assessment of the pre-disturbance channel are:

Recurrence Interval	Peak Flow (regression equation) (cfs)	Peak Flow (fitted curve) (cfs)
2-year	18.4	18
5-year	25.2	26
10-year	33.5	36
25-year	47.2	52
50-year	79.3	66
100-year		81

4.2 Hydrogeomorphic Assessment

4.2.1 Field Survey of Subject Channel Upstream of Disturbed Project Reach

CH Principal William Vandivere, and staff hydrologist, Jake Kramarz, conducted a walking survey of approximately a 150 ft. reach of the subject channel, upstream of the northern boundary of Blocks K and L/M, i.e. upstream of the disturbed channel reach. The objective was to note channel hydraulic and geomorphic conditions, floodplain vegetative roughness, changes in valley/channel cross-section and the character of the channel bed substrate and floodplain soils. Photos were also taken for inclusion in the assessment report.

In addition to the field inspection, Vandivere and Kramarz surveyed two channel cross-sections using an automatic level. The first section XS-1 was surveyed at a point about 100 ft. upstream of the upper culverted roadway crossing where the channel and its adjoining floodplains were relatively broad. According to project landscape architect, Greg Nowell, this channel sub-reach was much closer in character to the lower disturbed reaches. A second cross-section XS-2 was also surveyed. This section was taken roughly 40 ft. upstream of the same roadway crossing in a narrower, more confined portion of the channel. This cross-section was not evaluated further since it was unrepresentative of the disturbed channel reaches within the project area.

Photos 1-4 in the attached Photo Log describe the existing (Aug.-Sept 2017) condition of the subject channel in the undisturbed reach upstream of the north project boundary (Blocks K, L/M) as observed and surveyed by CH. Pertinent hydrogeomorphic features of the channel include the following:

- Channel form is a steep bedrock cascade with mostly low steps and minimal or no pools below the steps;

- A low-flow section, with a bottom width of roughly 4 ft., eroded into the bedrock channel bed and flanked by flood terraces composed of thin soils (6-12 inches thick) atop bedrock;

- Bed material other than the bedrock itself is absent within the low flow channel section, except for occasional large boulders transported during historic rockslide or other infrequent mass wasting events. i

- A dominant and xeric streamside vegetal community of chamise/chaparral, including variable density brush and near continuous surface cover- no identifiable riparian vegetation was observed along the surveyed reach;

- In a transition zone upstream of the project's upper culverted roadway crossing, the channel steepens further while the valley floor and the channel's floodplains narrow considerably.

4.3 Hydraulic and Geomorphic Analyses

Pre-project topographic mapping was conducted for the project by Michael Brooks and Associates (2005). Due to scaling and the minimal refinement of the survey within the actual channel corridor, CH staff conducted a cross-section survey of the undisturbed channel upstream of the Block K, L/M northern boundary in a sub-reach that Greg Nowell, the project landscape architect, indicated was most similar to the pre-disturbance channel morphology.

To determine the hydraulic and geomorphic characteristics of channel flows through the subject channel reach, the 2-year and 100-year peak discharges (18 and 81 cfs, respectively) were assessed using Hydraflow Express (AutoDesk). The 2-yr. peak discharge is a surrogate for the bankfull discharge, or channel forming discharge, which typically exhibits a statistical recurrence interval of 1.5- 2 yrs. The flow stage reached during this event is also usually a good indicator of Ordinary High Water (OHW), the level used by the US Army Corps of Engineers (USACE) to define their jurisdiction in Waters of the U.S. The 100-yr. peak discharge (1% risk of occurring in a given year) is typically referenced for purposes of flood control function and is usually the highest risk event evaluated for basic flood control infrastructure, aside from dam and reservoirs.

Three pre-disturbance and/or existing off-site channel cross sections were selected to represent the flow characteristics through the project channel reach: XS 1, located roughly 100 ft. upstream of the project reach, i.e. upstream of the upper culverted road crossing (the field measured cross section, described above); XS C-C', located at Station 1 + 30.00 (referencing thalweg stationing on the pre-disturbance topo) which is between the culverted road crossings and where the channel was bi-furcated; and XS G-G' at Station 3 + 40.00 (pre-disturbance topo) which is positioned in roughly the middle of the lower sub-reach where a single thread channel previously occurred.

For the modeled cross-sections derived using the pre-disturbance topographic surface in AutoCAD, the stream slope was estimated using the surface. For the field derived cross-section, XS-1, the slope was of the stream segment was measured in the field. The Manning's-n value used for the incised low-flow channel was 0.02, while a value of 0.03 was used for the flanking terraces/floodplains. The chaparral occupying the terrace and floodplain areas consisted of some discontinuous brush and low grass. The in-channel 'n' value was estimated based on typical values cited in the engineering literature (e.g. Chow 1959) and on professional judgement. Alternate approaches to Manning's n estimation for steep mountain streams, such as the Jarrett equation, were not used due to the lack of true step-pool morphology, smooth bedrock surfaces defining much of the channel reach, and typically infrequent and/or minor step heights. Given

this bedrock channel morphology, supercritical flow could be expected to occur even along the natural channel. The channel cross-sections within the disturbed project reach are shown in Figure 6 and on the HydraFlow computation sheets attached in the Technical Appendix. Cross-section XS-1 is shown on the HydraFlow computation sheet.

Table 1 cites the results of the HydraFlow hydraulic analysis for the pre-disturbance, subject channel, including computed values for basic hydraulic and geomorphic parameters. Selected parameters included mean flow velocity, flow depth and xs area, top width, width/depth ratio and bed shear stress.

Table 1. Selected Hydraulic Parameter Values for the Bremer Ephemeral Channel (Blocks K, L/M) for the Pre-Disturbance Site Condition- 2-Yr. and 100-Yr. Peak Discharges

	Discharge	Manning s 'n'	Normal Depth	Top Width	Width/Depth Ratio	Flow Area	Velocity	Hydraulic Radius (R)	Shear Stress 1/	Sediment Mobilization Size 2/
	(cfs)		(ft)	(ft)		(ft2)	(fps)	(ft)	(lb/ft2)	(in)
XS-1 (US of Proj. Reach) S= 8.62%										
Q2	18	0.02	0.48	4.6	12.4	1.69	10.7	0.35	1.86	7.8
Q100	81	0.023	1.14	8.6	N.A.	5.81	13.9	0.63	3.39	24
XS C-C' (Sta.1+30) S= 6.07%										
Q2	18	0.02	0.27	17 3/	80 3/	4.18	4.3	0.15	0.56	1.4
Q100	81	0.023	0.47	50.1	N.A.	12.65	6.4	0.25	0.96	2.9
XS G-G' (Sta.3+40) S=6.43%										
Q2	18	0.026	0.27	20.2	101	3.97	4.5	0.2	0.8	2.4
Q100	81	0.028	0.57	30.7	N.A.	11.49	7.1	0.37	1.5	5.9

1/ $\tau = \gamma RS$, where γ = unit wt. of water (62.4 lb/ft3)

2/ Figure 11.4, Fluvial Processes in Geomorphology, Leopold et al. 1964.

3/ Top width estimated for main low flow section; inordinately high value for W/d ratio due to breadth of the larger of the two low-flow sections, only one of which is likely to convey flow during the 2-yr. flood.

Since the computations were performed using Manning's equation, backwater influences were not modeled along the reach. Given the steep channel slopes and relatively wide and shallow cross-section throughout the pre-disturbance channel reach, backwater influence would be highly unlikely.

The bed shear stress values in Table 2 were calculated as the product of the specific weight of water, the hydraulic radius and the channel slope. Mobilization size was determined using an empirical relationship between bed shear stress and the initiation of motion for various particle/sediment sizes (Leopold et al.,1964). Mobilization size simply presents an estimate of the maximum sediment size that can be moved by a given design discharge.

The modeled flow velocity for the bankfull (2-yr.) peak flow, 10.7 fps, was high for the upstream cross-section (XS-1) due to its extremely steep slope and more incised low flow notch. The estimated Manning's 'n' value for the irregular bedrock steps might have been lower than the actual value. A higher 'n' value would have decreased the computed velocity. The 100-yr. flow velocity was similarly elevated. Velocity values for the cross-sections extracted from the topographic model surface were more in line with typical values for natural channels, ranging from approximately 4 fps to 12 fps for the 2-yr. and 100-yr. peak flows, respectively.

Bed shear stress values are directly proportional to the channel slope for the assumed uniform flow condition, so the steeper upstream reach represented by XS-1 yielded higher values than the downstream cross-sections with correspondingly larger mobile sediment sizes. In the downstream sub-reaches, the mobile sediment sizes indicated stream power sufficient to move only loose soil, gravels and small to medium size cobble. Larger material could become mobile if the channel section were severely constricted by the constructed rock levees.

The subject ephemeral channel conforms most closely to either an A1 (XS-1 sub-reach) or B1 (XS C-C' and XS G-G') stream type per the Stream Classification System (e.g. Rosgen 1996). The inordinately high width-depth ratios computed for the lower sub-reaches suggest that the drainage functions more like a broad bedrock swale than a defined channel. Regardless, sediment discharged to any of these drainage reaches is efficiently conveyed downstream due to the steep valley slopes and bedrock channel bed, both of which minimize any opportunities for deposition.

5.0 CHANNEL IMPACT ASSESSMENT

5.1 Overview of Project Impacts

Implementation of the access roads and vineyard blocks resulted in substantial impacts on the form and function of the subject channel that separates vineyard Blocks K and L/M. Specific channel impacts included the following:

- Encroachment or elimination of the channel floodplains by rock levee and access road construction, and subsequent collapse of rock and other fill materials onto the remaining channel bottom;

- Burial of portions of the pre-disturbance low-flow channel section where either the original channel was bi-furcated (contained two thalwegs) or the new straighter alignment did not follow the irregular alignment of the original channel;

- Installation of two unauthorized culverted road crossings- the upper crossing was shown on the approved ECP as a clear span bridge crossing and the other did not appear on the ECP;

- Backfilling of the constructed rock levee structures with jetted soil, without inclusion of coarser material at the outboard face of the rocked bank along the channel edges to minimize winnowing of fines through the large voids in the rock revetting; and

- Removal of a substantial swath of chamise/chaparral vegetation formerly flanking the channel (note: the project biological resources report did not identify any riparian vegetation or habitat along the subject channel);

Other project impacts stemming from changes made to the approved ECP during construction that did not directly affect the subject channel included:

- Amendments to the Block configurations and/or boundaries;

- Improvement of much of the pre-project roadway to all-weather road, instead of new road construction, which reduced the loss of oak trees;

- Adjustment of the location of the main stormwater detention basin further downslope along an adjoining swale without increasing its size proportional to the added drainage area; and

- A severe reduction in the accessibility of the channel corridor to wildlife, due to culverted roadway construction and outside perimeter fencing.

The owners attempted to address some of the above indirect (i.e. non-channel) project impacts through the submission of the as-built project plan and related documentation as part of an application for an amended ECP. As noted above, while the application process moved forward somewhat in 2016-2017, the County placed further processing on hold until the CAO and an acceptable channel remediation plan was approved.

5.2 Quantification and Characterization of Channel Jurisdictional Impacts

Fill discharges to the subject channel in the context of jurisdictional waters of the U.S. and/or the State were estimated using geo-referenced and superimposed pre-project and as-built topographic mapping provided by NVVE, the project civil engineer. Due to the lack of topographic refinement along the channel bottom, CH also conducted field measurements of the bottom width at seven cross-section locations along the disturbed project reach. These measurements of bottom width enabled refinement of the 3-D fill volumes delineated in AutoCAD Civil 3D. Along much of the channel alignment, additional material was observed that appeared to stem from pocket collapses of unstable rock from the exposed outer slopes of the rock levees. This could have occurred as a result of the wide range of rock sizes from large cobble to 6-8 ft. diameter boulders dozed into place along the channel margins. The uneven faces of these outer levee side slopes made accessing the channel bottom difficult and risky. In most cases, the measured bottom width did not consider the collapsed material, unless the extent of the material was fully contiguous with the levee toe.

Figures 4- 6 show the pre-project and post-project/as-built plan, channel longitudinal profiles and cross-sections, respectively. The as-built grading plan in Figure 4 includes nine channel cross-sections, labeled A-A' through I-I' with station designations corresponding to the channel thalweg. Two of the nine cross-sections were taken at the culverted road crossings, where the road fills extended across the entire channel and its floodplains. Figure 4 also shows the delineated lateral extents of the 2-yr. and 100-yr. floodplains. The process of graphing these flood boundaries is described below.

As depicted by the nearly coincident longitudinal profiles in Figure 5, the post-project channel bed was retained for the most part. It is likely that the minor divergences that are evident occur where the as-built channel alignment negotiates a previous dual thalweg or the straighter project thalweg replaced a segment of irregular (i.e. bending) pre-project thalweg. Both the pre-project and as-built thalwegs are shown in Figures 4 and 6. The most obvious divergences from the original thalweg alignment occur at the mid-reach road crossing (Station 1+75), in the vicinity of the main channel bend (Sta. 2+30 to 3+80). Downstream of Sta. 3+80, the as-built thalweg is more consistently aligned with the pre-project thalweg. It is in this lower reach of the project that the channel approaches or exceeds the 10 ft. bottom width prescribed in the approved ECP.

The 2-yr. and 100-yr. flood extents used to estimate the boundaries of encroaching fill at each of the nine channel cross-section were determined as follows:

For the 2-yr. extent- The flow top width of 4.6 ft. derived from the HydraFlow open channel flow computation for the 2-yr. peak discharge at CH cross-section XS-1 was referenced as a base metric. This value was rounded up to 5.0 feet and served as an initial estimate of the flood extent. Each of the pre-project cross-sections was then assessed for geomorphic characteristics, particularly grade breaks that were roughly coincident with the 5 ft. top width estimate. In this manner, the bounded polygons of fill were constructed in CAD and are represented in plan view in Figure 4. In some cases, consideration of the geomorphic indicators resulted in unequal floodplain offsets from the pre-project thalweg.

For the 100-yr. extent- Similar to the procedure noted above, the base estimates for the 100-yr. flood extent were taken from the HydraFlow analysis for the three representative channel cross-sections. The estimates 100-yr. flow top widths ranged from roughly 9 ft. (XS-1) to 30-50 ft. at XS C-C' (Sta. 1+30) and XS G-G' (Sta. 3+40), respectively. At XS C-C', the pre-project channel exhibited dual thalwegs, so barring backwater influences, flow would have been broader and more shallow. Accordingly, when assigning a 100-yr. flood extent, the geomorphic cross-section indicators were considered along with the pre-disturbance presence of either the single or dual thalwegs. The resulting assigned 100-yr. floodplain extents are shown on each of the cross-section in Figure 6.

The estimates of project fill (surface area, volume and length) encroaching into the OHW (2-yr.) and 100-yr. pre-disturbance flood levels computed via the above process in AutoCAD Civil 3D are listed below in Table 2. The fill placed within the OHW (2-yr.) channel area represents unpermitted discharge to jurisdictional waters of the United States. ~~and waters of the State of CA. The State could assert additional jurisdiction over filled portions of the floodplain, depending on how riparian vegetation and habitat is defined.~~

The extent of fill within waters of the State required consideration of less easily definable channel hydrogeomorphic, habitat and water quality functions. As noted above, no discernible riparian vegetation as traditionally defined was documented within or alongside the subject ephemeral channel, by either the project Biological Assessment or CH field observations. To confirm this, CH also inspected pre-constructed aerial photos (e.g. 2010, 2012) to determine particular vegetation signatures and the presence or absence of any tree growth within the channels valley floor. Based on our inspection, we determined that tree growth was absent from the stream corridor and that darker signatures within the corridor represented chaparral shrub. The lighter colored signatures were associated with either non-wetland grasses or smooth bedrock channel surfaces. Interpretation of the aerial signatures and field evidence indicated that the bedrock exposures locally comprising the channel bed varied significantly in their extents, ranging from 2-4 ft. to as much as 10 feet. It should also be noted that at no point along the channel did the incised bed occur in something other than bedrock.

The RWQCB has asserted that the "riparian" corridor, does not rely solely on the presence of traditionally defined riparian vegetation, but rather on riparian corridor functions from a water quality standpoint. These functions include shading, erosion control and streambank stabilization, filtration and purification of pollutants, nutrient cycling, soil infiltration and groundwater recharge, wildlife habitat and habitat connectivity, all of which apply to a traditional vegetative definition of "riparian" zone or corridor. Defining an appropriate corridor width that addresses these broadly defined functions and hydrogeomorphic conditions is subjective. CH has defined the extent of waters of the State on the basis of an interpretation of the stated riparian functions and our extensive experience in assessing riparian corridor extents in other mostly intermittent and perennial channels throughout the SF Bay Region. Depending on the degree of channel incision, stream channels in non-degraded or mildly affected (i.e. urbanized) watersheds that also occupy upland positions in those watersheds (high gradient reaches) typically support riparian extents equivalent to a 5-yr. to 10-yr. flood plain. Typically, beyond these extents, the departure in elevation between the hillslopes and the areas adjoining the incised channel creates a transition to an upland vegetation community. This is largely a function of the availability of seasonal groundwater.

The 100-yr. floodplain widths determined for the nine pre-disturbance channel cross-sections within the project reach ranged from 9.4 to 44.4 feet, with an average of 23 feet. This suite of cross-section included at least two that encompassed double-threaded, or bifurcated, channel sub-reaches. While this floodplain extent likely includes a buffer in addition to the riparian-water quality corridor extent, it is a good estimate of the extent of waters of the State. Accordingly, the estimate of fill within the 100-yr. floodplain constitutes our estimate for fill within the waters of the State.

Table 2: Bremer Ephemeral Channel and Project Area (Blocks K-EE) Impact Quantities

Impact Type/Parameter	Surface Area		Cut Volume	Fill Volume	Total Net Vol.	Total Length
	ft^2	ac.	cy.	cy.	cy.	ft.
OHW- 2 Yr. Channel Extent	4,958	0.11	26	628	602 <Fill>	
100-Yr. Channel Extent	12,491	0.29	39.1	1,750	1710 <Fill>	
Total Project Area (Blks K-EE)	688,559	15.81	2,439	91,227	88788 <Fill>	
Channel Length						
Culverted	134.5	0.003				68
Partially Filled	-					482

Note that the "Total Project Area" quantities include all graded vineyard areas, including hillslopes. The net quantities listed for each of the impact types are based on the pre-excavation topography and post-project finished grades and do not account for repurposing of much of the excavated hillslope (primarily ripped bedrock) material as rock walls or levees. Net fill quantities within the channel environs were not broken down into material types due to the unknown extent of interstitial fill placed within the rock walls/levees. A ballpark estimate for soil and gravel fills for interstitial fill and roadway surfacing (at the culverted crossings) is 10% of the net total volume quantities cited.

5.2.1 Project Impacts on Channel Function

Project impacts on the subject channel occur as both physical restriction in channel area and alteration of the channel flow characteristics during and immediately following rainstorms. The extent of these impacts on stream flow characteristics will depend on the magnitude of the storm event, with proportionally increasing effects as storm magnitudes (i.e. recurrence intervals) increase. For moderate to higher magnitude events, the constriction in the channel cross-section and the presence of random large and small material along the remaining channel bottom will produce deeper and very turbulent flows that will efficiently winnow interstitial sediment (fines and coarser material) from the rock levees. Given the steep channel gradient, most of these sediments will be easily transported out of the reach and onto the floodplain of the Canon Creek tributary, and possibly further downstream.

If left in its current condition, unstable portions of the remaining rock levees could fail. It is unlikely that channel flows would trigger these failures, which appear to result from gravitational collapse rather than movement by the relatively minor flows conveyed by the reach. No geotechnical analysis of rock wall/levee stability has been conducted to our knowledge. Therefore, we cannot speculate on potential impacts from vehicular or larger equipment loading of the gravel roadbeds atop the levees on rock wall/levee stability.

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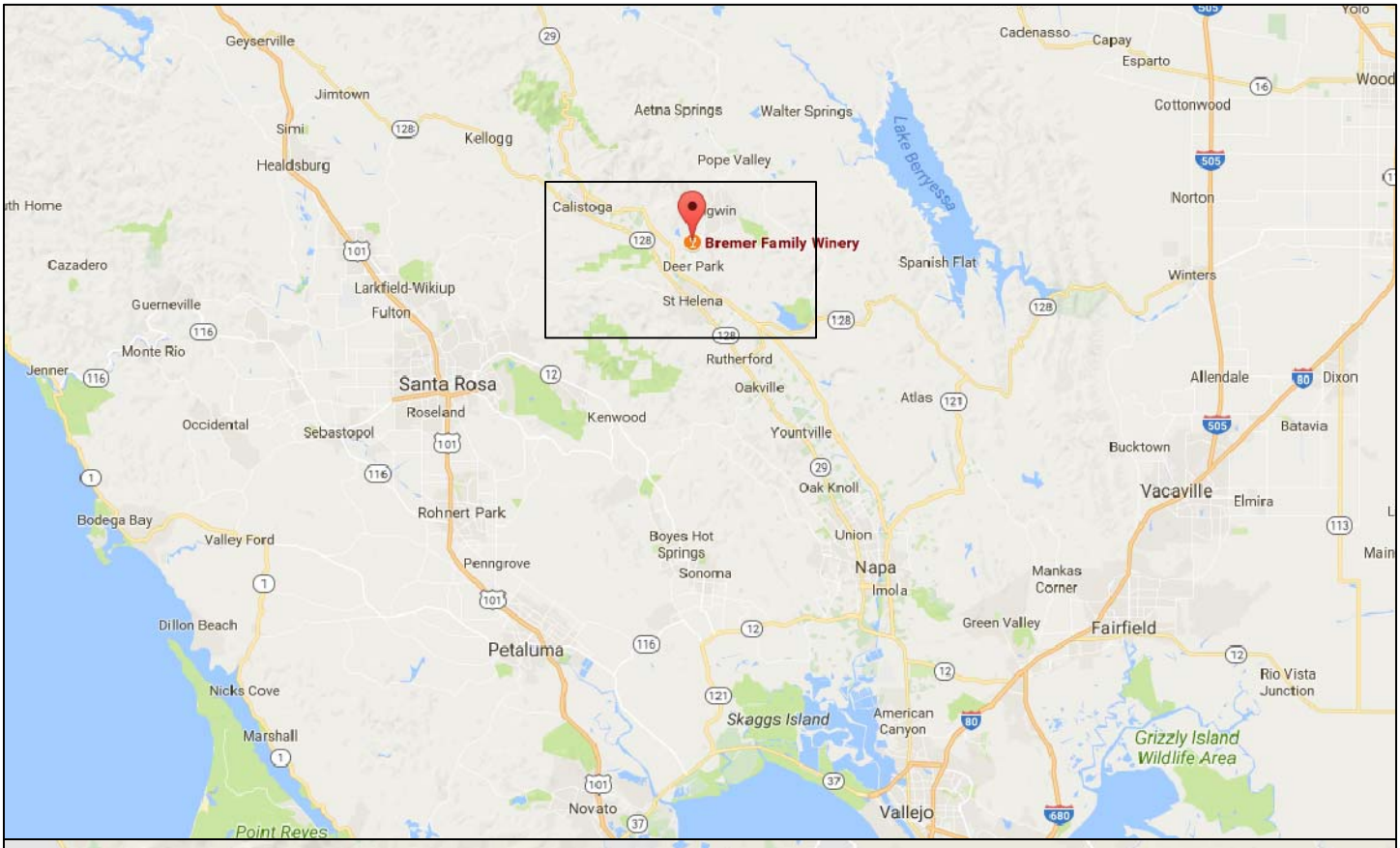
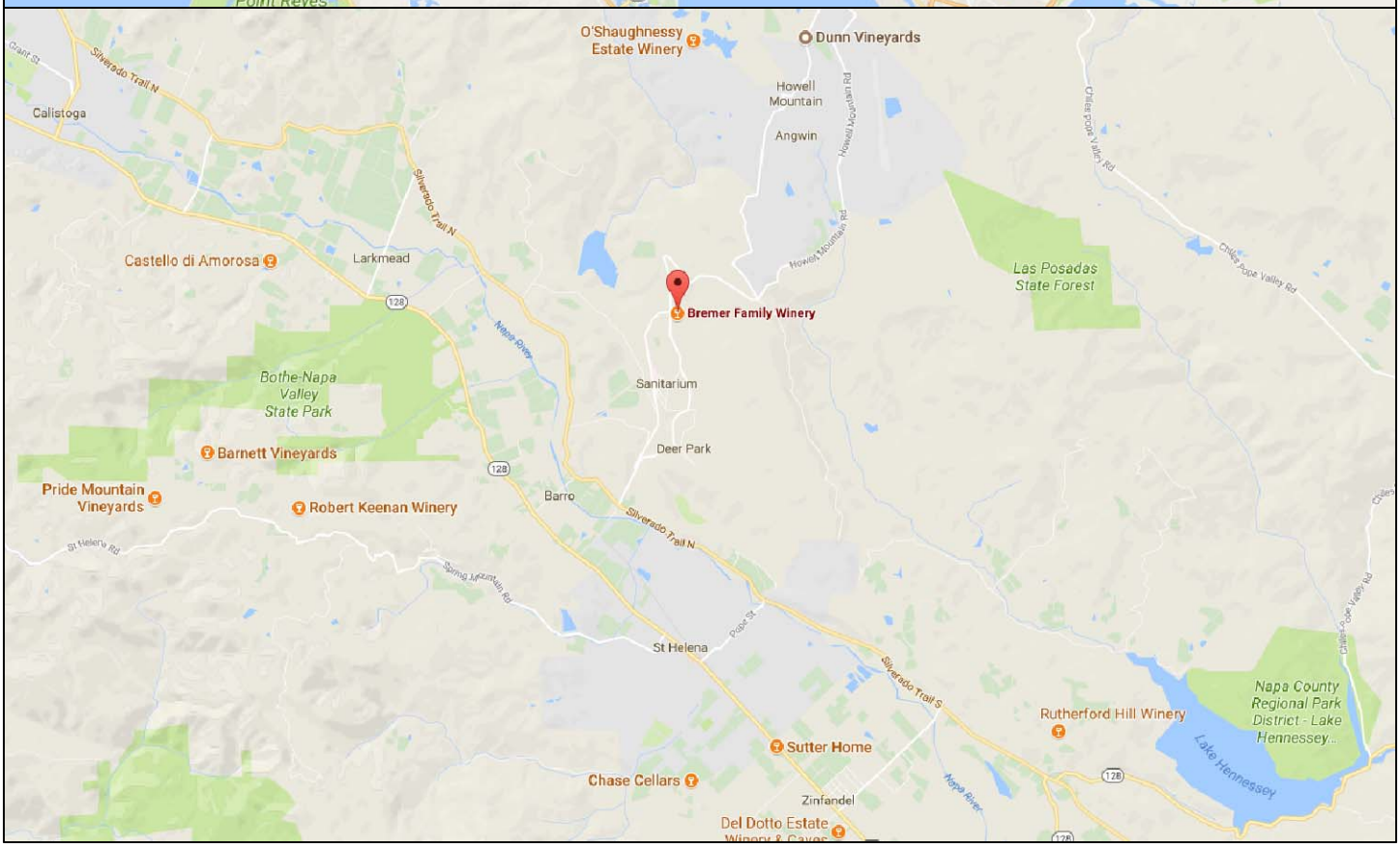
FIGURES





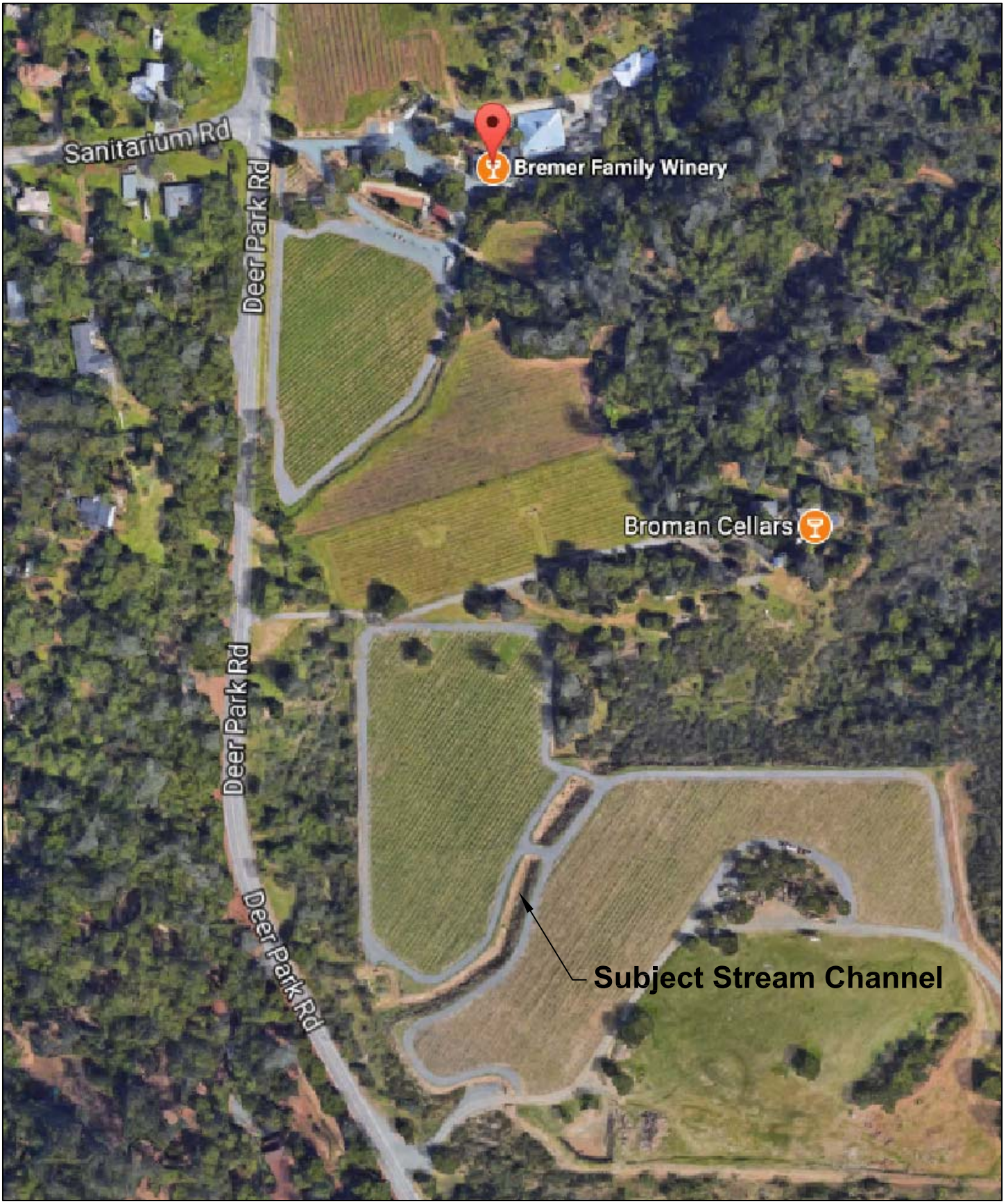
CLEARWATER HYDROLOGY

BASEMAP SOURCE:
Google Maps

N

Figure 1 : Location Map

Project: Bremer Family Winery Cleanup and Abatement Order
Technical Impact Assessment
Date: 9/6/2017



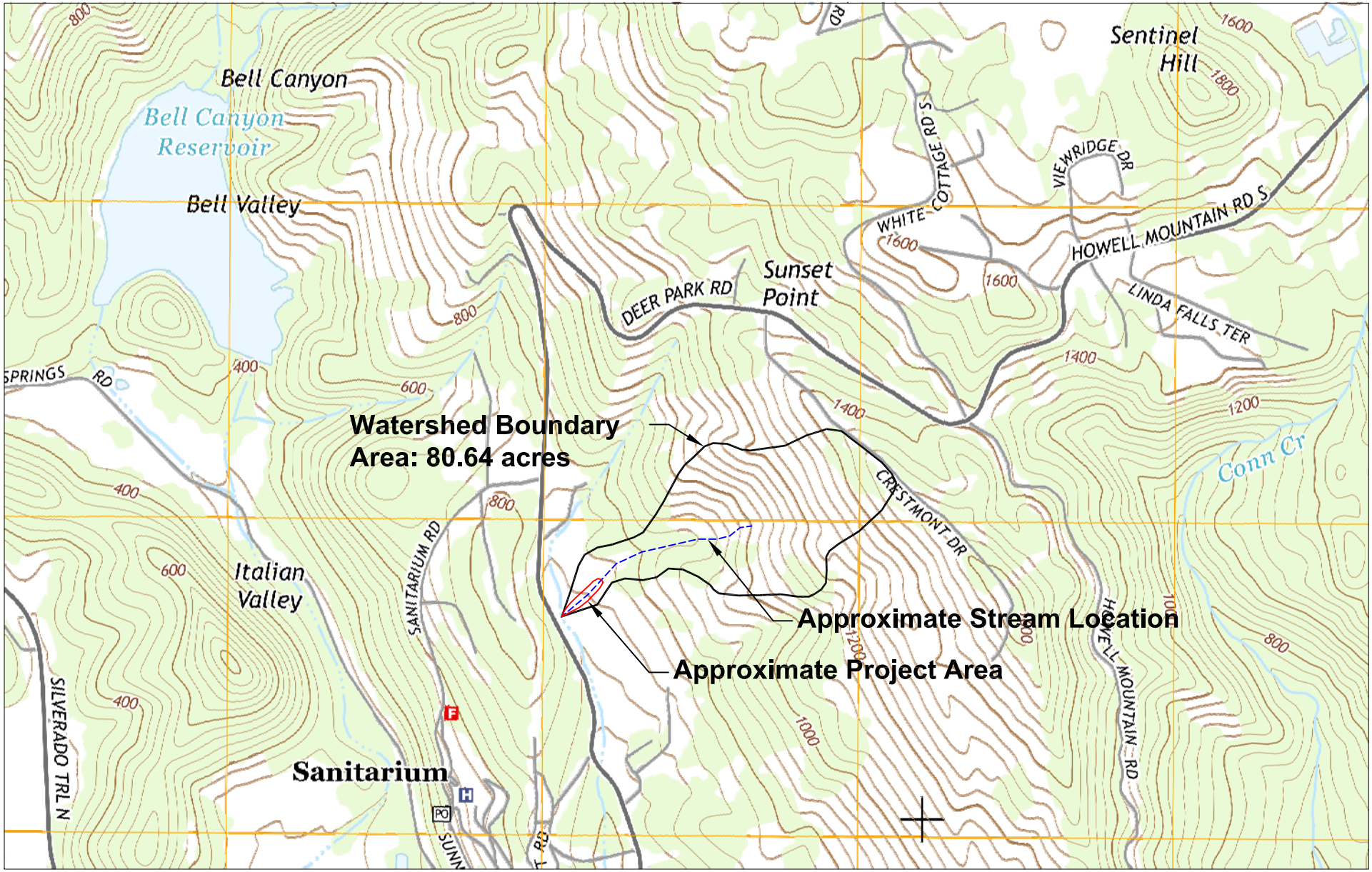
CLEARWATER HYDROLOGY

BASEMAP SOURCE:
Google Maps

N

Figure 2: Aerial View of Vineyard Development Area and Subject Channel

Project: Bremer Family Winery Cleanup and Abatement Order
Technical Impact Assessment
Date: 9/6/2017



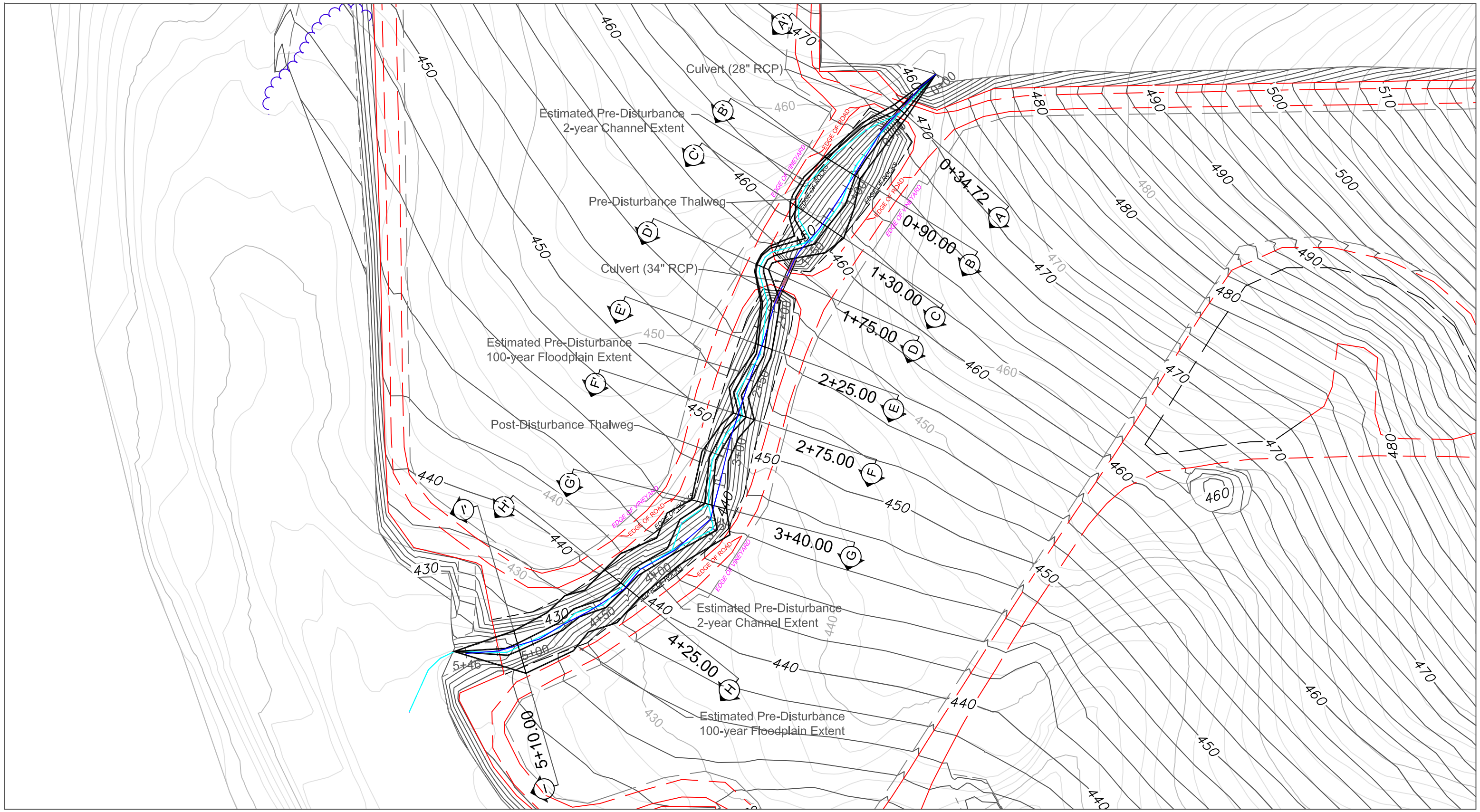
CLEARWATER HYDROLOGY

BASEMAP SOURCE:
US Department of the Interior
US Geological Survey
Saint Helena Quadrangle:
7.5-Minute Series

N

Figure 3 : Watershed/Project Area Map

Project: Bremer Family Winery Cleanup and Abatement Order
Technical Impact Assessment
Date: 9/6/2017



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Berkeley, California 94703
Ph: 510.841.1836

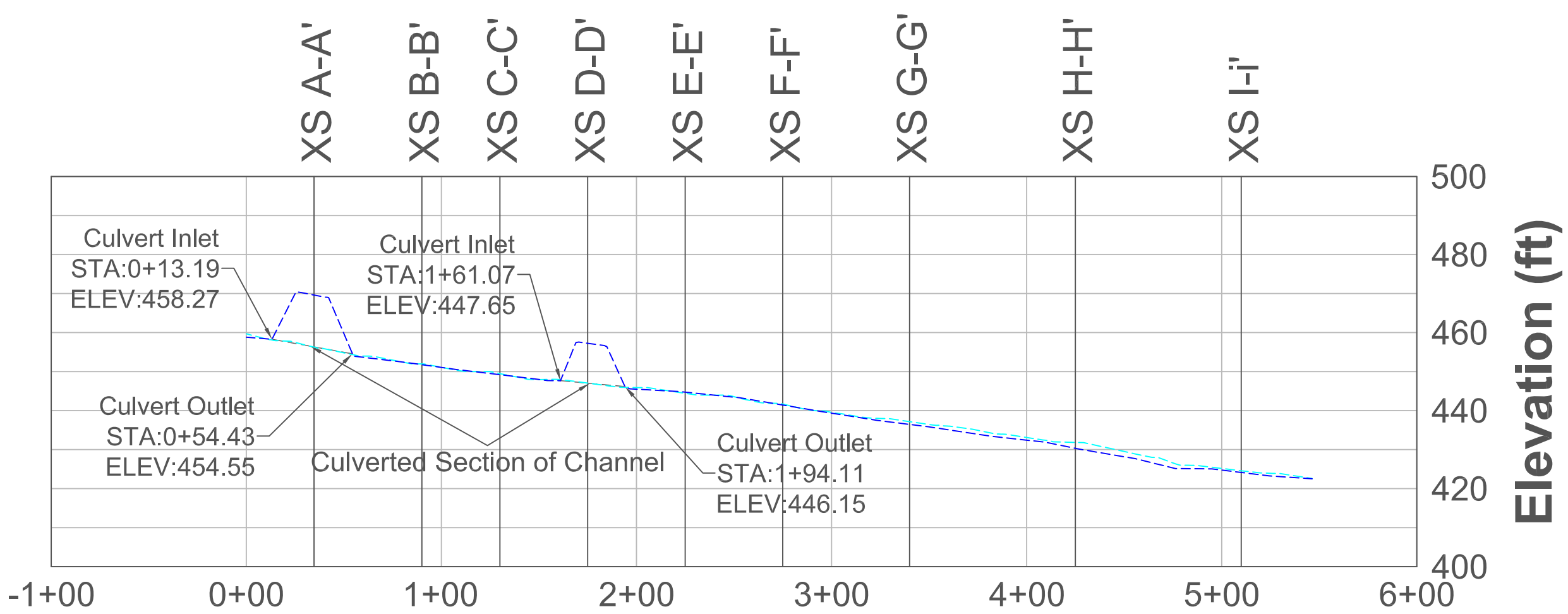
INFORMATION SOURCE:
Terra Firma Surveys, Inc.
Napa Valley Vineyard Engineering, Inc.

N

0 50 100 Feet

Figure 4 : Pre- and Post- Disturbance Topography

Project: Bremer Family Winery Cleanup and Abatement Order
Technical Impact Assessment
Date: 9/7/2017



---------- Pre-Disturbance Thalweg Profile

---------- Post-Disturbance Thalweg Profile (not including culverts)

---------- Culvert Profile

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Ph: 510.841.2836

INFORMATION SOURCE:
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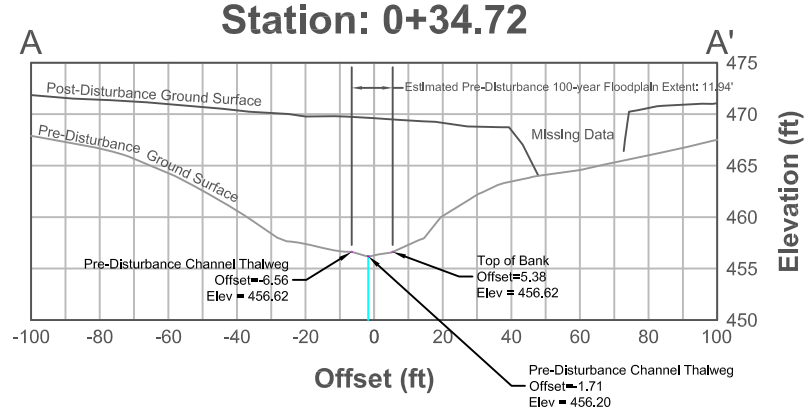
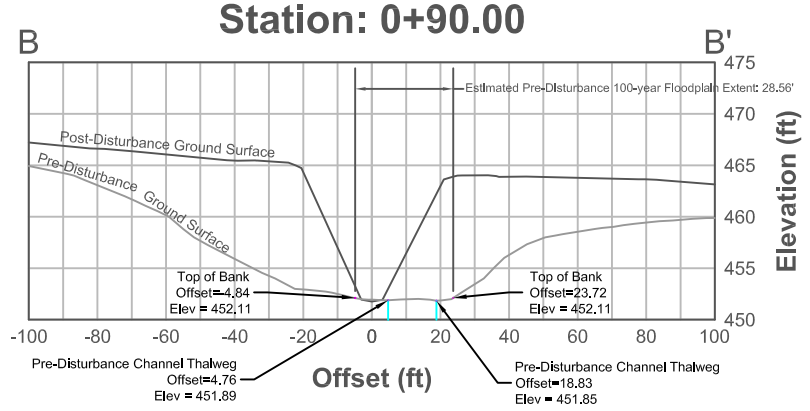
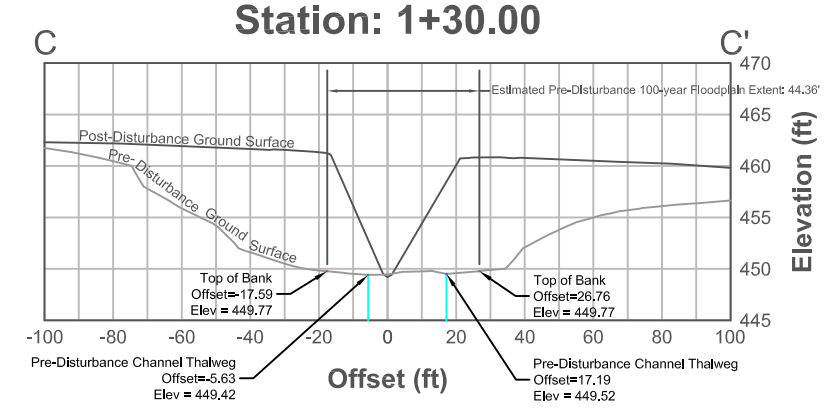
Napa Valley Vineyard Engineering, Inc.

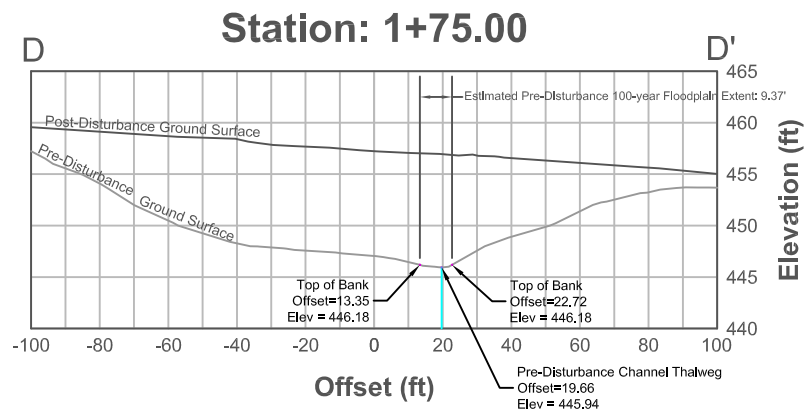
Figure 5 : Pre- and Post- Longitudinal Profiles

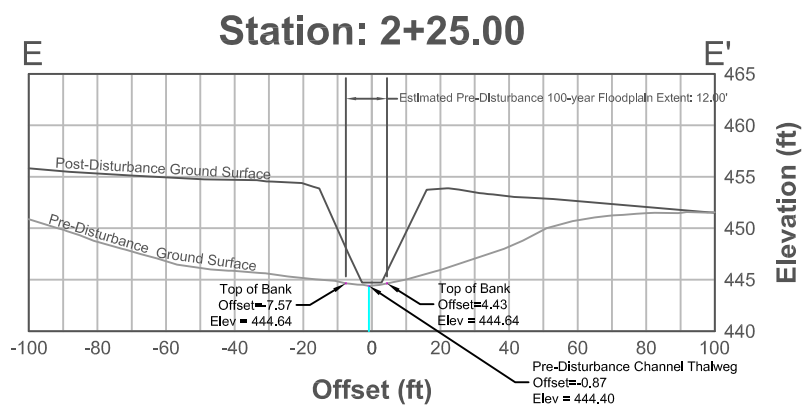
Project: Bremer Family Winery Cleanup and Abatement Order
Technical Impact Assessment
Date: 9/7/2017

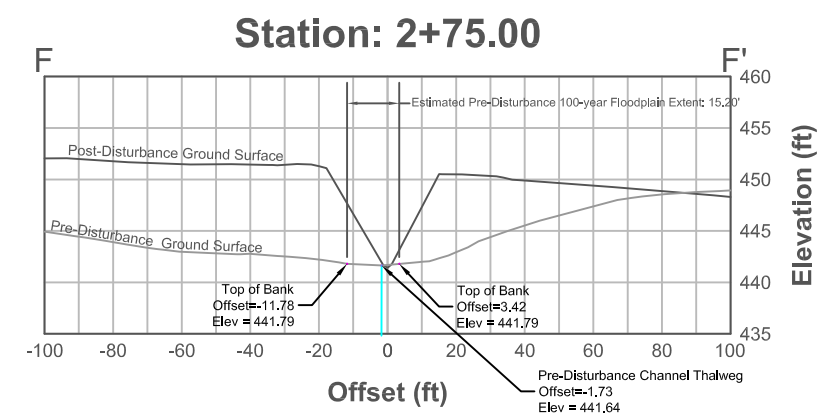


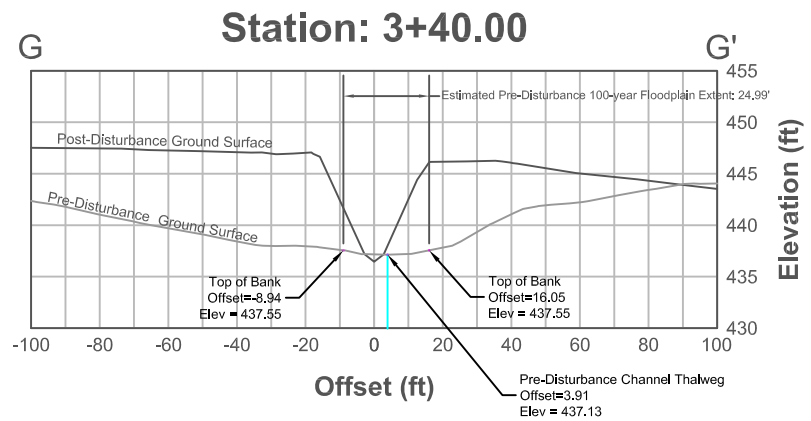


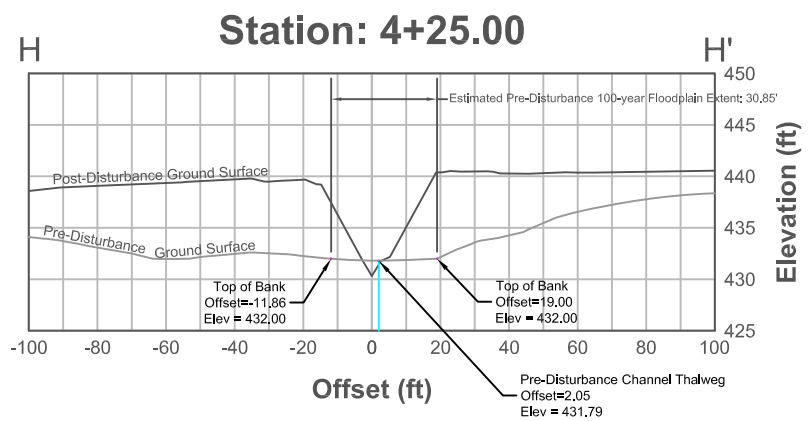


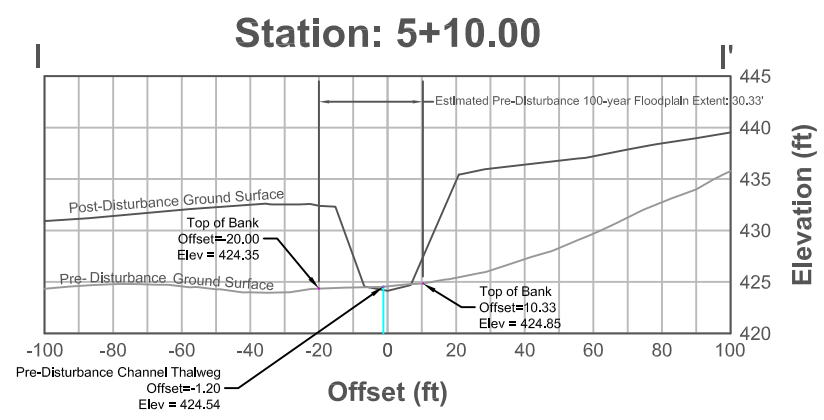












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Ph: 510.841.1836

INFORMATION SOURCE:
Terra Firma Surveys, Inc.
Napa Valley Vineyard Engineering, Inc.

Figure 6 : Pre- and Post- Disturbance Cross Sections

Project: Bremer Family Winery Cleanup and Abatement Order
Technical Impact Assessment
Date: 9/7/2017

PHOTO LOG
CH FIELD SURVEY AUG-SEPT. 2017

Photo 1: Upstream view along subject channel from just upstream of culverted road crossing along N. boundary of Blocks K and L/M.

Photo 2: Upsteram view through CH surveyed cross-section XS-1, approx. 100 ft. upstream of upper culverted road crossing. Tape line is visible mid-photo left.

Photo 3: Upstream view from narrower, confined sub-reach upstream of the upper culverted road crossing.

Photo 4: Upstream view along upper, disturbed project reach, with previously cited road crossing at N. block boundary visible in background.

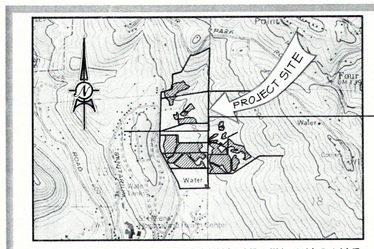
Photo 5: Downstream view along the upper portion of the lower disturbed channel reach, taken from the second (downstream) culverted road crossing.

Photo 6: Downstream view of lower reach below a bend in the modified channel alignment.

TECHNICAL APPENDIX

- Project Approved Erosion Control Plan (2013) and As-Built Plan
- Rainfall Data for St. Helena, CA (WRCC)
- NRCS Web Soil Survey Data
- Peak Flow Computations
- HydraFlow (AutoCAD) Hydraulic Data for Representative X-Sections
- Mobile Sediment Size Graph (Leopold et al 1964)
- Selected Pertinent Correspondence

BREMER FAMILY WINERY
EROSION CONTROL PLAN
FOR NEW VINEYARD



PORTION OF ST. HELENA 7.5 MIN. QUAD MAP

Vicinity Map

1" = ±2000'

SHEET INDEX

Narrative

This project consists of the development of approximately 32.7 gross vineyard acres (±26.0 net acres) of new vineyard and erosion control on approximately 1.2 gross acres of existing vineyard (±1.1 net acres) within APN 021-400-002, APN 021-400-004, APN 021-400-005, APN 021-420-027, APN 025-370-057, and APN 025-370-058 six parcels totaling approximately 156.3 acres with access to the proposed vineyard from Deer Park Road. Approximately 0.3 acres of existing vineyard which encroaches into stream setbacks shall be removed, and the area shall be revegetated. The project includes construction of approximately 3,400 ft. of new all-weather roads, upgrading approximately 2,100 ft. of existing dirt road to all-weather road, rock disposal area and a sediment basin. The total disturbed area is approximately 34.6 acres. The parcels consist of a winery complex, worker housing, a residence, outbuildings, ±5 acres of existing vineyard, an olive orchard, access roads, and approximately 80 acres of open land, brush and scattered trees. APN 021-400-002 includes approximately 15 acres of tree canopy. Existing ground slopes in the project area range from 6% to 40%. The slopes over 30% are small areas scattered throughout the vineyard blocks and total ±3 acres. The vine rows will run generally perpendicular to the contours. Blocks K, L and N shall be planted on fill material placed in accordance with Typical Section A (sheet 4). A maximum of 15,000 cubic yards of soil will be imported to construct the fill. Vine rows shall be planted 7' apart and vines shall be planted 4' apart. Blocks which are 1 acre or less shall be hand-farmed, using motorized vehicles for harvest only.

A new drip irrigation system will be installed to irrigate the vineyard. Existing wells will serve as the water source. Water use on the ultimate vineyard is expected to be ±15.0 AFA.

Rock Disposal shall be accomplished by construction of rock walls, retaining walls, rock fills, road surfacing, and erosion control features. Any remaining rock shall be placed in rock disposal areas shown on the plan.

There is one blueline stream flowing through the parcels, and one County definition stream outside the parcels, but adjacent to the project. Setbacks along the proposed and existing vineyard blocks have been provided pursuant to Napa County Conservation Regulations. The project is within the Canon Creek subwatershed.

Vegetation Removal consists of resident grasses, brush and scattered trees as shown on the tree removal plan. All organic material to be burned shall be stacked at strategic locations within the cleared areas. Burning of the organic material only shall take place after obtaining approval from all the governing agencies. There are occurrences of Holly-leaf ceanothus scattered within the project site which will be removed. Location of these plants are presented in the Biological Report prepared for the project.

Vegetation Replacement will be completed in accordance with a Revegetation Plan. Vegetation to be replanted will consist of locally native species, including oak trees, Holly-leaf ceanothus and other plants deemed appropriate.

Soils within the block boundaries have been classified in the USDA Soil Conservation Service's, Napa County Soil Survey, as SCS#100, Aiken loam, 2 to 15%; SCS#109, Boomer gravelly loam, 30 to 50% slope; SCS#125, Cortina very stony loam, 0 to 5%; and SCS#177, Rock Outcrop-Kidd complex 50 to 75% slope. Existing slopes within the project areas do not exceed 40%. The import soil for the fill has been identified as Bale loam, and appropriate soil property factors are used in post project analyses.

Wildlife Exclusion Fence may be installed where shown on the plan and shall be a combination of existing and new fence. The fence along Deer Park Road may be both decorative and functional. Gates or cattle guards shall be installed where convenient.

Temporary Erosion Control Measures consist of the installation of fiber rolls and the application of straw mulch. The installation of all fiber rolls shall be completed in accordance with the appropriate detail at all locations as shown on the Plan Sheet. A straw mulch cover shall be applied over all open and/or disturbed and seeded areas at the rate specified in the seeding requirements.

Permanent Erosion Control Measures consist of the following:

1) Installation of water bars where shown on the plan in accordance with the appropriate detail.

2) Installation of drop inlets and culverts where shown on the plan.

3) Grading of diversion ditches where shown on the plan in accordance with the appropriate detail.

4) Construction of rock-lined ditches/channels where shown on the plan in accordance with the appropriate detail.

5) Construction of dry stack rock walls in Block K, L, and N in accordance with Typical Section A, Sheet 4.

6) Construction of a sediment/detention basin at the location shown on the plan in accordance with the detention basin detail. The outlet pipe of the sediment basin shall be graded to daylight onto a rock apron that shall extend a minimum 8 feet down gradient to a rock check with RSP placed a minimum 15 feet downgradient from the rock check. All rock shall extend the full width of the channel and to the top of bank on both sides.

7) A permanent no-till cover crop planted within the entire vineyard area. This permanent cover crop shall not be strip sprayed, but shall be mowed, and may be spot sprayed around the base of each vine using springtime application of "contact" sprays. No disking or spraying shall occur in the vineyard avenues or turnspaces. NO PREEMERGENT SPRAYS SHALL BE USED. Weeds within the vineyard area may also be spot sprayed, if desired. As a normal agricultural practice, no disking, ripping or other tillage shall take place within these areas after the vineyard has been planted. Using this method, an 80% or better ground cover can be achieved. From time to time (every three to four years), it may be necessary to disk the vine middles in order to open up the ground or to reestablish proper ground cover. Should this be necessary, notification shall be given to Napa County and RCD, and work shall be done as prescribed in the Napa County Conservation, Development and Planning Department guidelines, dated April 8, 2004, entitled "Protocol for Replanting/Renewal of Approved Non-Tilled Vineyard Cover Crops".

8) Implementation and adherence to the **Annual Winterization** program presented in the Project Notes.

Costs: The total cost of all erosion control measures is estimated to be $1500-2000/acre including equipment, materials, and labor.

The project site was last visited by the plan preparer in February, 2011 to inspect the site for potential erosion problems, and determine proper mitigation.

Project Notes

APN: 021-400-002, 021-400-004, 021-400-005, 021-420-027 AND 025-370-058
Owner: Bremer Family Winery
975 Deer Park Road
St. Helena, CA 94574

APN: 025-370-057
Owner: Gregory L. and Maryann Nowell
2605 State St.
San Diego, CA 92103

Site Address: 975 Deer Park Road, St. Helena

Contact:

Drew L. Aspegren @ (707) 963-4927
Napa Valley Vineyard Engineering, Inc.
176 Main St. Suite B
St. Helena, CA 94574

Laura Bremer @ (707) 963-1216
975 Deer Park Road
St. Helena, CA 94574

Mapping: Michael Brooks & Associates by American Aerial Mapping 11-01-05

Implementation Schedule: Work will begin the first spring after project approval and may be built out over several years. Preplant and planting year operations may be conducted over one or two growing seasons. The work will be scheduled as follows:

Year 1 Step 1 — Clearing, rock and root removal, stack vegetation, etc. Winterization, consisting of seeding and mulching, shall be complete by October 1. Irrigation shall begin no later than October 1 and shall continue until the onset of winter rains adequate to sustain cover crop growth.

Year 2 Step 2 — Vineyard layout, staking, and construction of rockery walls. Construction of rockery walls shall terminate on October 1, and the entire site shall be winterized by October 15. Irrigation shall begin no later than October 15, and shall continue until the onset of winter rains adequate to sustain cover crop growth.

Step 3 — Installation of the drip system and planting of grapevines. Irrigation of the cover crop shall begin no later than October 15, and shall continue until the onset of winter rains adequate to sustain cover crop growth.

Step 4 — The cover crop shall be evaluated, and it may be mowed. Weak areas, and any areas damaged by farming practices or other vineyard activities shall be treated as required, and irrigation of any new cover crop shall begin no later than October 15, and shall continue until the onset of winter rains adequate to sustain cover crop growth.

Step 5 — Normal cultural practices shall begin. Vineyard avenues and turnspaces may be mowed. The cover crop shall be repaired, seeded and mulched by October 15. Irrigation on repaired cover crop shall begin no later than October 15 in non-producing vineyard, and immediately after harvest in producing vineyard. Irrigation shall continue until the onset of winter rains adequate to sustain cover crop growth.

Seeding Requirements: All exposed or disturbed soils shall be seeded. Seed and fertilizer shall be applied hydraulically or broadcast at the rates specified below:

Napa Valley Ag Supply mix @ 100 lbs/ac	Blando Brome	50%
	Zorro Fescue	20%
	Crimson Clover	10%
	Rose Clover	20%

Fertilizer : Ammonium phosphate sulfate (16-20-0) 240-260 lbs/ac

An alternate seed mix and/or fertilizer may be used after review and approval by the Napa County RCD.

Straw Mulch shall be spread annually over all disturbed and seeded areas. The mulch shall be spread mechanically or by hand at the rate of 2 tons/acre. Straw mulch shall be crimped in place after spreading. Straw spread after reseeding or repair shall also be crimped.

Diversion Ditches shall be installed along contours at locations shown on the Plan in accordance with the appropriate detail. Fiber Rolls shall be maintained through the winter after planting after which they may be removed.

Rock-lined Ditches, Rock-lined Channels and Rock Check shall be constructed of locally gathered fieldstone at the locations shown on the Plan in accordance with the appropriate detail. Rock structures shall remain in place as permanent structures.

Rock Slope Protection (RSP) shall be locally gathered fieldstone, or class light as defined in Caltrans Standard Specifications, Sec. 72-2.02. A non-woven filter fabric (Mirafi 140N, or equal) shall be placed between all RSP and earthen material.

A Sediment Detention Basin shall be constructed in accordance with the appropriate detail at the location shown on the plan.

Water Bars shall be constructed where shown on the plan in accordance with the appropriate detail. Water bars shall remain as permanent structures and shall be reshaped as necessary prior to each rainy season.

Maintenance: A permanent cover crop shall be planted prior to October 15. The cover crop may be mowed each spring after the seed has fully matured (hard dough stage) to ensure annual grass species regeneration for the following year. Minimum mowing height of 4" shall be maintained for establishing annual and perennial grasses. As a normal cultural practice, no ripping or tillage shall take place within these areas except as provided in the *Narrative* under *Permanent Erosion Control Measures*. The vineyard may be spot sprayed as described in the *Narrative* under *Permanent Erosion Control Measures*. Optimally, the required ground cover percentages, or greater, will be obtained, with the owner being responsible for reseeding and maintenance in order to reach the desired degree of cover.

Annual Winterization: After harvest and prior to first rains each year, the following winterization shall be completed:

1) Cover crop evaluation notes made prior to spring mowing shall be reviewed. All weak spots shall be treated as necessary, seeded, fertilized and mulched. Treatments may include soil amendments, and evaluation of seed mix and/or fertilizer may be necessary. After appropriate soil treatments, the treated areas and avenues/turnspaces shall be seeded, mulched and fertilized, and pre-shall commence. Irrigation shall continue through germination until the onset of winter rains.

2) Water bars shall be reshaped and reinforced as necessary.

3) Avenues which are not rocked around and between blocks shall be seeded, fertilized and mulched, and shall remain undisturbed through the rainy season.

4) All erosion control measures and drainage facilities shall be inspected after each storm event, and repairs shall be promptly performed.

All existing erosion control and drainage features shall be inspected and cleaned, or repaired as necessary. All erosion control measures shall be inspected after each storm event, and repairs shall be promptly performed.

Special Notes

Raptors-To minimize impacts to passerine and raptor species, the following measures shall be implemented:

a. For earth-disturbing activities occurring between February 1 and August 31, (which coincides with the grading season of April 1 through October 15 - NCC Section 18.108.070.L, and bird breeding and nesting seasons), a qualified wildlife biologist shall conduct preconstruction surveys for raptor and passerine bird courtship activities and/or their nests within a 300-feet radius of earthmoving activities. The preconstruction survey shall be conducted no more than 14 days prior to vegetation removal and ground disturbing activities are to commence (surveys should be conducted a minimum of 3 separate days during the 14 days prior to disturbance). A copy of the survey will be provided to the County Conservation Division and the DFG prior to commencement of work.
b. In the event that nesting raptors and/or birds are found during preconstruction surveys, the property owner shall consult with DFG and obtain approval for specific nest-protection buffers as appropriate based on species found prior to commencement of ground-breaking activities: generally a minimum 150-foot no-disturbance buffer will be created around all active passerine bird nests and a minimum 300-foot buffer shall be created around all active raptor nests during the breeding and nesting season or until it is determined by a qualified biologist that all young have fledged. All nest protection measures shall apply to off-site active nests that are located within 300 feet of project activities. These buffer zones may be modified in coordination with DFG based on existing conditions at the project site. Buffer zones shall be fenced with temporary construction fencing and remain in place until the end of the breading season or until young have fledged.
c. If a 15 day or greater lapse of project-related work occurs during the breeding season, another bird and raptor pre-construction survey and consultation with DFG will be required before project work can be reinitiated.

Bats-To minimize impacts to special status bat species, the following measures shall be implemented:

a. A qualified biologist shall conduct a habitat assessment for potential suitable special-status bat habitat/trees within 14 days of project initiation.
b. If the habitat assessment reveals suitable special-status bat habitat and/or habitat trees, the qualified biologist shall submit an avoidance plan to the County and California Department of Fish and Game (DFG) for approval. The avoidance plan shall identify and evaluate the type of habitat present at the project site and detail habitat and/or habitat tree removal. Bat habitat/tree removal shall occur in two phases conducted over two days under the supervision of a qualified biologist: day one in the afternoon limbs and branches of habitat trees without cavities, crevices and deep bark fissures would be removed by chainsaw (limbs with cavities, crevices and deep bark fissures would be avoided); day two the entire tree can be removed. In the event the bat avoidance measures required by DFG result in a reduction or modification of vineyard block boundaries, the erosion control plan shall be revised by the applicant/engineer and submitted to the County.

Air Quality-The following Air Quality BMP shall be implemented during construction activites and vineyard maintenance:

- All exposed surfaces (graded areas, staging areas, stockpiles, and unpaved roads) shall be covered or watered twice per day.
- All trucks hauling soil, sand and other loose materials shall be covered in accordance with Section 23114 of the California Vehicle Code during transit to and from the site.
- The site access road and adjacent public roads shall be swept daily with wet power vacuum street sweepers, if visible soil material is carried/tracked out onto roadways.
- Traffic on unpaved areas and roads shall be limited to 15 mph.
- Grading and earthmoving activities shall be suspended when winds exceed 25 mph.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes, as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations (CCR). Signs clearly indicating this provision shall be installed at all access points.
- All construction equipment shall be maintained and properly tuned in accordance in manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A sign with the telephone number and person to contact at the Lead Agency regarding dust complaints shall be visibly posted at the site. The contact person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Trees/Woodlands-For protection of Trees/Woodlands, the following measures shall be implemented:

- Prior to any earthmoving activities, temporary fencing shall be placed at the edge of the dripline of trees to be retained that are located within 50-feet of the project area. The precise locations of said fences shall be inspected and approved by the Planning Division prior to the commencement of any earthmoving activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated area for the duration of erosion control plan installation and vineyard installation.
- Trees removed that are not within the boundary of the project and/or not identified for removal as part of #P11-00317-ECPA shall be replaced on-site with fifteen-gallon trees at a ratio of 2:1 at locations approved by the director.
- The permitee shall refrain from severely trimming the trees and vegetation to be retained adjacent to the vineyard conversion areas.

Legend

(0.52)	AREA & ACREAGE WITH SLOPES GREATER THAN 30%
	BLOCK BOUNDARY
	AVENUE/TURNSPACE
	PROPOSED VINEYARD BOUNDARY (APPROX.)
	CEONOTHUS
CPP	CORRUGATED POLYETHYLENE PIPE, SMOOTH WALL
O, D.I.	DROP INLET
5/2	DETAIL 3, SHEET 3
(E)	EXISTING
	EXISTING ALL WEATHER ROAD
	EXISTING ALL WEATHER ROAD (Permit Will-00176)
	EXISTING DIRT ROAD
	EXISTING DIRT ROAD TO BE UPGRADED TO ALL WEATHER
	EXISTING FENCE
ROCKS	EXISTING ROCK STORAGE
	EXISTING VINEYARD BOUNDARY
	FIBER ROLL
	FLOWLINE OF DIVERSION DITCH
, HP	HIGH POINT
©, J.B.	JUNCTION BOX
25' - 18" CPP	LENGTH/SIZE/KIND OF PIPE
MSB	MINIMUM SETBACK
OG	ORIGINAL GROUND
(P)	PROPOSED
	PROPOSED ALL WEATHER ROAD
— x — x —	PROPOSED WILDLIFE EXCLUSION FENCE
	PROPERTY LINE
RSP	ROCK SLOPE PROTECTION
SCS	SOIL CONSERVATION SERVICE
139	SCS SOIL MAPPING UNIT
	SCS SOIL TYPE BOUNDARY
	SUBSURFACE DRAINAGE PIPE
, TOB	TOP OF BANK
	WATERBAR (TYP)

Napa County
Resource Conservation District
Finds #P11-00317
Plan # P11-00317-ECPA
Technically Adequate for Erosion and Sediment Control
by
Date 4/25/13

APPROVED
ECPA # P11-00317
DATE 4/10/2013
BY Tom Ernst
SHEET 1 OF 2
NAPA COUNTY CONSERVATION, DEVELOPMENT AND PLANNING

RECEIVED
MAR 28 2013
Napa County Planning, Building & Environmental Services

BREMER FAMILY WINERY
EROSION CONTROL PLAN
FOR NEW VINEYARD

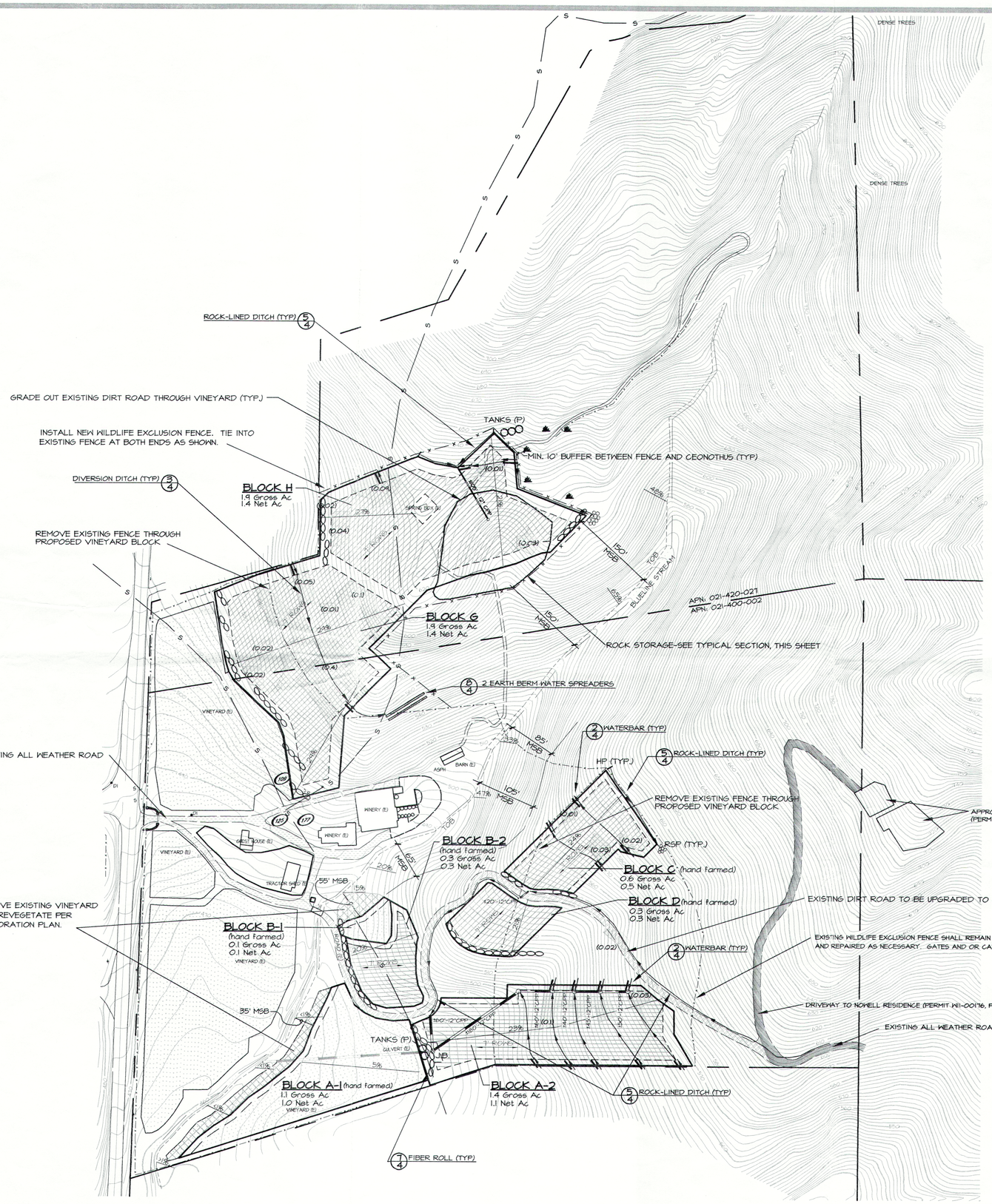
REGISTERED PROFESSIONAL ENGINEER
DREW L. ASPEGREN
No. 31418
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

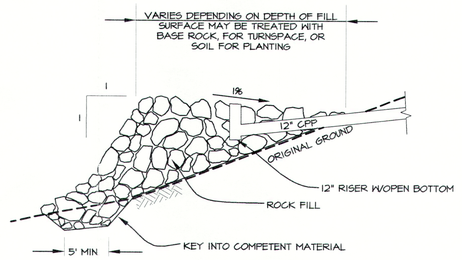
Napa Valley Vineyard Engineering, Inc.
176 Main St., Suite B
St. Helena, CA 94574
(707) 963 4927

August 27, 2010
DATE

DREW L. ASPEGREN, PE
R.C.E. 31418

Rev 5	Minor revision per site visit	DLA 3-26-13
Rev 4	Revise per initial study (August 3, 2012); Change date on Engineer's Stamp	DLA 3-15-13
Rev 3	Adjusted Narrative notes for addition of Block C	JRJ 12-14-11
Rev 2	Per NCCDP comments (April 7, 2011) & RCD comments (May 3, 2011)	DLA 8-1-11
Rev 1	Per NCCDP comments (February 8, 2011) & RCD coments (October 13, 2010)	DLA 3-29-11





ROCK STORAGE - TYPICAL SECTION

NTS

N

SCALE: 1"=100'
CONTOUR INTERVAL: 2'

0 50' 100' 200'

SPECIAL NOTE - RSP

Rock Slope Protection (RSP) shall be locally gathered field stone (25 lb.), or class light, as defined in Caltrans Standard Specifications, Sec. 72-2.02. A non woven filter fabric (Mirafi 140 N, or equal) shall be placed between all RSP and earthen material.

APPROVED
County of Napa
Conservation, Development & Planning Department
Date: 4/10/13
By:

LEGEND ON SHEET 1

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1	Per NCCDP comments (February 8, 2011) & RCD comments (October 13, 2010)	DLW	3-29-11

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DATE	SCALE
8-27-10	AS SHOWN
DRAWN	CHECKED
06BremerEcpR5.dwg	TPO / DLW

APPROVED
DREW L. ASPEGREN, PE R.C.E. 31418

BREMER FAMILY WINERY

EROSION CONTROL PLAN FOR NEW VINEYARD BLOCKS A - H

SHEET 2 OF 4

EXISTING ALL WEATHER ROAD CONSTRUCTED UNDER PERMIT WII-00176.

INSTALL WILDLIFE EXCLUSION FENCE WHERE SHOWN. PROVIDE GATES OR CATTLE GUARDS WHERE FENCE CROSSES ACCESS DRIVES.

SCALE: 1"=100'
CONTOUR INTERVAL: 2'
0 50' 100' 200'

BLOCK EE (hand farmed)
0.3 Gross Ac
0.2 Net Ac

BLOCK DD
0.2 Gross Ac
0.2 Net Ac
(hand farmed)

BLOCK BB
0.4 Gross Ac
0.3 Net Ac
(hand farmed)

BLOCK CC (hand farmed)
0.3 Gross Ac
0.2 Net Ac

BLOCK AA (hand farmed)
0.2 Gross Ac
0.1 Net Ac

BLOCK Y1 (hand farmed)
0.2 Gross Ac
0.2 Net Ac

BLOCK X (hand farmed)
0.7 Gross Ac
0.6 Net Ac

BLOCK Y2 (hand farmed)
0.1 Gross Ac
0.1 Net Ac

BLOCK W (hand farmed)
0.3 Gross Ac
0.3 Net Ac

BLOCK V (hand farmed)
0.7 Gross Ac
0.5 Net Ac

BLOCK K
3.7 Gross Ac
3.0 Net Ac

BLOCK L/M
6.4 Gross Ac
5.4 Net Ac

BLOCK Z (hand farmed)
1.9 Gross Ac
1.4 Net Ac

BLOCK Q
3.9 Gross Ac
3.0 Net Ac

BLOCK N
3.2 Gross Ac
2.4 Net Ac

BLOCK O
0.8 Gross Ac
0.4 Net Ac

BLOCK P
1.4 Gross Ac
1.1 Net Ac

BLOCK I (hand farmed)
0.8 Gross Ac
0.6 Net Ac

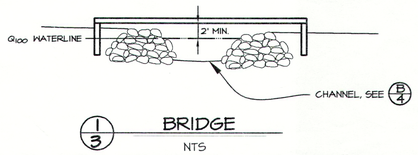
BLOCK R/S
1.2 Gross Ac
1.0 Net Ac

5/4 ROCK-LINED DITCH (TYP)
3/4 DIVERSION DITCH (TYP)
1/3 BRIDGE
OUTSLOPED ROAD (TYP. ALL BLOCKS)
EXISTING ALL WEATHER ROAD
24" DI (TYP.)
APN: 021-400-004
APN: 021-400-005
APN: 025-310-056
APN: 025-310-057
APN: 025-310-058
WELL (E)
HP (typ.)
TEMPORARY STAGING AREA
4/4 DETENTION BASIN
6/4 ROCK-LINED CHANNEL
INTERSECTION DETAIL 2/3
FIBER ROLL (TYP) 7/4
1/4 ROCK CHECK
RSP (E)
5'Ø ROCK LINED BASIN (E)
6" PVC (E)
ROCK RETAINING WALLS (E)
RAMP (E)
4-400 GAL WATER TANKS (E)
BARN (E)
TANKS (E)
VINEYARD (E)
RESIDENCE (E)
CLEAN & MAINTAIN EXISTING ROCK-LINED DITCH
TOP COUNTY DEFINITION STREAM
BLUELINE STREAM
45' MSB
55' MSB
85' MSB
DRY STACK ROCK WALL (TYP. FOR BLOCKS K, L, AND PORTION OF N)
GRADE OUT EXISTING DIRT ROAD THROUGH VINEYARD (TYP.)
GRADE OUT EXISTING DIRT ROAD
5/4 ROCK-LINED DITCH (TYP)
2/4 WATERBAR (TYP)
PROPOSED ALL WEATHER ROAD (TYP.)

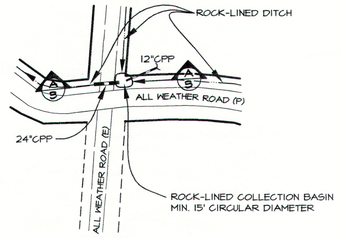
* SLOPES DETERMINED BY FIELD MEASUREMENT. SETBACKS SHALL BE MARKED IN THE FIELD PURSUANT TO NCC SECTION 18.108.025 AND APPROVED BY RCD AND THE COUNTY PRIOR TO CONSTRUCTION.

SPECIAL NOTE - RSP

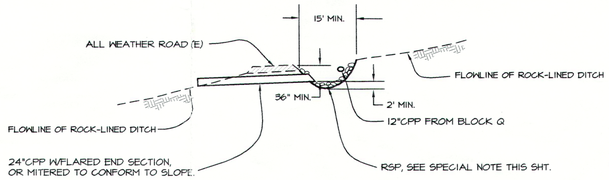
Rock Slope Protection (RSP) shall be locally gathered field stone (25 lb.), or class light, as defined in Caltrans Standard Specifications, Sec. 72-2.02. A non woven filter fabric (Mirafi 140 N, or equal) shall be placed between all RSP and earthen material.



1/3 BRIDGE
NTS



2/3 INTERSECTION DETAIL
NTS



A/3 ROCK-LINED COLLECTION BASIN
NTS

APPROVED
County of Napa
Conservation, Development & Planning
Date: 4/10/13
By:

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DATE	8-27-10
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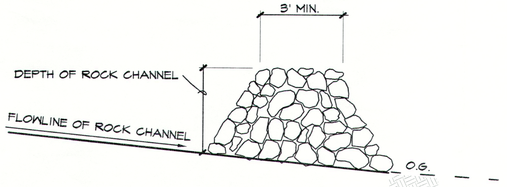
DRAWN	TPO
CHECKED	DLW
08BremerEcpR5.dwg	
APPROVED	
DREW L. ASPEGREN, PE	R.C.E. 31418

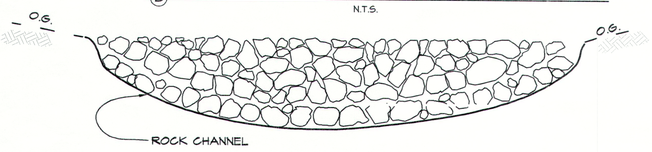
BREMER FAMILY WINERY

EROSION CONTROL PLAN FOR NEW VINEYARD BLOCKS K - EE

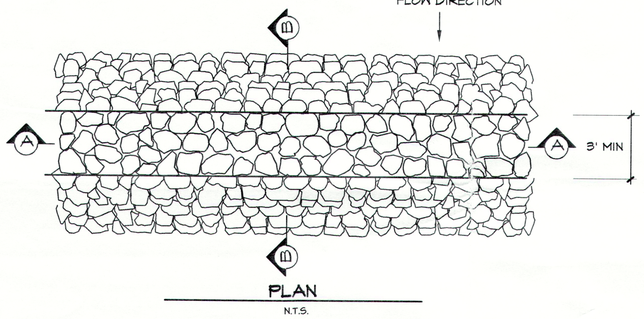
SHEET 3 OF 4



B SECTION B-B
N.T.S.

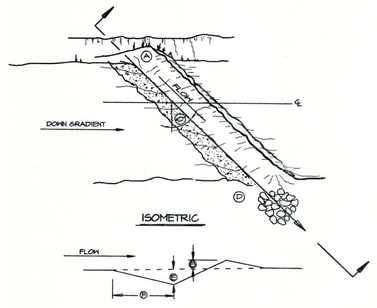


A SECTION A-A
N.T.S.



PLAN
N.T.S.

1/4 ROCK CHECK
NTS

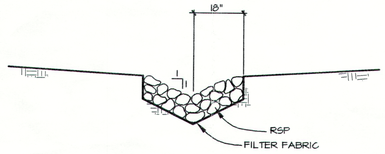


NTS

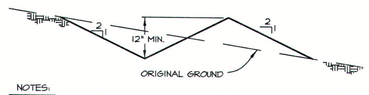
NOTES

WATERBAR CONSTRUCTION FOR LITTLE OR NO TRAFFIC. SPECIFICATIONS ARE AVERAGE AND SHALL BE ADJUSTED TO CONDITIONS.
(A) TIE-IN TO BANK IF APPROPRIATE.
(B) CROSS DRAIN BERM HEIGHT 4" TO 6" ABOVE THE ROADBED.
(C) ANGLE DRAIN 30° TO 45° DEGREES DOWNGRADE WITH ROAD CENTERLINE.
(D) OUTFALL STRUCTURE AS SHOWN IN PLAN.
(E) DEPTH MINIMUM 8".
(F) 3' TO 4'.

2/4 WATERBAR (TYP)
NTS



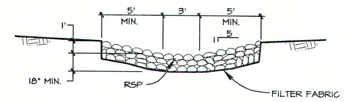
5/4 ROCK LINED DITCH
NTS



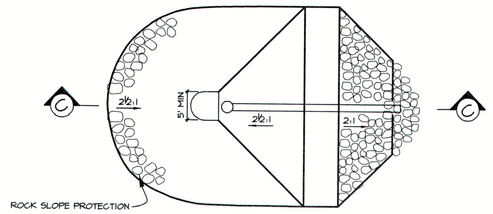
NOTES:

1. FLOWLINE SLOPE SHALL BE 2% - 4%
2. DIVERSION DITCHES SHALL BE SEEDED, MULCHED & COVERED W/JUTE NETTING WHICH SHALL BE SECURELY ANCHORED IN PLACE

3/4 DIVERSION DITCH
NTS

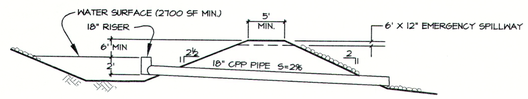


6/4 ROCK LINED CHANNEL
NTS



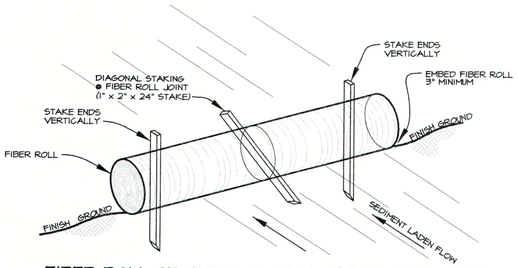
PLAN
NTS

SURFACE AREA AT TOP OF RISER = 2,700 SF (MIN). BASIN GEOMETRY TO BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION.

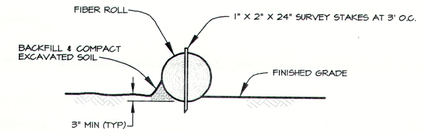


SECTION C-C
NTS

4/4 DETENTION BASIN
NTS

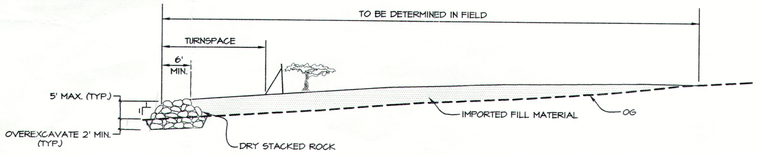


FIBER ROLL SEDIMENT BARRIER (ISOMETRIC VIEW)

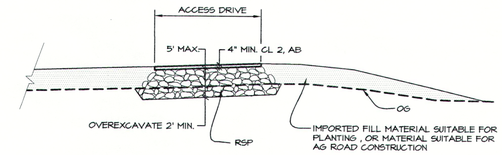


FIBER ROLL SEDIMENT BARRIER (SECTION)

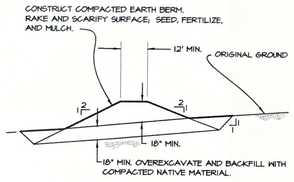
7/4 FIBER ROLL (TYP)
NTS



D/4 TYPICAL FILL SECTION BLOCKS K, L & N
NTS

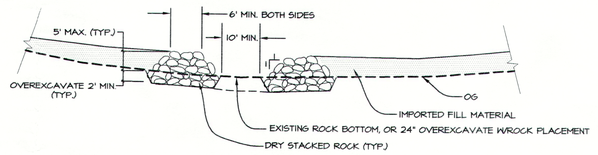


F/4 ROCK ACCESS DRIVE
NTS

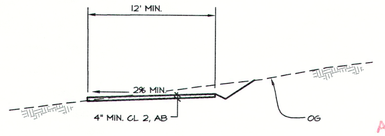


NOTE:
THE TOP OF THE BERM SHALL BE LEVEL, AND SHALL TIE INTO NATIVE GROUND AT EACH END. LENGTH WILL VARY, AND WILL BE DETERMINED BY THE TOPOGRAPHY AT EACH LOCATION.

8/4 EARTH BERM WATER SPREADER
NTS



E/4 CHANNEL
NTS



B/4 TYPICAL ALL WEATHER ACCESS DRIVE
NTS

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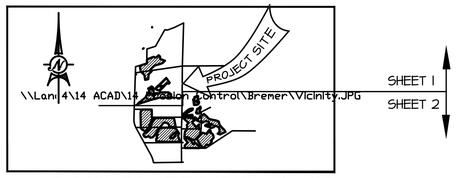
BREMER FAMILY WINERY

EROSION CONTROL PLAN FOR NEW VINEYARD
DETAILS

SHEET 4 OF 4



PORTION OF ST. HELENA 7.5 MIN. QUAD MAP

Vicinity Map

1" = ±2000'

BREMER FAMILY WINERY
EROSION CONTROL PLAN
FOR NEW VINEYARD

SHEET INDEX

Narrative

This project consists of the development of approximately 32.7 gross vineyard acres (±26.0 net acres) of new vineyard and erosion control on approximately 1.2 gross acres of existing vineyard (±1.1 net acres within APN 021-400-002, APN 021-400-004, APN 021-400-005, APN 021-420-027, APN 025-370-057, and APN 025-370-058 six parcels totaling approximately 156.3 acres with access to the proposed vineyard from Deer Park Road. Approximately 0.3 acres of existing vineyard which encroaches into stream setbacks shall be removed, and the area shall be revegetated. The project includes construction of approximately 3,400 ft. of new all-weather roads, upgrading approximately 2,100 ft. of existing dirt road to all-weather road, rock disposal area and a sediment basin. The total disturbed area is approximately 34.6 acres. The parcels consist of a winery complex, worker housing, a residence, outbuildings, ±5 acres of existing vineyard, an olive orchard, access roads, and approximately 80 acres of open land, brush and scattered trees. APN 021-400-002 includes approximately 15 acres of tree canopy. Existing ground slopes in the project area range from 6% to 40%. The slopes over 30% are small areas scattered throughout the vineyard blocks and total ±3 acres. The vine rows will run generally perpendicular to the contours. Blocks K, L and N will be planted on fill material placed in accordance with Typical Section A (sheet 4). A maximum of 15,000 cubic yards of soil will be imported to construct the fill. Vine rows shall be planted 7' apart and vines shall be planted 5' apart. Blocks which are 1 acre of less shall be hand-farmed, using motorized vehicles for harvest only.

MODIFICATION: Fill has been placed within Blocks K, L/M, and N/O, and an as built survey was conducted December 15, 2016. This revision incorporates the as built design. The project gross vineyard is modified to 30.7 acres, and the net vineyard is 24.5 acres.

A new drip irrigation system will be installed to irrigate the vineyard. Existing wells will serve as the water source. Water use on the ultimate vineyard is expected to be ±15.0 AFA. **MODIFICATION:** The water demand for the modified ultimate buildout of 29.5 (24.5 net acres under this ECP, plus 5 net acres of existing vineyard) is 14.3 afa.

Rock Disposal shall be accomplished by construction of rock walls, retaining walls, rock fills, road surfacing, and erosion control features. Any remaining rock shall be placed in rock disposal areas shown on the plan.

There is one blueline stream flowing through the parcels, and one County definition stream outside the parcels, but adjacent to the project. Setbacks along the proposed and existing vineyard blocks have been provided pursuant to Napa County Conservation Regulations. The project is within the Canon Creek subwatershed.

Vegetation Removal consists of resident grasses, brush and scattered trees as shown on the tree removal plan. All organic material to be burned shall be stacked at strategic locations within the cleared areas. Burning of the organic material only shall take place after obtaining approval from all the governing agencies. There are occurrences of Holly-leaf ceanothus scattered within the project site which will be removed. Location of these plants are presented in the Biological Report prepared for the project.

Vegetation Replacement will be completed in accordance with a Revegetation Plan. Vegetation to be replanted will consist of locally native species, including oak trees, Holly-leaf ceanothus and other plants deemed appropriate.

Soils within the block boundaries have been classified in the USDA Soil Conservation Service's, Napa County Soil Survey, as SCS#100, Aiken loam, 2 to 15%; SCS#109, Boomer gravelly loam, 30 to 50% slope; SCS#125, Cortina very stony loam, 0 to 5%; and SCS#177, Rock Outcrop-Kidd complex 50 to 75% slope. Existing slopes within the project areas do not exceed 40%. The import soil for the fill has been identified as Bale loam, and appropriate soil property factors are used in post project analyses. **MODIFICATION:** It is anticipated that the additional import material will be Yolo loam. See Special Note 5.

Wildlife Exclusion Fence may be installed where shown on the plan and shall be a combination of existing and new fence. The fence along Deer Park Road may be both decorative and functional. Gates or cattle guards shall be installed where convenient.

Temporary Erosion Control Measures consist of the installation of fiber rolls and the application of straw mulch. The installation of all fiber rolls shall be completed in accordance with the appropriate detail at all locations as shown on the Plan Sheet. A straw mulch cover shall be applied over all open and/or disturbed and seeded areas at the rate specified in the seeding requirements.

Permanent Erosion Control Measures consist of the following:

1) Installation of water bars where shown on the plan in accordance with the appropriate detail.
2) Installation of drop inlets and culverts where shown on the plan.
3) Grading of diversion ditches where shown on the plan in accordance with the appropriate detail.
4) Construction of rock-lined ditches/channels where shown on the plan in accordance with the appropriate detail.
5) Construction of dry stack rock walls in Block K, L, and N in accordance with Typical Section D, Sheet 4.
6) Construction of a sediment/detention basin at the location shown on the plan in accordance with the detention basin detail. The outlet pipe of the sediment basin shall be graded to daylight onto a rock apron that shall extend a minimum 8 feet down gradient to a rock check. All rock shall extend the full width of the channel and to the top of bank on both sides.
7) A permanent no-till cover crop planted within the entire vineyard area. This permanent cover crop shall not be strip sprayed, but shall be mowed, and may be spot sprayed around the base of each vine using springtime application of "contact" sprays. No disking or spraying shall occur in the vineyard avenues or turnspaces. NO PREEMERGENT SPRAYS SHALL BE USED. Weeds within the vineyard area may also be spot sprayed, if desired. As a normal agricultural practice, no disking, ripping or other tillage shall take place within these areas after the vineyard has been planted. Using this method, an 80% or better ground cover can be achieved From time to time (every three to four years), it may be necessary to disk the vine middles in order to open up the ground or to reestablish proper ground cover. Should this be necessary, notification shall be given to Napa County and RCD, and work shall be done as prescribed in the Napa County Conservation, Development and Planning Department guidelines, dated April 8, 2004, entitled "Protocol for Replanting/Renewal of Approved Non-Tilled Vineyard Cover Crops".
8) Implementation and adherence to the **Annual Winterization** program presented in the Project Notes.

Costs: The total cost of all erosion control measures is estimated to be $1500-2000/acre including equipment, materials, and labor.

The project site was last visited by the plan preparer in June, 2016 to inspect the site for potential erosion problems, and determine proper mitigation.

Project Notes

APN: 021-400-002, 021-400-004, 021-400-005, 021-420-027 AND 025-370-058
Owner: Bremer Family Winery
975 Deer Park Road
St. Helena, CA 94574

APN: 025-370-057
Owner: Gregory L. and Maryann Nowell
160 Pine Place
St. Helena, CA 94574

Site Address: 975 Deer Park Road, St. Helena

Contact:

Drew L. Aspegren @ (707) 963-4927
Napa Valley Vineyard Engineering, Inc.
176 Main St. Suite B
St. Helena, CA 94574

Laura Bremer @ (707) 963-1216
975 Deer Park Road
St. Helena, CA 94574

Mapping: Michael Brooks & Associates by American Aerial Mapping 11-01-05
Terra Firma Surveys, Inc. August 2016 & December 2016

Implementation Schedule: Work will begin the first spring after project approval and may be built out over several years. Preplant and planting year operations may be conducted over one or two growing seasons. The work will be scheduled as follows:

Year 1 Step 1 — Clearing, rock and root removal, stack vegetation, etc. Winterization, consisting of seeding and mulching, shall be complete by October 1. Irrigation shall begin no later than October 1 and shall continue until the onset of winter rains adequate to sustain cover crop growth.

Year 2 Step 2 — Vineyard layout, staking, and construction of rockery walls. Construction of rockery walls shall terminate on October 1, and the entire site shall be winterized by October 15. Irrigation shall begin no later than October 15, and shall continue until the onset of winter rains adequate to sustain cover crop growth.

Step 3 — Installation of the drip system and planting of grapevines. Irrigation of the cover crop shall begin no later than October 15, and shall continue until the onset of winter rains adequate to sustain cover crop growth.

Step 4 — The cover crop shall be evaluated, and it may be mowed. Weak areas, and any areas damaged by farming practices or other vineyard activities shall be treated as required, and irrigation of any new cover crop shall begin no later than October 15, and shall continue until the onset of winter rains adequate to sustain cover crop growth.

Step 5 — Normal cultural practices shall begin. Vineyard avenues and turnspaces may be mowed. The cover crop shall be repaired, seeded and mulched by October 15. Irrigation on repaired cover crop shall begin no later than October 15 in non-producing vineyard, and immediately after harvest in producing vineyard. Irrigation shall continue until the onset of winter rains adequate to sustain cover crop growth.

Seeding Requirements: All exposed or disturbed soils shall be seeded. Seed and fertilizer shall be applied hydraulically or broadcast at the rates specified below:

Napa Valley Ag Supply mix @ 100 lbs/ac	Blando Brome	50%
	Zorro Fescue	20%
	Crimson Clover	10%
	Rose Clover	20%

Fertilizer : Ammonium phosphate sulfate (16-20-0) 240-260 lbs/ac

An alternate seed mix and/or fertilizer may be used after review and approval by the Napa County RCD.

Straw Mulch shall be spread annually over all disturbed and seeded areas. The mulch shall be spread mechanically or by hand at the rate of 2 tons/acre. Straw mulch shall be crimped in place after spreading. Straw spread after reseeding or repair shall also be crimped.

Diversion Ditches shall be installed along contours at locations shown on the Plan in accordance with the appropriate detail. Fiber Rolls shall be maintained through the winter after planting after which they may be removed.

Rock-lined Ditches, Rock-lined Channels and Rock Check shall be constructed of locally gathered fieldstone at the locations shown on the Plan in accordance with the appropriate detail. Rock structures shall remain in place as permanent structures.

Rock Slope Protection (RSP) shall be locally gathered fieldstone, or class light as defined in Caltrans Standard Specifications, Sec. 72-2.02. A non-woven filter fabric (Mirafi 140N, or equal) shall be placed between all RSP and earthen material.

A Sediment Detention Basin shall be constructed in accordance with the appropriate detail at the location shown on the plan.

Water Bars shall be constructed where shown on the plan in accordance with the appropriate detail. Water bars shall remain as permanent structures and shall be reshaped as necessary prior to each rainy season.

Maintenance: A permanent cover crop shall be planted prior to October 15. The cover crop may be mowed each spring after the seed has fully matured (hard dough stage) to ensure annual grass species regeneration for the following year. Minimum mowing height of 4" shall be maintained for establishing annual and perennial grasses. As a normal cultural practice, no ripping or tillage shall take place within these areas except as provided in the *Narrative* under *Permanent Erosion Control Measures*. The vineyard may be spot sprayed as described in the *Narrative* under *Permanent Erosion Control Measures*. Optimally, the required ground cover percentages, or greater, will be obtained, with the owner being responsible for reseeding and maintenance in order to reach the desired degree of cover.

Annual Winterization: After harvest and prior to first rains each year, the following winterization shall be completed:

1) Cover crop evaluation notes made prior to spring mowing shall be reviewed. All weak spots shall be treated as necessary, seeded, fertilized and mulched. Treatments may include soil amendments, and evaluation of seed mix and/or fertilizer may be necessary. After appropriate soil treatments, the treated areas and avenues/turnspaces shall be seeded, mulched and fertilized, and pre-shall commence. Irrigation shall continue through germination until the onset of winter rains.

2) Water bars shall be reshaped and reinforced as necessary.

3) Avenues which are not rocked around and between blocks shall be seeded, fertilized and mulched, and shall remain undisturbed through the rainy season.

4) All erosion control measures and drainage facilities shall be inspected after each storm event, and repairs shall be promptly performed.

All existing erosion control and drainage features shall be inspected and cleaned, or repaired as necessary. All erosion control measures shall be inspected after each storm event, and repairs shall be promptly performed.

Special Notes

1. **Raptors-**To minimize impacts to passerine and raptor species, the following measures shall be implemented:
   a. For earth-disturbing activities occurring between February 1 and August 31, (which coincides with the grading season of April 1 through October 15 - NCC Section 18.108.070.L, and bird breeding and nesting seasons), a qualified wildlife biologist shall conduct preconstruction surveys for raptor and passerine bird courtship activities and/or their nests within a 300-feet radius of earthmoving activities. The preconstruction survey shall be conducted no more than 14 days prior to vegetation removal and ground disturbing activities are to commence (surveys should be conducted a minimum of 3 separate days during the 14 days prior to disturbance). A copy of the survey will be provided to the County Conservation Division and the DFG prior to commencement of work.
   b. In the event that nesting raptors and/or birds are found during preconstruction surveys, the property owner shall consult with DFG and obtain approval for specific nest-protection buffers as appropriate based on species found prior to commencement of ground-breaking activities: generally a minimum 150-foot no-disturbance buffer will be created around all active passerine bird nests and a minimum 300-foot buffer shall be created around all active raptor nests during the breeding and nesting season or until it is determined by a qualified biologist that all young have fledged. All nest protection measures shall apply to off-site active nests that are located within 300 feet of project activities. These buffer zones may be modified in coordination with DFG based on existing conditions at the project site. Buffer zones shall be fenced with temporary construction fencing and remain in place until the end of the breading season or until young have fledged.
   c. If a 15 day or greater lapse of project-related work occurs during the breeding season, another bird and raptor pre-construction survey and consultation with DFG will be required before project work can be reinitiated.
2. **Bats-**To minimize impacts to special status bat species, the following measures shall be implemented:
   a. A qualified biologist shall conduct a habitat assessment for potential suitable special-status bat habitat/trees within 14 days of project initiation.
   b. If the habitat assessment reveals suitable special-status bat habitat and/or habitat trees, the qualified biologist shall submit an avoidance plan to the County and California Department of Fish and Game (DFG) for approval. The avoidance plan shall identify and evaluate the type of habitat present at the project site and detail habitat and/or habitat tree removal. Bat habitat/tree removal shall occur in two phases conducted over two days under the supervision of a qualified biologist: day one in the afternoon limbs and branches of habitat trees without cavities, crevices and deep bark fissures would be removed by chainsaw (limbs with cavities, crevices and deep bark fissures would be avoided); day two the entire tree can be removed. In the event the bat avoidance measures required by DFG result in a reduction or modification of vineyard block boundaries, the erosion control plan shall be revised by the applicant/engineer and submitted to the County.
3. **Air Quality-**The following Air Quality BMP shall be implemented during construction activites and vineyard maintenance:
   - All exposed surfaces (graded areas, staging areas, stockpiles, and unpaved roads) shall be covered or watered twice per day.
   - All trucks hauling soil, sand and other loose materials shall be covered in accordance with Section 23114 of the California Vehicle Code during transit to and from the site.
   - The site access road and adjacent public roads shall be swept daily with wet power vacuum street sweepers, if visible soil material is carried/tracked out onto roadways.
   - Traffic on unpaved areas and roads shall be limited to 15 mph.
   - Grading and earthmoving activities shall be suspended when winds exceed 25 mph.
   - Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes, as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations (CCR). Signs clearly indicating this provision shall be installed at all access points.
   - All construction equipment shall be maintained and properly tuned in accordance in manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
   - A sign with the telephone number and person to contact at the Lead Agency regarding dust complaints shall be visibly posted at the site. The contact person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
4. **Trees/Woodlands-**For protection of Trees/Woodlands, the following measures shall be implemented:
   - Prior to any earthmoving activities, temporary fencing shall be placed at the edge of the dripline of trees to be retained that are located within 50-feet of the project area. The precise locations of said fences shall be inspected and approved by the Planning Division prior to the commencement of any earthmoving activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated area for the duration of erosion control plan installation and vineyard installation.
   - Trees removed that are not within the boundary of the project and/or not identified for removal as part of #P11-00317-ECPA shall be replaced on-site with fifteen-gallon trees at a ratio of 2:1 at locations approved by the director.
   - The permitee shall refrain from severely trimming the trees and vegetation to be retained adjacent to the vineyard conversion areas.

Legend

(052)	AREA & ACREAGE WITH SLOPES GREATER THAN 30%
	BLOCK BOUNDARY
	AVENUE/TURNSPACE
	PROPOSED VINEYARD BOUNDARY (APPROX.)
	CEONOTHUS
CPP	CORRUGATED POLYETHYLENE PIPE, SMOOTH WALL
O, D.I.	DROP INLET
3/3	DETAIL 3, SHEET 3
	DRY STACK ROCK WALL
(E)	EXISTING
	EXISTING ALL WEATHER ROAD
	EXISTING ALL WEATHER ROAD (Permit WII-00176)
	EXISTING DIRT ROAD
	EXISTING DIRT ROAD TO BE UPGRADED TO ALL WEATHER
	EXISTING FENCE
ROCKS	EXISTING ROCK STORAGE
	EXISTING VINEYARD BOUNDARY
	FIBER ROLL
	FLOWLINE OF DIVERSION DITCH
, HP	HIGH POINT
◎, J.B.	JUNCTION BOX
25' - 18" CPP	LENGTH/SIZE/KIND OF PIPE
MSB	MINIMUM SETBACK
OG	ORIGINAL GROUND
(P)	PROPOSED
	PROPOSED ALL WEATHER ROAD
x x	PROPOSED WILDLIFE EXCLUSION FENCE
	PROPERTY LINE
RSP	ROCK SLOPE PROTECTION
SCS	SOIL CONSERVATION SERVICE
139	SCS SOIL MAPPING UNIT
	SCS SOIL TYPE BOUNDARY
	SUBSURFACE DRAINAGE PIPE
, TOB	TOP OF BANK
	WATERBAR (TYP)

BREMER FAMILY WINERY
EROSION CONTROL PLAN
FOR NEW VINEYARD

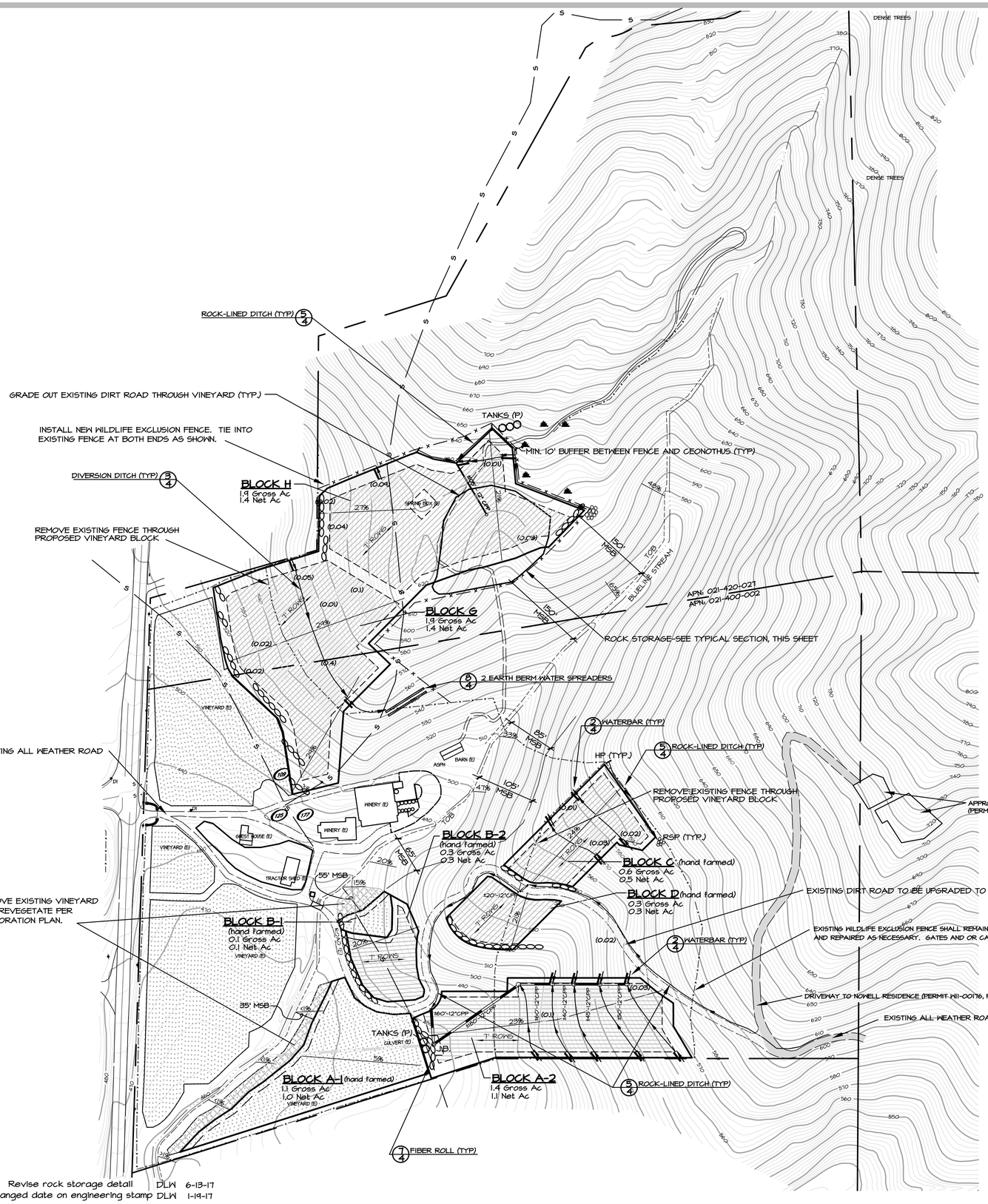
REGISTERED PROFESSIONAL ENGINEER
DREW L. ASPEGREN
No. 31418
Exp. 12-31-18
CIVIL
STATE OF CALIFORNIA

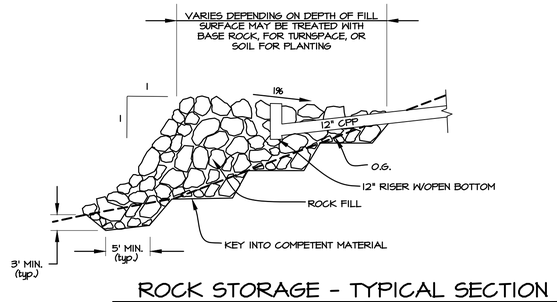
Napa Valley Vineyard Engineering, Inc.
176 Main St., Suite B
St. Helena, CA 94574
(707) 963 4927

Rev 9 Per NCPBES comments (May 2, 2017)	DLW	6-13-17
Rev 8 Incorporate "as built" survey of Blocks K, L/M, and N/O, remove other modifications	DLA	1-14-17
Rev 7 Modifications to block configurations, additional rock walls/fill areas	DLA	6-10-16
Rev 5 Minor revision per site visit	DLA	3-26-13
Rev 4 Revise per Initial Study (August 3, 2012); Change date on Engineer's Stamp	DLW	3-15-13
Rev 3 Adjusted Narrative notes for addition of Block C	JRJ	12-14-11
Rev 2 Per NCCDP comments (April 7, 2011) & RCD comments (May 3, 2011)	DLW	8-1-11
Rev 1 Per NCCDP comments (February 8, 2011) & RCD coments (October 13, 2010)	DLW	3-29-11

August 27, 2010
DATE

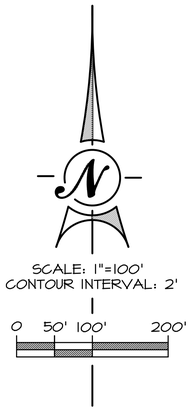
DREW L. ASPEGREN, PE
R.C.E. 31418





ROCK STORAGE - TYPICAL SECTION

NTS



SCALE: 1"=100'
CONTOUR INTERVAL: 2'

0 50' 100' 200'

SPECIAL NOTE - RSP

Rock Slope Protection (RSP) shall be locally gathered field stone (25 lb), or class 1light, as defined in Caltrans Standard Specifications, Sec. 72-2.02. A non woven filter fabric (Mirafi 140 N, or equal) shall be placed between all RSP and earthen material.

LEGEND ON SHEET 1

REV.	DESCRIPTION	BY	DATE
9	Revise rock storage detail	DLW	6-13-17
8	Changed date on engineering stamp	DLW	1-19-17
5	Minor revision per site visit	DLA	3-26-13
4	Revise per initial Study (August 3, 2012) Revise fencing, change date on stamp	DLW	3-15-13
3	Per NCCDP comments (August 31, 2011), RCD comments (August 11, 2011), Added Block C	DLW	12-14-11
2	Per NCCDP comments (April 1, 2011) & RCD comments (May 3, 2011)	DLW	8-1-11
1	Per NCCDP comments (February 8, 2011) & RCD comments (October 13, 2010)	DLW	3-29-11

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(707) 963 4927

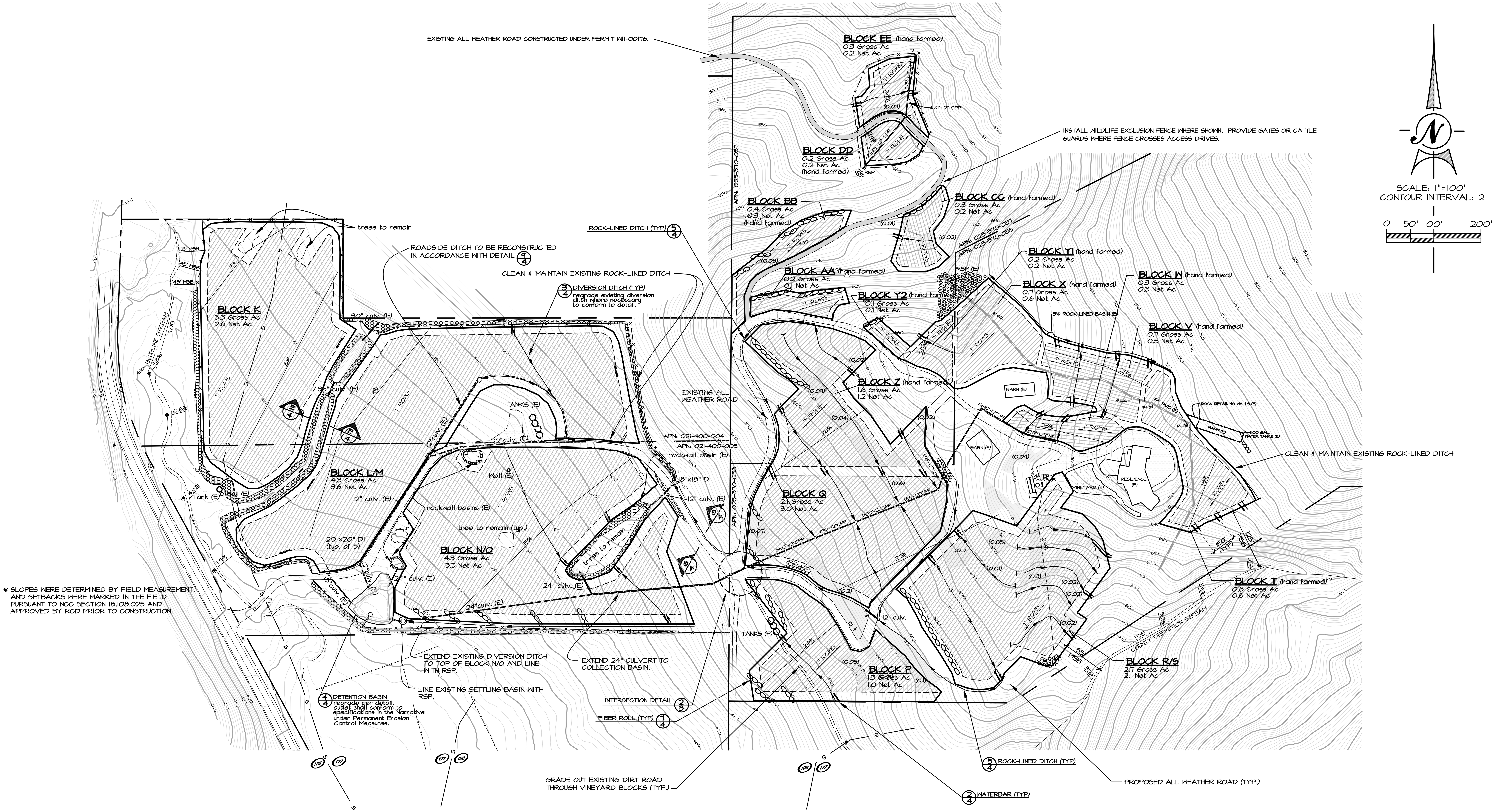
REGISTERED PROFESSIONAL ENGINEER
DREW L. ASPEGREN
No. 31418
Exp. 12-31-18
CIVIL
STATE OF CALIFORNIA

DATE	8-27-10
SCALE	AS SHOWN
DRAWN	TPO
CHECKED	DLW
06BremerEcpR8.dwg	
APPROVED	
DREW L. ASPEGREN, PE	R.C.E. 31418

BREMER FAMILY WINERY

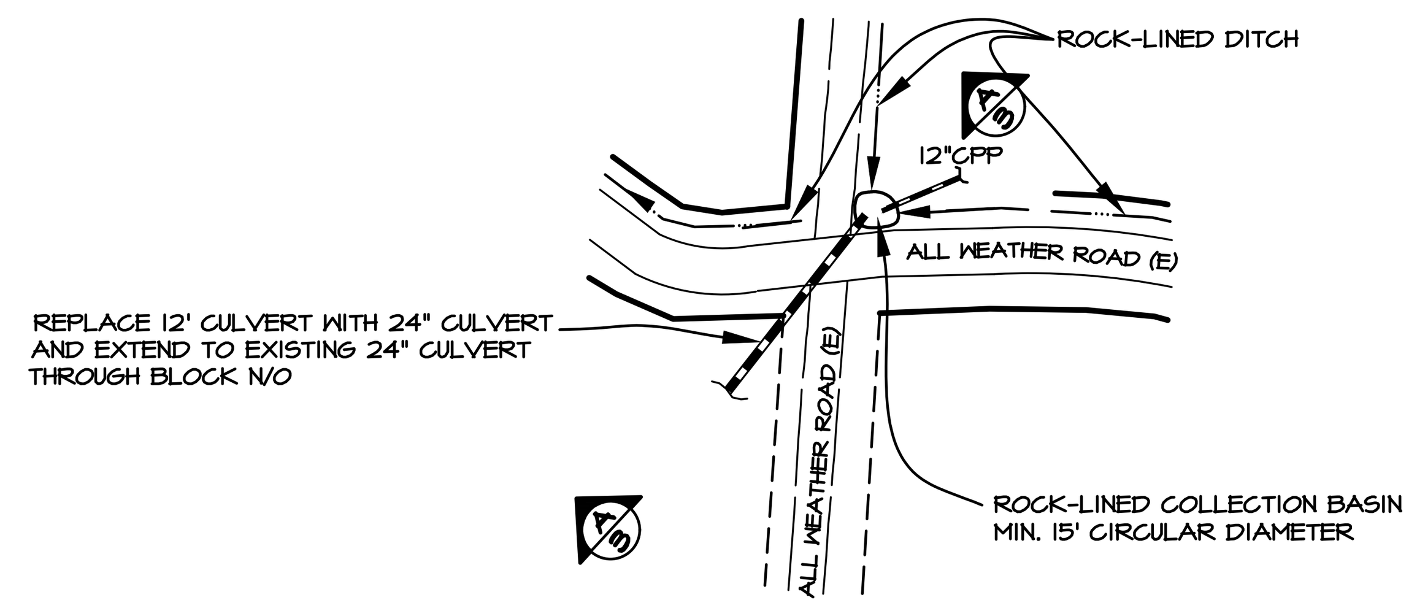
EROSION CONTROL PLAN FOR NEW VINEYARD BLOCKS A - H

SHEET 2 OF 4

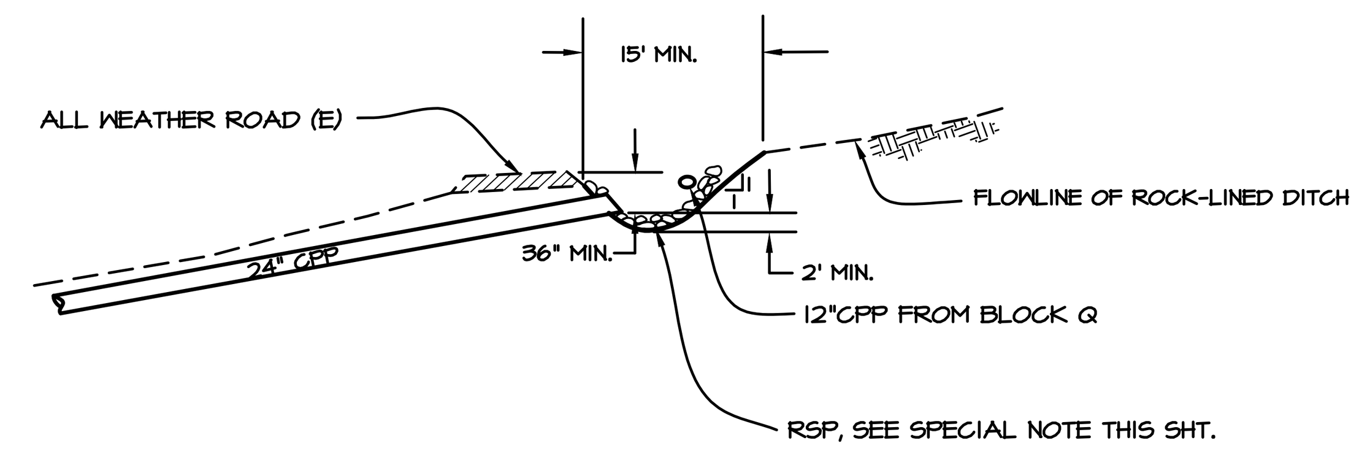


SPECIAL NOTE - RSP

Rock Slope Protection (RSP) shall be locally gathered field stone (25 lb), or class light, as defined in Caltrans Standard Specifications, Sec. 72-2.02. A non woven filter fabric (Mirafi 140 N, or equal) shall be placed between all RSP and earthen material.



INTERSECTION DETAIL
NTS



ROCK-LINED COLLECTION BASIN
NTS

LEGEND ON SHEET 1

REV.	DESCRIPTION	BY	DATE
9	Per NCPBES comments (5-2-17)	DLW	6-13-17
8	Incorporate "as built" survey	DLW	1-19-17
7	Modifications to Blks. P thru W	DLA	6-10-16
6	Modifications to Blks. K, L/M & N/O	DLA	1-26-16
5	Minor revision per site visit	DLA	3-26-13
4	Revise per Initial Study (August 3, 2012) Revise fencing, change date on stamp	DLW	3-15-13
3	Per NCCDP comments (August 31, 2011), RCD comments (August 11, 2011), Added Block C	DLW	12-14-11
2	Per NCCDP comments (April 7, 2011) & RCD comments (May 3, 2011)	DLW	8-1-11
1	Per NCCDP comments (February 8, 2011) & RCD comments (October 13, 2010)	DLW	3-29-11

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(707) 963 4927

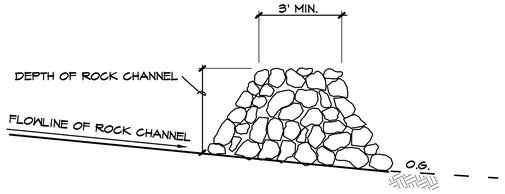
REGISTERED PROFESSIONAL ENGINEER DREW L. ASPEGREN No. 31418 Exp. 12・31・18 CIVIL STATE OF CALIFORNIA

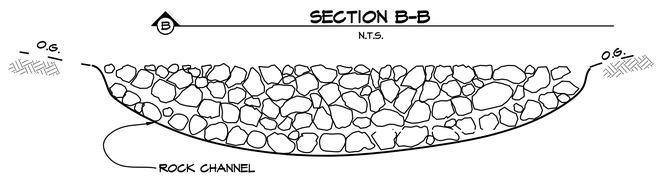
DATE 8-27-10 | SCALE AS SHOWN
06BremerEcpR9.dwg | DRAWN TPO | CHECKED DLW
APPROVED
DREW L. ASPEGREN, PE R.C.E. 31418

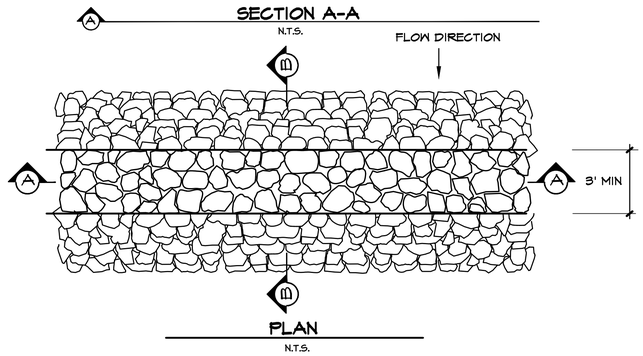
BREMER FAMILY WINERY

EROSION CONTROL PLAN FOR NEW VINEYARD BLOCKS K - EE

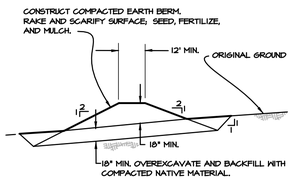
SHEET 3 OF 4







1/4 ROCK CHECK
NTS

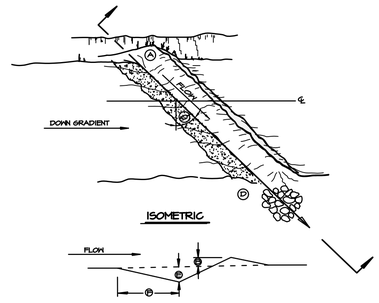


NOTE:
THE TOP OF THE BERM SHALL BE LEVEL, AND SHALL TIE INTO NATIVE GROUND AT EACH END. LENGTH WILL VARY, AND WILL BE DETERMINED BY THE TOPOGRAPHY AT EACH LOCATION.

8/4 EARTH BERM WATER SPREADER
NTS

SPECIAL NOTE - RSP

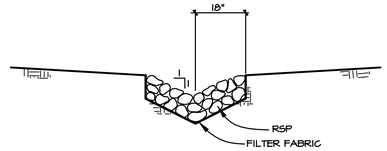
Rock Slope Protection (RSP) shall be locally gathered field stone (25 lb), or class light, as defined in Caltrans Standard Specifications, Sec. 72-2.02. A non woven filter fabric (Mirafi 140 N, or equal) shall be placed between all RSP and earthen material.



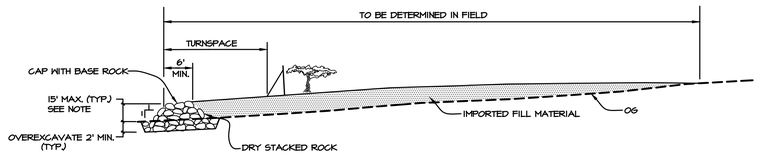
NOTES
NTS

WATERBAR CONSTRUCTION FOR LITTLE OR NO TRAFFIC. SPECIFICATIONS ARE AVERAGE AND SHALL BE ADJUSTED TO CONDITIONS.
- (A) TIE-IN TO BANK IF APPROPRIATE.
- (B) CROSS DRAIN BERM HEIGHT 4" TO 6" ABOVE THE ROADBED.
- (C) ANGLE DRAIN 30° TO 45° DEGREES DOWNGRADE WITH ROAD CENTERLINE.
- (D) OUTFALL STRUCTURE AS SHOWN IN PLAN.
- (E) DEPTH MINIMUM 8".
- (F) 3' TO 4'.

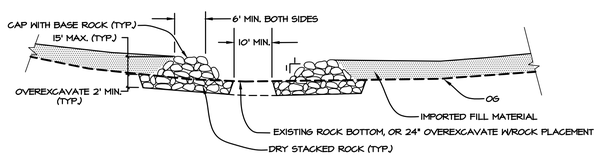
2/4 WATERBAR (TYP)
NTS



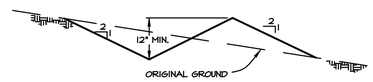
5/4 ROCK LINED DITCH
NTS



D/4 TYPICAL FILL SECTION
NTS

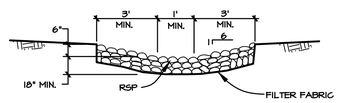


E/4 CHANNEL
NTS

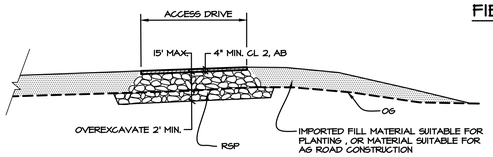


NOTES:
1. FLOWLINE SLOPE SHALL BE 2% - 4%
2. DIVERSION DITCHES SHALL BE SEEDED, MULCHED & COVERED W/JUTE NETTING WHICH SHALL BE SECURELY ANCHORED IN PLACE

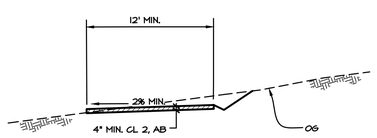
3/4 DIVERSION DITCH
NTS



6/4 ROCK LINED CHANNEL
NTS

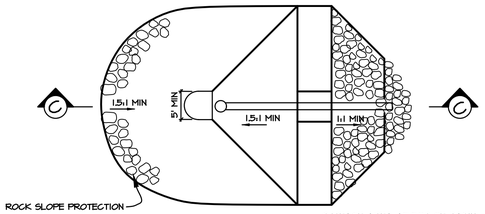


F/4 ROCK ACCESS DRIVE
NTS

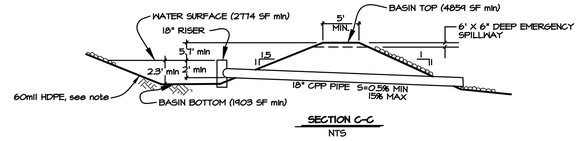


G/4 TYPICAL ALL WEATHER ACCESS DRIVE
NTS

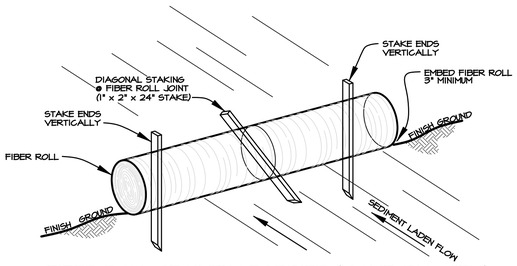
NOTE:
Synthetic liners shall be water tight. Seams shall be lapped and bonded as recommended by manufacturer. Sleeves shall be used on all pipe penetrations. Alternates to synthetic liners may be, but not limited to, gunite facing or grouted rock facing.



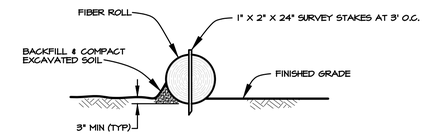
SURFACE AREA AT TOP OF BASIN = 4,859 SF (min)
SURFACE AREA AT TOP OF RISER = 2,774 SF (min)
SURFACE AREA AT BASIN BOTTOM = 1,903 SF (min)



4/4 DETENTION BASIN
NTS

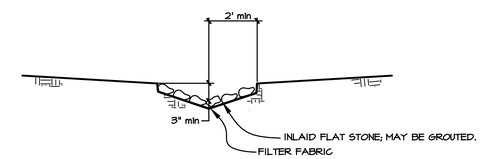


FIBER ROLL SEDIMENT BARRIER (ISOMETRIC VIEW)



FIBER ROLL SEDIMENT BARRIER (SECTION)

7/4 FIBER ROLL (TYP)
NTS



9/4 ROCK LINED DITCH-ENTRANCE DRIVE
NTS

REV.	DESCRIPTION	BY	DATE
9	Per NCPBES comments (5-2-17)	DLW	6-13-17
8	Add (9/4), revise Detention Basin detail	DLA	1-19-17
7	Revise (12/4) & (5/4)	DLA	6-10-16
5	Minor revision per site visit	DLA	3-26-13
4	Revise section callouts, change detail 1 Change date on Engineer's Stamp	DLW	3-15-13
3	Per NCCDP comments (August 31, 2011), RCD comments (August 11, 2011)	DLW	12-14-11
2	Per NCCDP comments (April 7, 2011) & RCD comments (May 3, 2011)	DLW	8-1-11
1	Per NCCDP comments (February 8, 2011) & RCD comments (October 13, 2010)	DLW	3-24-11

Napa Valley Vineyard Engineering, Inc.
176 Main St., Suite B
St. Helena, CA 94574
(707) 963 4927

REGISTERED PROFESSIONAL ENGINEER
DREW L. ASPEGREN
No. 31418
Exp. 12-31-16
CIVIL
STATE OF CALIFORNIA

DATE	8-27-10
SCALE	AS SHOWN
DRAWN	TPO
CHECKED	DLW
06BremerEcpR9.dwg	
APPROVED	
DREW L. ASPEGREN, PE	R.C.E. 31418

BREMER FAMILY WINERY

EROSION CONTROL PLAN FOR NEW VINEYARD
DETAILS

SHEET 4 OF 4

Back to:
State Map | Western U.S. map | Home Page

NOTE:
To print data frame (right side), click on right frame before printing.

1981 - 2010

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1981-2010 Normals (~3 KB)

1971 - 2000

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1971-2000 Normals (~3 KB)

1961 - 1990

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1961-1990 Normals (~3 KB)

Period of Record

- Station Metadata
- Station Metadata Graphics

General Climate Summary Tables
- Temperature
- Precipitation
- Heating Degree Days
- Cooling Degree Days
- Growing Degree Days

Temperature
- Daily Extremes and Averages
- Spring 'Freeze' Probabilities
- Fall 'Freeze' Probabilities

SAINT HELENA, CALIFORNIA (047643)

Period of Record Monthly Climate Summary

Period of Record : 10/24/1907 to 05/31/2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	56.6	61.1	65.4	71.5	78.1	85.0	89.7	88.9	85.9	77.3	66.2	57.6	73.6
Average Min. Temperature (F)	36.4	38.9	40.3	42.7	46.7	50.4	52.1	51.4	49.1	45.4	40.3	36.7	44.2
Average Total Precipitation (in.)	7.60	6.53	4.32	2.10	0.85	0.25	0.03	0.07	0.29	1.72	3.93	6.90	34.61
Average Total SnowFall (in.)	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.
Max. Temp.: 93.9% Min. Temp.: 93.9% Precipitation: 93.7% Snowfall: 68.9% Snow Depth: 68.9%
Check Station Metadata or Metadata graphics for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu

Back to:
State Map | Western U.S. map | Home Page

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- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
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SAINT HELENA, CALIFORNIA

Station Metadata

From NCDC Station Historical Listing for NWS Cooperative Network
ObsTyp: t-Temperature-1, p-Daily precip-2, w-(blank), s-(blank), e-Evap-5
h-Hourly precip - 6 0.01" Universal, or - 7 0.10" Fisher-Porter
U - Observed, but beginning date is uncertain

Count	Number (Coop)	Station Name (From NCDC listing)	Lat ddmm	Long dddmm	Elev ftx10	Start yy mm	ObsTyp t	p	w	s	e	h	End yy mm
2390	047643-1	SAINT HELENA	3830	12228	0026	31 01	U	U					48 06
2391	047643-1	SAINT HELENA	3830	12228	0023	48 07	U	U					80 10
2392	047643-1	SAINT HELENA	3830	12228	0022	80 10	U	U					85 01
2393	047643-1	SAINT HELENA	3830	12228	0022	85 01	1	U					87 11
2394	047643-1	SAINT HELENA	3830	12228	0023	87 11	1	2					99 99

Statistics by element

(From WRCC data archives)
Last Compiled on Apr.23, 2009.
Dates are format of YYYYMMDD. Numbers are total Number of observations

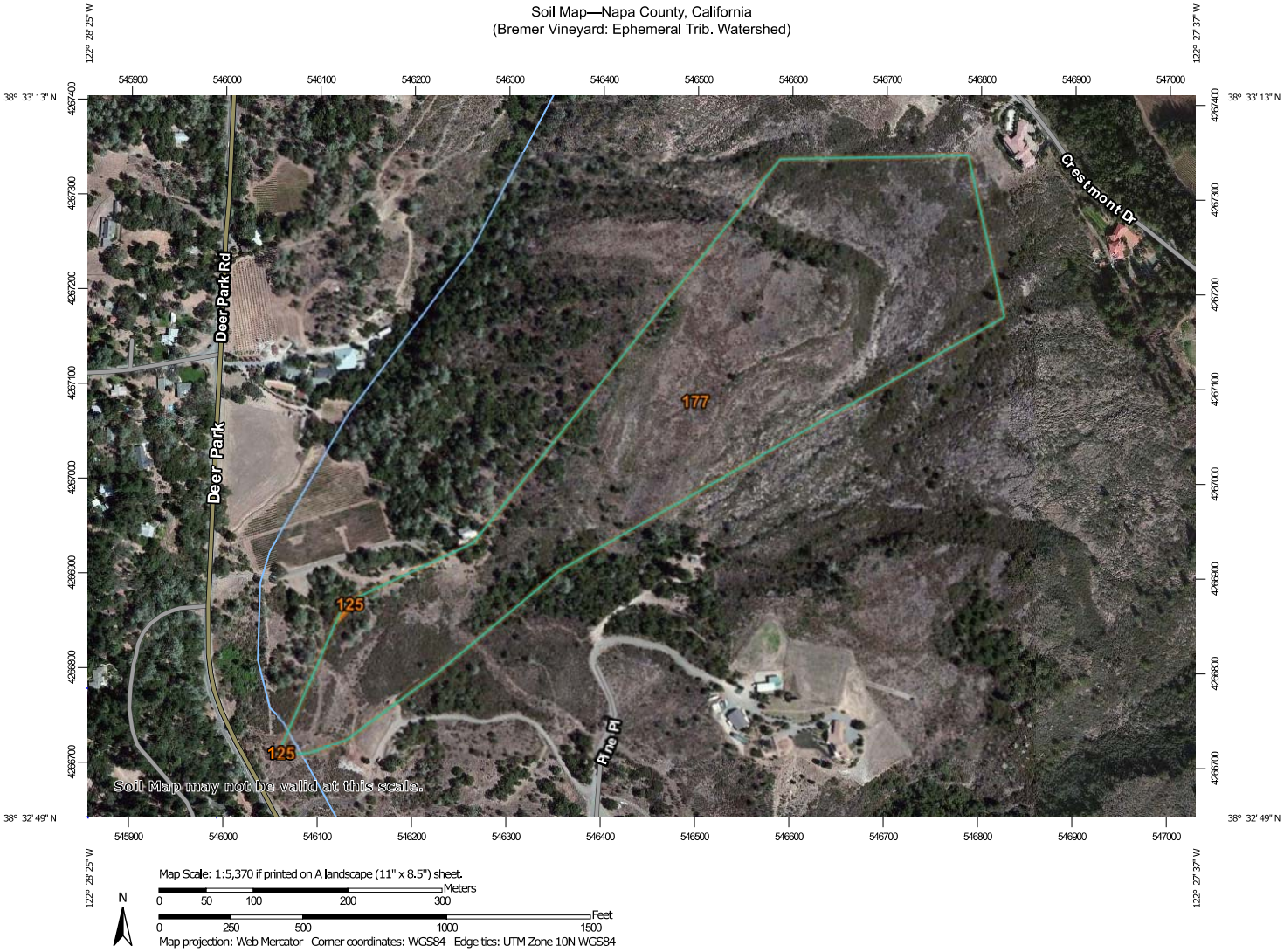
STATION	START	END	PRECP	SNWFL	SNWDP	TMAX	TMIN	TOBS	EVAP	WNDMV
047643	19310210	20081231	26796	20518	20491	26849	26833	17753	0	0

STATION - NCDC COOP Station number
START - First Date in record
END - Last Date in record (when last compiled)
PRECP - Precipitation
SNWFL - Snowfall
SNWDP - Snow depth
TMAX - Daily Max. Temperature
TMIN - Daily Min. Temperature
TOBS - Temperature at Observation time
EVAP - Evaporation
WNDMV - Wind Movement

Statistics by observation

(From WRCC data archives)
Last Compiled on Apr.23, 2009.
Dates are format of YYYYMMDD. Numbers represent one day and one day is considered present if any element is reported

Soil Map—Napa County, California
(Bremer Vineyard: Ephemeral Trib. Watershed)



Map Scale: 1:5,370 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil 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: Napa County, California
Survey Area Data: Version 9, Sep 21, 2016

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

Date(s) aerial images were photographed: Nov 2, 2010—Feb 17, 2012

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

Napa County, California (CA055)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
125	Cortina very stony loam, 0 to 5 percent slopes	0.0	0.1%
177	Rock outcrop-Kidd complex, 50 to 75 percent slopes	34.3	99.9%
Totals for Area of Interest		**34.4**	**100.0%**

PEAK FLOW ANALYSIS: USGS FLOOD FREQUENCY METHOD (Rantz 1971)
Bremer Vineyard Ephemeral Channel (Blocks K, L/M)

Watershed Area= 80.64 acres

0.126 sq. mi.

Mean Annual Precip (in)*= 40 (*Rantz 1971, DRI/WRCC 2017)

From Regression

Equation $Qt=KA^aP^b$

Q2	=	$0.069A^{0.913}P^{1.965}$	18.47376482
Q5	=	$2A^{0.925}P^{1.206}$	25.17428238
Q10	=	$7.38A^{0.922}P^{0.928}$	33.52043735
Q25	=	$16.5A^{0.912}P^{0.797}$	47.19149051
Q50	=	$69.6A^{0.847}P^{0.511}$	79.30046737

Check urbanization adjustment factors: Watershed urbanization is <5%, therefore no urbanization adjustment, i.e. adj factor=1.0

For 2-yr storm	1
For 5-yr. storm	1
For 10-yr. storm	1
For 25-yr. storm	1
For 50-yr. storm	1
For 100-yr. storm	1

	From probability graph, under natural conditions (cfs):
Q2=	11
Q5=	28
Q10=	40
Q25=	56
Q50=	68
Q100=	81

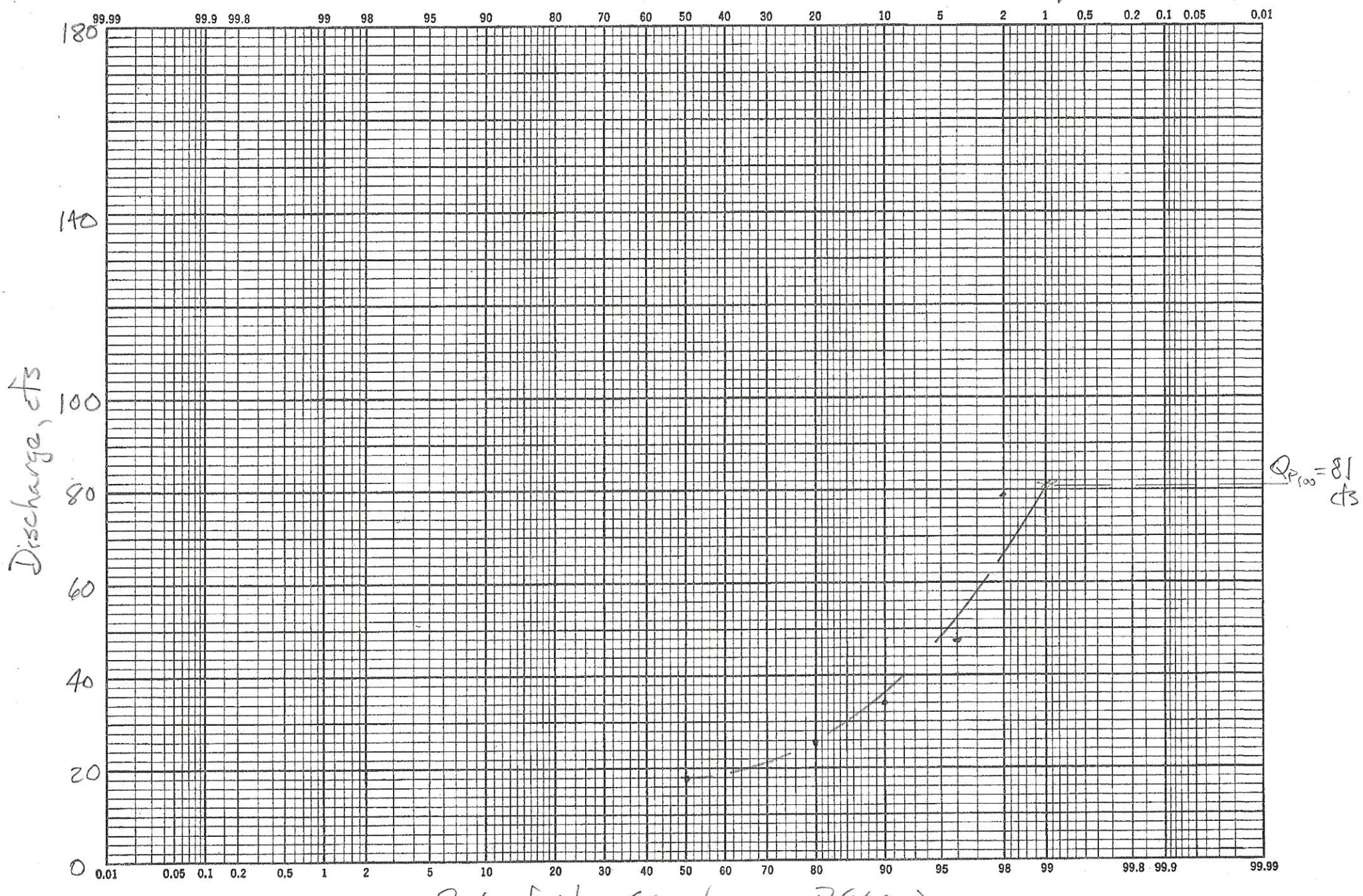
Therefore, peak flows for flood recurrence intervals,

Q2=	**11**	**cfs**
Q5=	**28**	**cfs**
Q10=	**40**	**cfs**
Q25=	**56**	**cfs**
Q50=	**68**	**cfs**
Q100=	**81**	**cfs**

CANON CK. TRIBUTARY - BREMER VINEYARD BLOCKS K-L/M

arithmetic-probability paper
probability x 90 divisions

USGS (Rantz, 1971) Flood Frq.



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Friday, Sep 8 2017

<Q2 at XS 1 - 100 ft Upstream of Upstream Culvert (Field)>

User-defined

Invert Elev (ft)	= 97.53
Slope (%)	= 8.62
N-Value	= 0.020

Calculations

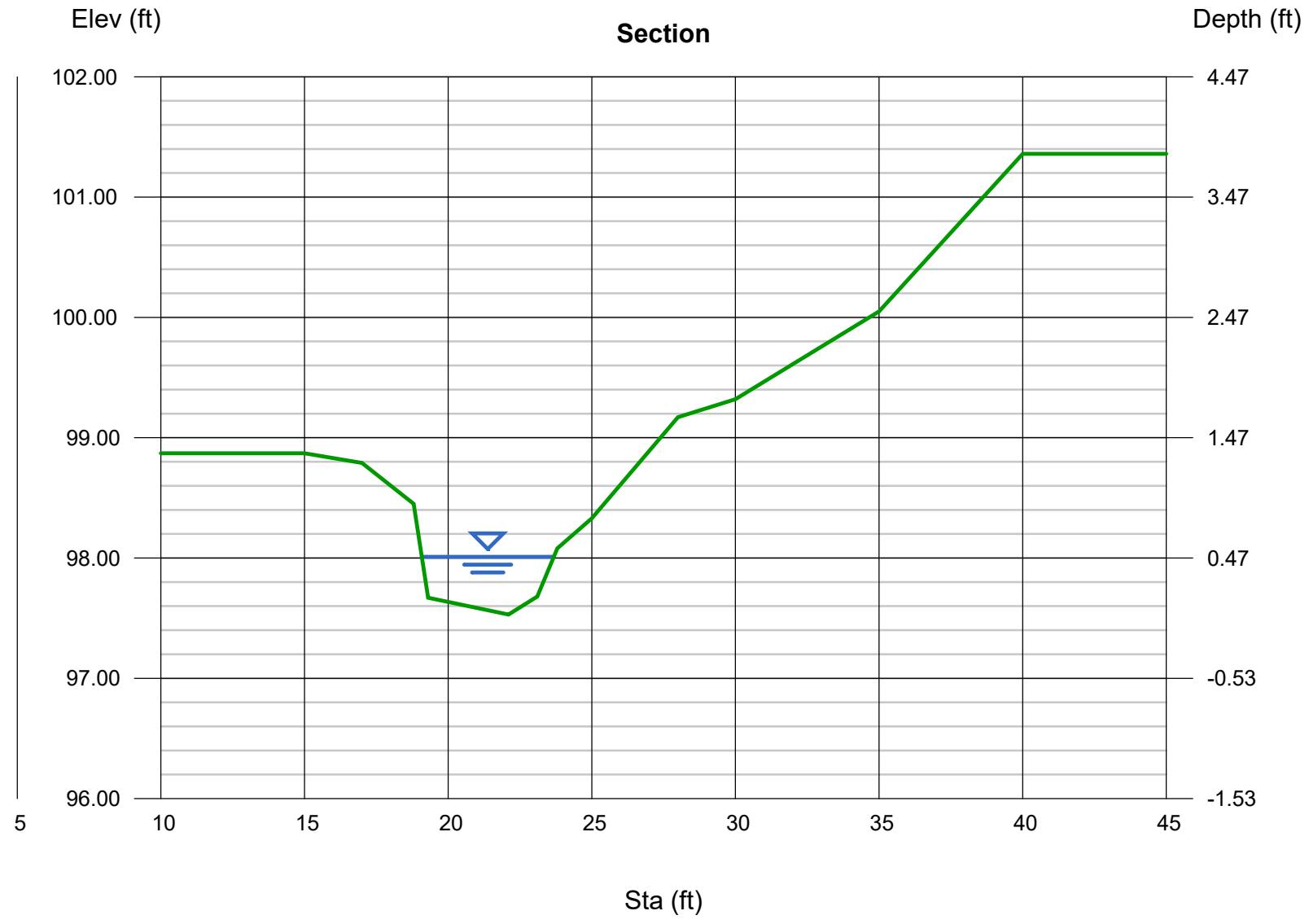
Compute by:	Known Q
Known Q (cfs)	= 18.00

Highlighted

Depth (ft)	= 0.48
Q (cfs)	= 18.00
Area (sqft)	= 1.69
Velocity (ft/s)	= 10.68
Wetted Perim (ft)	= 4.88
Crit Depth, Yc (ft)	= 0.91
Top Width (ft)	= 4.60
EGL (ft)	= 2.25

(Sta, El, n)-(Sta, El, n)...

(15.00, 98.87)-(17.00, 98.79, 0.030)-(18.80, 98.45, 0.020)-(19.30, 97.67, 0.020)-(22.10, 97.53, 0.020)-(23.10, 97.68, 0.020)-(23.80, 98.08, 0.020)
-(25.00, 98.33, 0.030)-(28.00, 99.17, 0.030)-(30.00, 99.32, 0.030)-(35.00, 100.05, 0.030)-(40.00, 101.36, 0.030)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Friday, Sep 8 2017

<Q100 at XS 1 - 100 ft Upstream of Upstream Culvert (Field)>

User-defined

Invert Elev (ft)	= 97.53
Slope (%)	= 8.62
N-Value	= 0.023

Calculations

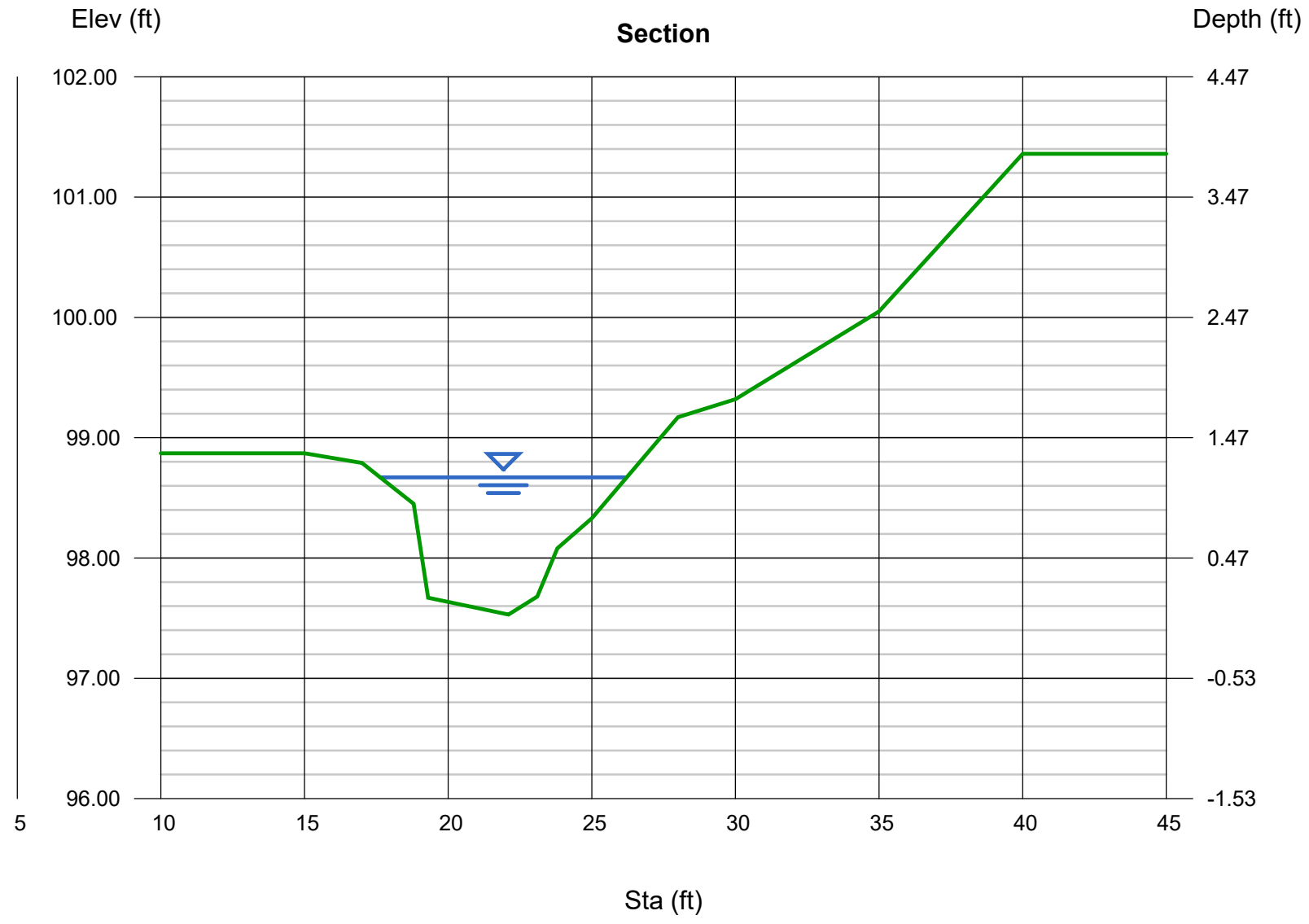
Compute by:	Known Q
Known Q (cfs)	= 81.00

Highlighted

Depth (ft)	= 1.14
Q (cfs)	= 81.00
Area (sqft)	= 5.81
Velocity (ft/s)	= 13.94
Wetted Perim (ft)	= 9.22
Crit Depth, Yc (ft)	= 1.86
Top Width (ft)	= 8.58
EGL (ft)	= 4.16

(Sta, El, n)-(Sta, El, n)...

(15.00, 98.87)-(17.00, 98.79, 0.030)-(18.80, 98.45, 0.020)-(19.30, 97.67, 0.020)-(22.10, 97.53, 0.020)-(23.10, 97.68, 0.020)-(23.80, 98.08, 0.020)
-(25.00, 98.33, 0.030)-(28.00, 99.17, 0.030)-(30.00, 99.32, 0.030)-(35.00, 100.05, 0.030)-(40.00, 101.36, 0.030)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Friday, Sep 8 2017

<Q2 at XS C-C' (1 + 30.00)>

User-defined

Invert Elev (ft)	= 449.42
Slope (%)	= 6.07
N-Value	= 0.022

Calculations

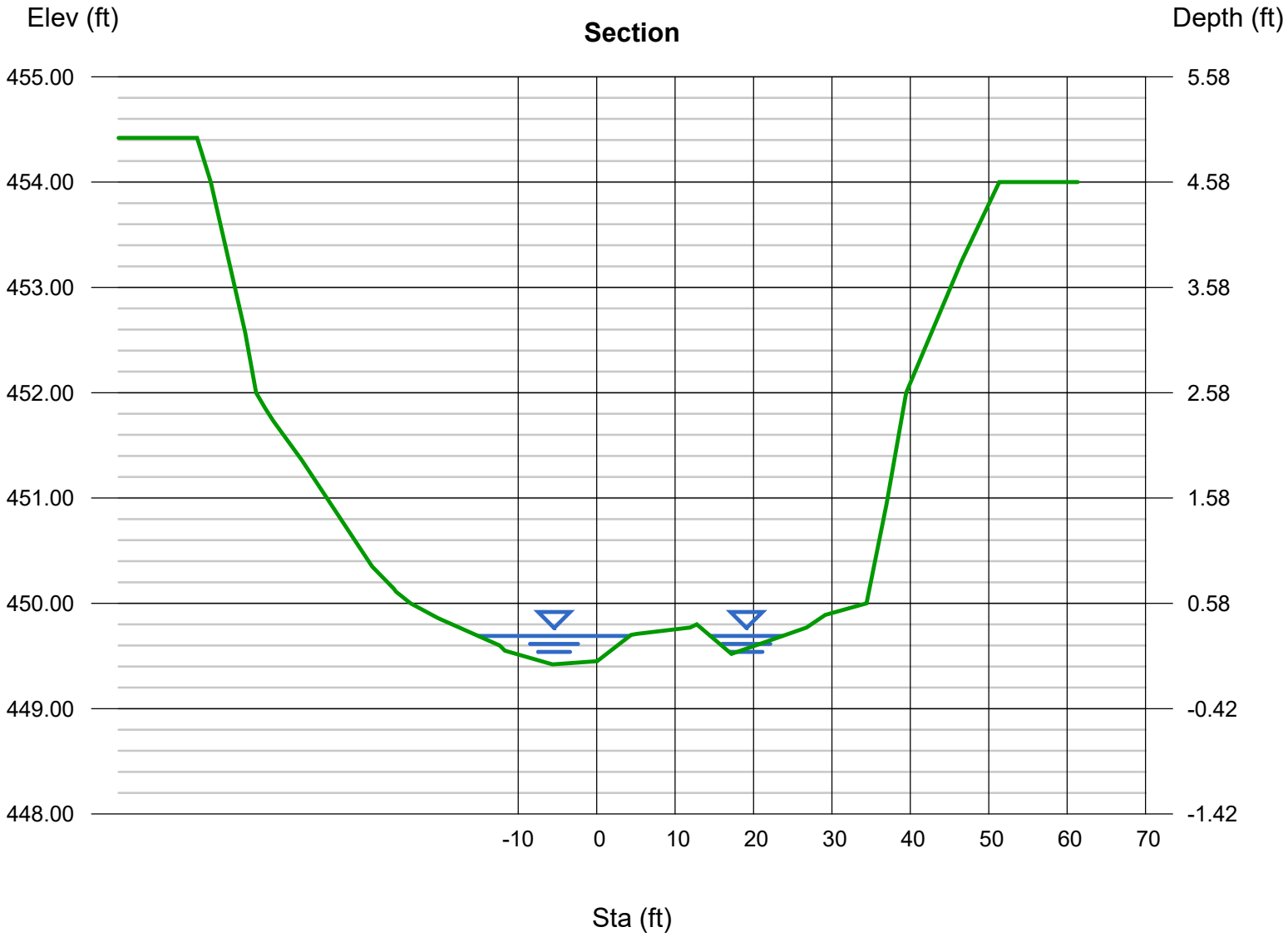
Compute by:	Known Q
Known Q (cfs)	= 18.00

Highlighted

Depth (ft)	= 0.27
Q (cfs)	= 18.00
Area (sqft)	= 4.18
Velocity (ft/s)	= 4.31
Wetted Perim (ft)	= 28.53
Crit Depth, Yc (ft)	= 0.37
Top Width (ft)	= 28.51
EGL (ft)	= 0.56

(Sta, El, n)-(Sta, El, n)...

(-50.97, 454.42)-(0.06, 449.45, 0.020)-(4.40, 449.70, 0.020)-(5.20, 449.71, 0.020)-(11.92, 449.77, 0.020)-(12.77, 449.80, 0.020)-(17.19, 449.52, 0.020)-(26.76, 449.77, 0.030)-(29.15, 449.89, 0.030)-(34.41, 450.00, 0.030)-(36.95, 450.94, 0.030)-(39.47, 452.00, 0.030)-(46.55, 453.25, 0.030)-(51.35, 454.00, 0.030)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Friday, Sep 8 2017

<Q100 at XS C-C' (1 + 30.00)>

User-defined

Invert Elev (ft)	= 449.42
Slope (%)	= 6.07
N-Value	= 0.023

Calculations

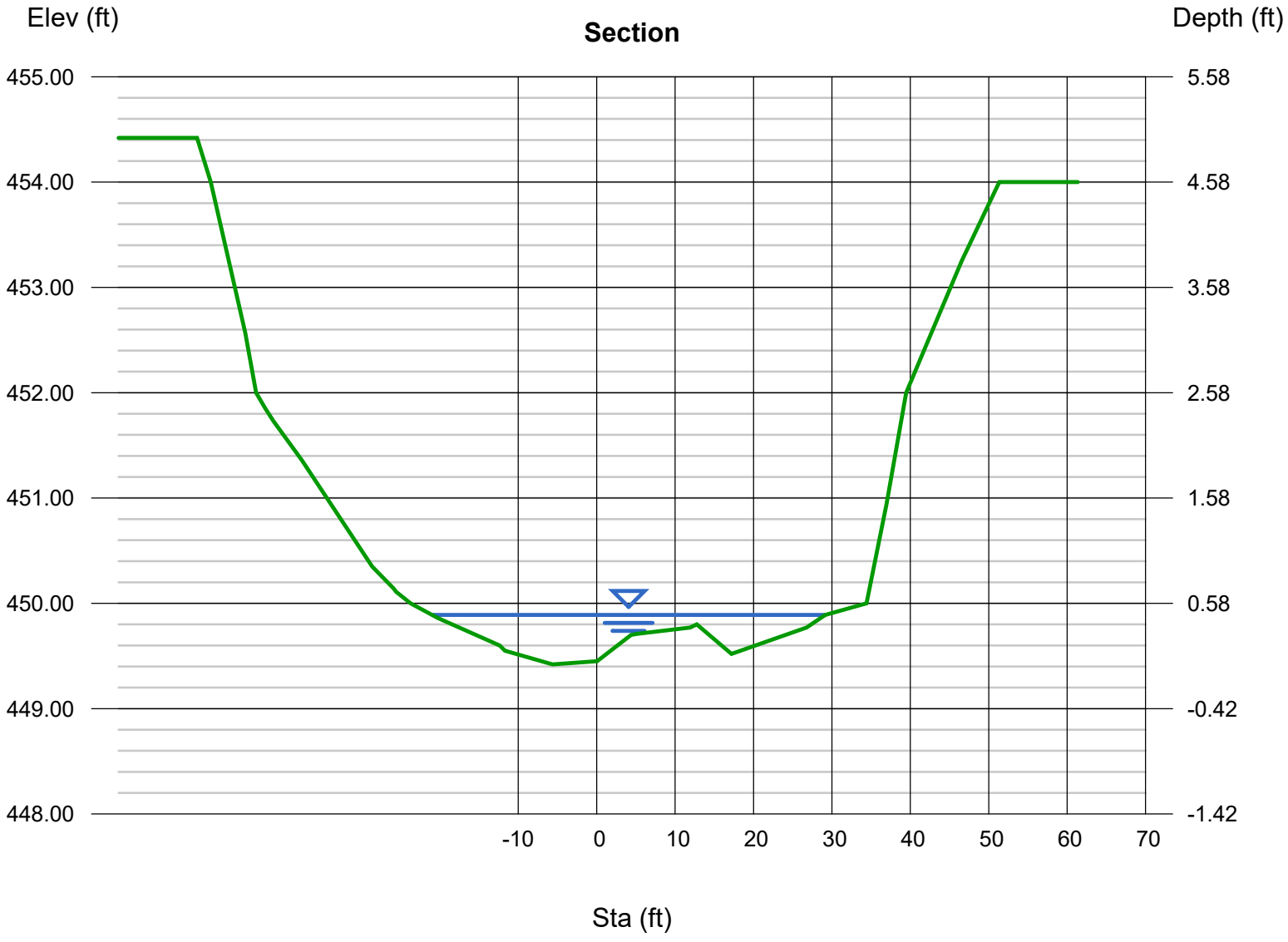
Compute by:	Known Q
Known Q (cfs)	= 81.00

Highlighted

Depth (ft)	= 0.47
Q (cfs)	= 81.00
Area (sqft)	= 12.65
Velocity (ft/s)	= 6.41
Wetted Perim (ft)	= 50.17
Crit Depth, Yc (ft)	= 0.66
Top Width (ft)	= 50.14
EGL (ft)	= 1.11

(Sta, El, n)-(Sta, El, n)...

(-50.97, 454.42)-(0.06, 449.45, 0.020)-(4.40, 449.70, 0.020)-(5.20, 449.71, 0.020)-(11.92, 449.77, 0.020)-(12.77, 449.80, 0.020)-(17.19, 449.52, 0.020)-(26.76, 449.77, 0.030)-(29.15, 449.89, 0.030)-(34.41, 450.00, 0.030)-(36.95, 450.94, 0.030)-(39.47, 452.00, 0.030)-(46.55, 453.25, 0.030)-(51.35, 454.00, 0.030)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Friday, Sep 8 2017

<Q2 at XS G-G' (3 + 40.00)>

User-defined

Invert Elev (ft)	= 437.13
Slope (%)	= 6.43
N-Value	= 0.026

Calculations

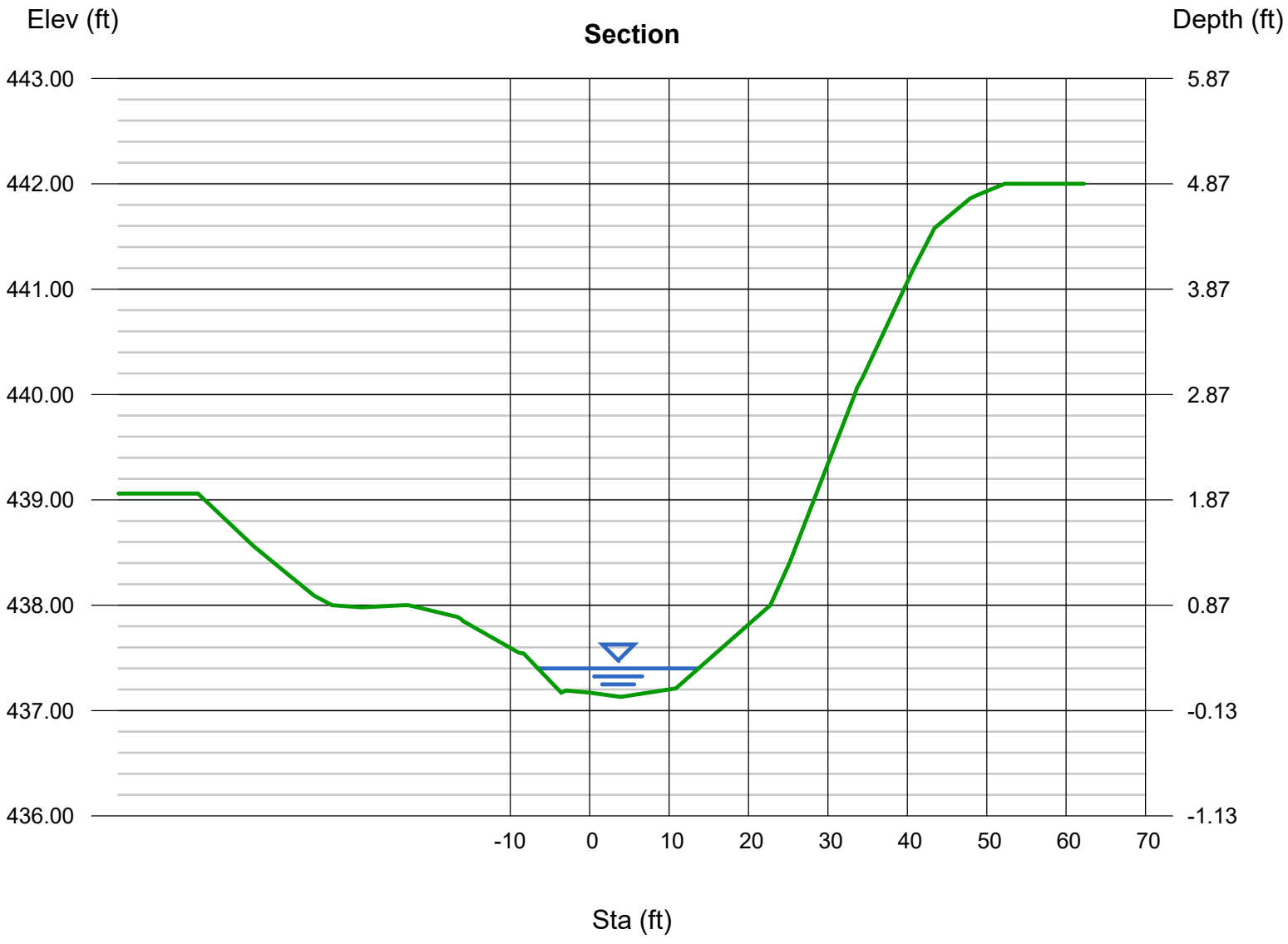
Compute by:	Known Q
Known Q (cfs)	= 18.00

Highlighted

Depth (ft)	= 0.27
Q (cfs)	= 18.00
Area (sqft)	= 3.97
Velocity (ft/s)	= 4.53
Wetted Perim (ft)	= 20.24
Crit Depth, Yc (ft)	= 0.38
Top Width (ft)	= 20.23
EGL (ft)	= 0.59

(Sta, El, n)-(Sta, El, n)...

(-49.31, 439.06)-(3.91, 437.13, 0.020)-(10.86, 437.21, 0.030)-(22.75, 438.00, 0.030)-(25.22, 438.41, 0.030)-(33.38, 440.00, 0.030)-(33.64, 440.06, 0.030)
-(34.42, 440.17, 0.030)-(40.70, 441.18, 0.030)-(43.43, 441.58, 0.030)-(47.58, 441.84, 0.030)-(47.89, 441.86, 0.030)-(48.74, 441.89, 0.030)-(52.27, 442.00, 0.030)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Friday, Sep 8 2017

<Q100 at XS G-G' (3 + 40.00)>

User-defined

Invert Elev (ft)	= 437.13
Slope (%)	= 6.43
N-Value	= 0.028

Calculations

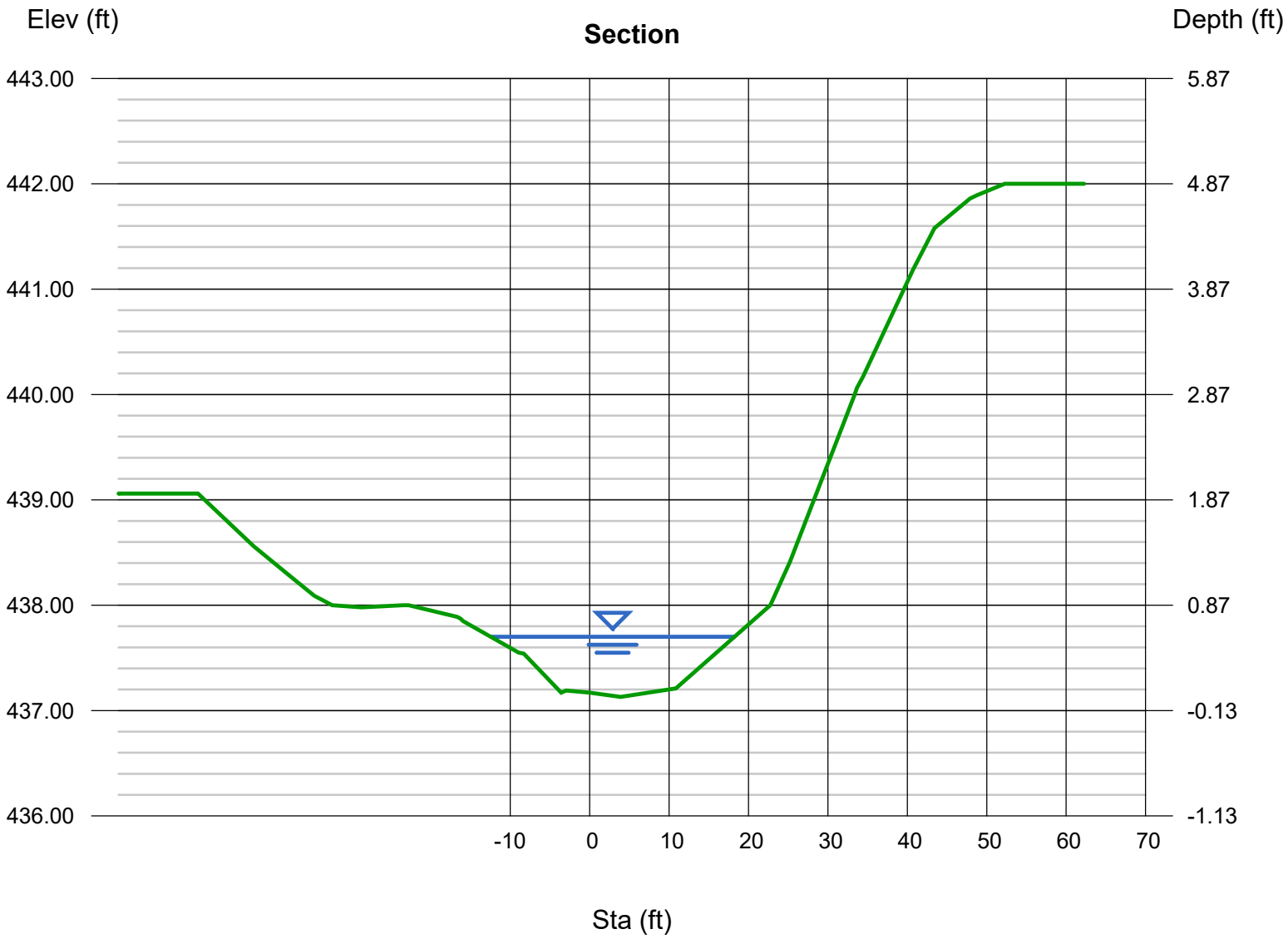
Compute by:	Known Q
Known Q (cfs)	= 81.00

Highlighted

Depth (ft)	= 0.57
Q (cfs)	= 81.00
Area (sqft)	= 11.49
Velocity (ft/s)	= 7.05
Wetted Perim (ft)	= 30.71
Crit Depth, Yc (ft)	= 0.83
Top Width (ft)	= 30.68
EGL (ft)	= 1.34

(Sta, El, n)-(Sta, El, n)...

(-49.31, 439.06)-(3.91, 437.13, 0.020)-(10.86, 437.21, 0.030)-(22.75, 438.00, 0.030)-(25.22, 438.41, 0.030)-(33.38, 440.00, 0.030)-(33.64, 440.06, 0.030)
-(34.42, 440.17, 0.030)-(40.70, 441.18, 0.030)-(43.43, 441.58, 0.030)-(47.58, 441.84, 0.030)-(47.89, 441.86, 0.030)-(48.74, 441.89, 0.030)-(52.27, 442.00, 0.030)



Napa County, California

177—Rock outcrop-Kidd complex, 50 to 75 percent slopes

Map Unit Setting

National map unit symbol: hdmh
Elevation: 500 to 4,300 feet
Mean annual precipitation: 30 to 60 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 220 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 70 percent
Kidd and similar soils: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Free face
Down-slope shape: Convex
Across-slope shape: Convex

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: About 0 inches to lithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Description of Kidd

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from rhyolite

Typical profile

H1 - 0 to 14 inches: loam
H2 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 14 to 18 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Hydric soil rating: No

Data Source Information

Soil Survey Area: Napa County, California
Survey Area Data: Version 9, Sep 21, 2016

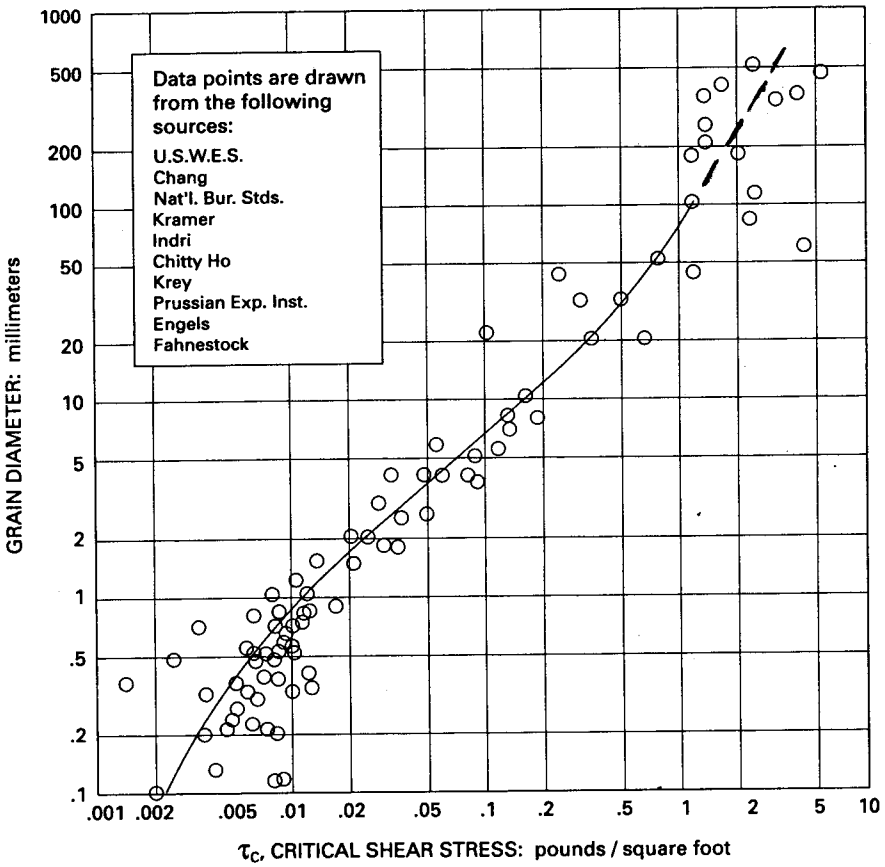


Figure 11.4 Laboratory and field data on critical shear stress required to initiate movement of grains (Leopold, Wolman, and Miller 1964, p. 170). The solid line is the Shields curve of the threshold of motion transposed from the θ versus R_g form into the present form, in which critical shear stress is plotted as a function of grain diameter.

of water (62.4 pounds per cubic foot), d is depth (an approximation of hydraulic radius R) and s is stream slope. The solid line drawn from the Shields diagram of initial motion goes through numerous observed values plotted on the figure. But in many river channels the mixture of grain sizes in the bed does not approximate the simple conditions expressed by the Shields experiments. Figure 11.4 should be used only as a first approximation; it may not apply to all field cases.

Cut/Fill Report

Generated: 2017-09-07 15:55:31

By user: Jake

Drawing: \\ACER-PC\shared\Bremer Vineyard Proposal- St Helena\CAD\\\ACER-PC\shared\Bremer Vineyard Proposal- St Helena\CAD\Topo Overlay with New Post-Proj Topo and Added Points.dwg

Volume Summary

Name	Type	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu.Yd)	Fill (Cu. Yd.)	Net (Cu. Yd.)
Cut and Fill Volume	Hillside	1.000	1.000	688559.40	2438.95	91227.38	88788.43<Fill>
Cut and Fill Volume.1	Channel 100-year	1.000	1.000	12491.46	39.12	1749.55	1710.44<Fill>
Cut and Fill Volume.2	Channel 2-year	1.000	1.000	4957.98	25.98	627.93	601.94<Fill>

SELECTED PERTINENT CORRESPONDENCE

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

CLEANUP AND ABATEMENT ORDER No. R2-2017-0025

FOR:

BREMER FAMILY WINERY VINEYARD
NAPA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Water Board), finds that:

1. John and Laura Bremer and Maryann and Gregory Nowell (Dischargers) are named as dischargers under this Cleanup and Abatement Order (Order) because they own the Bremer Family Winery Vineyard (Site) and caused or allowed waste to be discharged to waters of the State and United States (referred to collectively as waters of the State hereafter), or to a location where it could discharge to waters of the State, as described herein.

2. The Site is a 156-acre property located on the east side of Deer Park Road at its northern intersection with Sanitarium Road, in St. Helena (Assessor's Parcel Numbers 021-400-002, -004, -005, 021-420-027, and 025-370-057 and -058).

3. The Site is located in the Canon Creek watershed, tributary to Napa River. Canon Creek discharges to the Napa River approximately two miles southwest of the Site. An unnamed creek bisects the northern portion of the Site and continues along the western property boundary before joining Canon Creek approximately 0.75 mile south of the Site. A second unnamed creek bisects the southern portion of the Site before joining the first unnamed creek along the western boundary of the Site. The second unnamed creek is referred to hereafter as the "Creek".

4. On September 19, 2016, Water Board staff inspected the Site to assess site conditions after receiving complaints related to construction of a vineyard. During the inspection, Water Board staff observed unauthorized fill in the Creek and evidence of unauthorized construction activities including installation of culverts, placement of rock fill below ordinary high water extending up into the adjacent floodplain and riparian area, and removal of riparian vegetation. Appendix A to this Order is a copy of the inspection report and photographs taken during the inspection.

5. The Dischargers failed to apply for or obtain proper authorizations and permits from the Water Board for the work at the Site. In addition, based on conversations with California Department of Fish and Wildlife (CDFW) and U.S. Army Corps of Engineers (Corps) staff, there is no record that the Dischargers obtained proper authorizations or permits from either CDFW or the Corps.

6. The Creek is a water of the State and United States and is a tributary to the Napa River.

7. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) defines the existing and potential beneficial uses for waters within the Region. The beneficial uses of any water body identified in the Basin Plan generally apply to all its tributaries. The Basin Plan designates the following existing and potential beneficial uses for the Napa River: agricultural

supply; municipal and domestic supply; groundwater recharge; commercial and sport fishing; cold freshwater habitat; fish migration; preservation of rare and endangered species; fish spawning; warm freshwater habitat; wildlife habitat; water contact recreation; noncontact water recreation; and navigation (Water Board, 2015).

8. The Dischargers have unreasonably affected or threaten to affect water quality and beneficial uses by placing fill in the Creek and performing unauthorized construction activities as described herein.

9. The Dischargers' unauthorized construction activities at the Site are in violation of California Water Code (CWC) sections 13260 and 13264, federal Clean Water Act (CWA) sections 301 and 401, and the Basin Plan, as described below:

   a. CWC section 13260 requires that any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the State, shall file with the appropriate Water Board a Report of Waste Discharge (ROWD). CWC section 13264 further provides that no person shall initiate any new discharge of waste, or make any material changes in any discharge, prior to the filing of the ROWD required by CWC section 13260. The Dischargers have not filed a ROWD with the Water Board for the unauthorized construction activities at the Site, which could adversely impact the quality of waters of the State. Accordingly, the Dischargers are in violation of CWC sections 13260 and 13264.

   b. CWA section 301 prohibits the discharge of any pollutant by any person.

   c. CWA section 404 requires a permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from section 404 regulations. CWA section 401 requires an applicant to obtain a related certification from the state in which the discharge originates or construction occurs, certifying (with or without additional conditions) that the activity is consistent with a number of specifically identified CWA provisions. Title 23 of the California Code of Regulations, section 3855, requires that "an application for water quality certification shall be filed with the regional board executive officer." The Dischargers have not filed an application for a CWA section 401 Water Quality Certification for the unauthorized activities that resulted in a discharge of fill to waters of the State. Accordingly, the Dischargers are in violation of CWA section 401.

   d. Chapter 4, Table 4-1 of the Basin Plan, Discharge Prohibition No. 9, prohibits the discharge of silt, sand, clay, or other earthen materials from any activity in quantities sufficient to cause deleterious bottom deposits, turbidity, or discoloration in surface waters or to unreasonably affect or threaten to affect beneficial uses. The Dischargers' unauthorized installation of culverts, placement of rock fill below ordinary high water extending up into the adjacent floodplain and riparian area, and removal of riparian vegetation has resulted in the discharge and/or threatened discharge of soil and other earthen materials into the Creek and down-gradient receiving waters, including the Napa River, thereby unreasonably affecting or threatening to affect beneficial uses. Napa River is a CWA section 303(d)-listed sediment-impaired water body due to excessive erosion and fine sediment discharges and the resulting adverse impacts to fish habitat. Fine sediment clogs spawning gravels and

degrades rearing habitat, contributing to the decline of salmon and steelhead in the Napa River watershed. Accordingly, the Dischargers' unauthorized activities at the Site are in violation of the Basin Plan.

10. CWC section 13304 requires that any person who has discharged or discharges waste into waters of the State in violation of any waste discharge requirement or other order or prohibition issued by a Water Board or the State Water Resources Control Board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into waters of the State and creates, or threatens to create, a condition of pollution or nuisance, shall, upon order of the Water Board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts.

11. Based on the above findings, the Water Board finds that the Dischargers have caused or permitted waste to be discharged, or deposited where it has been discharged, into waters of the State and created or threatens to create a condition of pollution. As such, pursuant to CWC sections 13267 and 13304, this Order requires the Dischargers to submit technical reports and undertake corrective action to clean up the waste discharged and abate its effects. The burden of preparing technical reports required pursuant to CWC section 13267, including costs, bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports, namely the restoration of beneficial uses at the Site.

12. Issuance of this Order is an action to enforce the laws and regulations administered by the Water Board and for the protection of the environment. As such, this action is categorically exempt from the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 *et seq*.), pursuant to section 15321, subdivision (a)(2), of title 14 of the California Code of Regulations. This Order generally requires the Dischargers to submit plans for approval prior to implementation of cleanup activities at the Site. Submittal of plans is exempt from CEQA as submittal will not cause a direct or indirect physical change in the environment or is an activity that cannot possibly have a significant effect on the environment. CEQA review at this time would be premature and speculative, as there is not enough information concerning the Dischargers' proposed remedial activities and possible associated environmental impacts. If the Water Board determines that implementation of any plan required by this Order will have a significant effect on the environment, the Water Board will conduct the necessary and appropriate environmental review prior to the Executive Officer's approval of the applicable plan. The Dischargers will bear the costs, including the Water Board's costs, of determining whether implementing any plan required by this Order will have a significant effect on the environment and, if so, in preparing and handling any documents necessary for environmental review.

13. Pursuant to CWC section 13304, the Dischargers are hereby notified that the Water Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.

IT IS HEREBY ORDERED, pursuant to CWC sections 13267 and 13304, that the Dischargers shall submit the required technical reports and clean up the waste discharged, abate its effects, and take other remedial actions as follows:

Prohibitions

1. No unauthorized construction-related materials or wastes shall be allowed to enter into or be placed where they may be discharged into waters of the State.

2. The discharge of sediment, waste products, hazardous materials, or other materials that will degrade, or threaten to degrade, water quality, or adversely affect, or threaten to adversely affect existing or potential beneficial uses of waters of the State is prohibited.

3. The discharge of sediment into waters of the State resulting from failure to provide effective erosion and sediment control measures is prohibited.

4. Removal of riparian vegetation in a manner that impacts water quality in any creek, or other water of the State is prohibited.

5. The take, or incidental take, of any special status species is prohibited. The Dischargers shall use the appropriate protocols, as approved by CDFW, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service, to ensure that activities do not impact the beneficial use of the preservation of rare and endangered species or violate the California or federal Endangered Species Acts.

Provisions

1. No later than September 6, 2017, the Dischargers shall submit, acceptable to the Water Board's Executive Officer, the following:

   a. A technical report providing a description of the recent unauthorized construction activities at the Site and an assessment of the impacts to the Creek and associated riparian habitat. This technical report shall describe in detail the nature and extent of the unauthorized fill and vegetation clearing activities by: providing a map illustrating the extent of unauthorized construction activities at the Site; calculations quantifying the acreage of land disturbance and linear footage of Creek impacts; calculations of the volume and types of fill placed; a detailed qualitative description of the overall project purpose and design; as-built plans for the constructed project; a jurisdictional delineation of the extent of federal and State waters at the Site prior to and following the constructed project; and all other necessary information. The impact assessment shall be completed by a licensed professional geologist or civil engineer with expertise in fluvial geomorphology and/or creek restoration and shall, at a minimum, include a description of the pre-disturbance channel morphology, soil conditions, hydrology, and characterization of the impacted Creek and riparian habitat, as well as supporting documentation (e.g., aerial photographs, photographs, reports, topographic maps, and drawings). The technical report, including the impact assessment, shall serve as the basis for the Corrective Action Workplan described below.

   b. Description of any permits and other authorizations applied for and/or obtained from local, State, and federal agencies and local or regional districts for any grading, excavation, filling,

vegetation clearing, or other activities that have disturbed land or water features at the Site since it was acquired by the Dischargers.

2. No later than November 6, 2017, the Dischargers shall submit a Corrective Action Workplan, acceptable to the Executive Officer, that includes the following:

   a. A proposal for corrective actions designed to (1) remove sediment, rock, and other earthen materials placed without authorization from waters of the State plus an appropriately-protective buffer area; (2) eliminate the threat of discharge of sediment posed by the unauthorized construction activities at the Site, and (3) restore the Creek and associated riparian habitat. The Corrective Action Workplan (CAW) shall include interim and final success criteria and performance standards for assessing whether corrective actions are achieving the intended water quality protection and habitat restoration goals. Performance criteria shall include targets for (1) water quality, (2) soil and hydrologic conditions, and (3) vegetation composition including invasive species control. The CAW shall also include an implementation time schedule for design, permitting, and construction.

   b. A monitoring plan designed to monitor and evaluate the success of the implemented corrective actions in accordance with the interim and final success criteria and performance standards. The Dischargers shall monitor the success of the corrective actions until performance criteria have been successfully achieved, for at least five years following completion of the corrective actions, and for not less than a period of two years after any irrigation of revegetation plantings has ceased.

   c. Within sixty days of acceptance of the CAW by the Executive Officer, the Dischargers shall initiate implementation of the CAW in accordance with the accepted implementation time schedule.

3. No later than November 6, 2017, the Dischargers shall submit a Mitigation and Monitoring Plan, acceptable to the Executive Officer, that includes the following:

   a. A proposal to provide compensatory mitigation to compensate for any permanent or temporal losses of water quality functions and values provided by the Creek and associated riparian habitat that resulted from unauthorized activities at the Site. The Mitigation and Monitoring Plan (MMP) shall (1) provide a full description of the waters of the State and/or United States filled or indirectly impacted at and downstream of the Site; (2) describe existing site conditions at the proposed mitigation site; (3) propose compensatory mitigation sufficient to fully compensate for identified direct and indirect permanent and temporary losses. Such mitigation shall preferentially be in-kind and onsite. To the extent the mitigation is out-of-kind or offsite, delayed beyond the schedule set forth in this Order, or its success is uncertain, the plan shall propose a greater amount of mitigation relative to the amount of impacts; (4) describe implementation methods used to provide compensatory mitigation; (5) provide interim and final success criteria and performance standards sufficient to fully evaluate the success of the compensatory mitigation; (6) include a full description and schedule of the monitoring that will be implemented; and (7) include an implementation schedule. The Dischargers shall initiate implementation in accordance with the accepted implementation time schedule within 60 days of written acceptance of the MMP by the Executive Officer.

4. No later than January 31 of each year following initiation of the corrective actions and continuing until the corrective actions are successfully achieved, the Dischargers shall submit annual monitoring reports, acceptable to the Executive Officer, evaluating the progress of implementation and success of the corrective actions in accordance with the approved implementation time schedule and approved monitoring plan. No later than January 31 of each year following implementation of the compensatory mitigation, the Dischargers shall also submit, acceptable to the Executive Officer, annual monitoring reports for mitigation implemented under the approved MMP, evaluating the progress of implementation and success of mitigation in accordance with the approved implementation time schedule and approved MMP.

5. The Dischargers shall obtain all necessary permits, authorizations, and other approvals necessary to complete actions under this Order.

6. The Dischargers shall submit with the final monitoring report a Notice of Completion, acceptable to the Executive Officer, demonstrating that the CAW and MMP, as approved, have been successfully completed.

7. If the Dischargers are delayed, interrupted, or prevented from meeting the work completion or report submittal deadlines specified in this Order, the Dischargers shall promptly notify the Executive Officer in writing with recommended revised completion or report submittal deadlines. Any extensions of the time deadlines specified in this Order must be approved in writing by the Executive Officer. The Executive Officer may consider revisions to this Order.

8. Water Board staff shall be permitted reasonable access to the Site as necessary to oversee compliance with this Order.

9. The Water Board, pursuant to CWC section 13267, subdivision (b)(1), requires the Dischargers to include a perjury statement in all reports submitted under this Order. The perjury statement shall be signed by a senior authorized representative of the Discharger(s) (not by a consultant). The perjury statement shall be in the following format:

> *I, [NAME], certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

10. The technical reports and other submittals required above shall be complete, accurate, and otherwise adequate as determined acceptable by the Executive Officer.

11. The Dischargers shall provide documentation that plans and reports required under this Order are prepared under the direction of appropriately qualified professionals. California Business

and Professions Code sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgements be performed by or under the direction of registered professionals. A statement of qualifications and registration numbers of the responsible lead professionals shall be included in all plans and reports submitted by the Dischargers. The lead professional shall sign and affix their registration stamp to the report, plan, or document.

12. No later than 14 days from the date of this Order, the Dischargers are required to acknowledge in writing their understanding of the reimbursement process and billing procedures for Water Board oversight of the cleanup work as described in the Reimbursement Process for Regulatory Oversight fact sheet provided to the Dischargers with this Order, by filling out and returning the Acknowledgement of Receipt of Oversight Cost Reimbursement Account Letter or its equivalent, also provided with this Order.

13. Upon receipt of a billing statement for costs incurred pursuant to CWC section 13304, the Dischargers shall reimburse the Water Board.

14. None of the obligations imposed by this Order on the Dischargers are intended to constitute a debt, damage claim, penalty, or other civil action that should be limited or discharged in a bankruptcy proceeding. All obligations are imposed pursuant to the police powers of the State of California intended to protect the public health, safety, welfare, and environment.

Failure to comply with the provisions of this Order may result in the imposition of civil liabilities, imposed either administratively by the Water Board or judicially by the Superior Court in accordance with CWC sections 13268, 13304, 13308, 13350, and/or 13385 and/or referral to the Attorney General of the State of California for injunctive relief or civil or criminal liability. Failure to submit, late or inadequate submittal of technical reports and workplan proposals, or falsifying information therein, is a misdemeanor and may subject the Dischargers to additional civil liabilities. This Order does not preclude or otherwise limit in any way the Water Board's ability to take appropriate enforcement action for the Dischargers' violations of applicable laws, including, but not limited to, discharging without a permit and failing to comply with applicable requirements. The Water Board reserves its rights to take any enforcement action authorized by law.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on July 6, 2017.

Digitally signed by Bruce H. Wolfe
Date: 2017.07.06 12:57:52 -07'00'

Bruce H. Wolfe
Executive Officer

Appendix A: Inspection Report of September 19, 2016, Water Board inspection

INSPECTION REPORT

To: Bremer Family Winery Vineyard Case File
Place ID 829621

December 13, 2016

From: Michael Napolitano, Engineering Geologist
Agnes Farres, Environmental Scientist
Fred Hetzel, Environmental Scientist

Approved by:

Subject: Inspection of the Bremer Family Winery Vineyard, Napa County

On September 19, 2016, San Francisco Bay Regional Water Quality Control Board (Water Board) staff performed an inspection of the Bremer Family Winery Vineyard, located in St. Helena, Napa County.

Michael Napolitano, Agnes Farres, and Fred Hetzel conducted the site inspection along with Napa County staff (Brian Bordona and Patrick Ryan), a California Department of Fish and Game warden (Mark White), and one of the landowners (John Bremer) and his project engineers (Drew Aspegren and Diane Jackson with Napa Valley Vineyard Engineering). The inspection purpose was to assess site conditions after Water Board staff received complaints related to construction of the vineyard.

Background

The site is underlain by Ash-Flow Tuffs of the Sonoma Volcanics Formation, characterized by very shallow and rocky soils in most locations throughout the property except for in topographic hollows, channels, and alluvial fans. In 2013, Napa County approved an erosion control plan that authorized the placement of fill on the site to create a “new soil” that allows sufficient depth for rooting of the vineyard. The vineyard fills are wedge-shaped, typically flat or gently sloping, with fill thickness decreasing to zero at the upslope boundary, and at maximum thickness and buttressed at the down-slope edge by unreinforced boulder-cobble rock walls approximately 6-10 feet high.

Staff Observations and Concerns

1. **An unnamed intermittent or ephemeral stream channel, that is hydrologically connected to the Napa River, was ditched and culverted during the current phase of vineyard development.** Vineyard blocks were developed directly adjacent to the channelized stream, with eight- to ten-foot-high rock walls now forming the banks of the stream. Prior to development, as evidenced by review of time-sequential aerial photographs available in Google Earth, there was a continuous physical connection between this unnamed stream and a named blue-line stream (Canon Creek), and wet-season flow was evident. Prior to development the stream alternated between single-thread and multiple-threaded reaches, cascade bedforms were common, and vegetation on the rocky floodplain for the channel was dominated by chapparal species.

2. **Post-vineyard development increase in storm runoff peak does not appear to be fully attenuated**. Key assumptions in the original hydrologic model for the vineyard development project appear unreasonable or imprudent (e.g., a persistent improvement in soil infiltration capacity as a result of deep ripping; taking advantage of a recent fire over part of the property to assume reduced infiltration capacity under the pre-development condition; not accounting for decreases in time of concentration as a result of ditching and placement of subsurface drainage pipes, etc.). As a result, it is plausible that the constructed detention basin is significantly undersized.

3. **No filter fabric was placed between the rock walls and fill, and the rock walls may be vulnerable to differential settlement and soil piping**, which has the potential to result in significant sediment discharge to Canon Creek. In our discussion with the project engineer, we learned that the fill is not keyed or benched except at the contact with the rock wall. There has been no engineering analysis performed to confirm that the rock walls will remain stable under expected loads. The rock walls should be subject to a design review by a qualified geotechnical engineer.

Attachments

Attachment A – Site Inspection Photographs
Attachment B – Map of Channelized Stream

Attachment A – Site Inspection Photographs
Bremer Family Winery Vineyard
Inspection Report

Photo 1. Lower portion of unnamed intermittent stream that was channelized (looking upstream).

Photo 2. Lower portion of unnamed intermittent stream that was channelized (looking upstream).

Attachment A – Site Inspection Photographs
Bremer Family Winery Vineyard
Inspection Report

Photo 3. Upper portion of unnamed intermittent stream that was channelized (looking upstream).

Photo 4. Confluence of channelized unnamed intermittent stream and Canon Creek (looking upstream).

Attachment A – Site Inspection Photographs
Bremer Family Winery Vineyard
Inspection Report

Photo 5. Example photograph of rock walls.

Photo 6. Photograph of detention basin.

Attachment B – Map of Channelized Stream
Bremer Family Winery Vineyard
Inspection Report


Stream Path Change
This map overlays the May 2012 pre-construction stream path with the current channelized stream.
Legend
Creek course as of May 2012
Google earth

A Tradition of Stewardship
A Commitment to Service

Planning, Building & Environmental Services

1195 Third Street, Suite 210
Napa, CA 94559
www.countyofnapa.org

David Morrison
Director

DATE:
September 19, 2016

NOTICE OF VIOLATION

IMPORTANT ENFORCEMENT INFORMATION

This letter is a courtesy notice to advise you that multiple code violations exist on the property identified below. Our department encourages voluntary compliance and you are being given the opportunity to correct the violation identified in this notice before further enforcement action is taken.

NAME OF PERSON/ENTITY	ADDRESS OF VIOLATION:	MAILING ADDRESS:
John Alex & Laura Joyce Bremer TTEE Bremer Family 1995 Living Trust Dba Bremer Family Winery American Ag Credit, FLCA	975 Deer Park Road St. Helena, CA APN#s 021-400-002 & 021-400-005	975 Deer Park Rd St. Helena, CA. 94574 42429 Winchester Rd Temecula, CA 92590

CODE SECTION(S) VIOLATED:	VIOLATION DESCRIPTION:
2013 California Building Code Section 105.1 - Permits Required and 111 – Certificate of Occupancy	The following items were constructed or installed without building permits: APN: 021-400-002 • Outdoor plumbing to a sink. • Alteration of residential structure for winery-related improvements or uses without proper building permit. • Occupancy and use of the cave for wine storage has changed and used for events and tastings. Cave is permitted as a type II and requires a building permit to change occupancy. APN: 021-400-005 • Construction of rock walls in excess of four feet in height. • Construction/installation of three (3) 10,000 gallon water tanks
Napa County Code Section 18.104.240 Wineries - Use Permit and Modifications	The following uses and expansion of the winery development area, inconsistent with Use Permit U-697879, include: APN: 021-400-002 • Expansion of winery uses in the main residence for additional offices, and accessory uses such as tastings of wine. • Use of Wine Storage cave for events and tastings. • Increase of winery parking beyond the number of approved spaces.

	• Visitation over the allowed number and days per week- per use permit U-697879. • Visitation on Saturdays and Sundays is not permissible and outside of the allowed days per week. Per U-697879: the Hours of Operation are 8:00am to 5:00pm Monday thru Friday. • Marketing events and food service.
Napa County Code Section 18.20.010-040, AW Zoning District, Winery Definition Ordinance (WDO), and Napa County General Plan	<u>APN: 021-400-002</u> • Rental of the winery for events. • Use of tractor storage shed and grounds with bocce ball court, and pizza oven, for events and wine tastings.
California Health and Safety Code Section 25189.5 and Napa County Code Section 16.28.110	<u>APN: 021-400-005</u> • Improper storage of hazardous materials, e.g. fuel and mechanical fluids stored and/or leaking onto the ground. On September 14, 2016, you indicated that this item would be promptly remedied. If not, this constitutes an ongoing violation.
Napa County Code Section 18.108.070(B) – No otherwise permitted earthmoving activity, grading, improvement shall commence on slopes over five percent until an erosion control plan which complies with the requirements of Section 18.108.080 has been submitted to and approved by the director or designee.	<u>APN: 021-400-005</u> • Ongoing grading and installation of subsurface drainage and related infrastructure within Block N without first receiving County Erosion Control Plan Application review and approval. This activity represents continued and further deviation from the specification contained in previously approved erosion control plan application P11-00317-ECPA.

CORRECTION(S) REQUIRED AND DEADLINE TO CORRECT:

1. Submit a *complete* winery Use Permit Modification application within 30 days of the receipt of this letter or inform this office, upon receipt of this letter, of your willingness to immediately cease all activities not recognized as allowed in UP U-697879 et. seq. The activities to be ceased include but are not limited to: all visitation not allowed per the Use Permit and all marketing events, in any areas and structures not approved for these purposes.

2. Cease all event activities inside the cave, to include: food service, rental of the property for weddings/parties/lunches/dinners.

3. Vacate the following structures/areas not allowed per the WDO and/or approved for winery use by the use permit or subsequent use permit modifications and have not received a Certificate of Occupancy from the Building Official for winery accessory uses such as wine tastings, wine and food events, wine marketing, and retail sales of wine:
   a. use of the upper floor of the residence
   b. outdoor pizza oven area
   c. bocce ball area

4. If a Use Permit Modification is approved for the winery parcel, please submit a complete building permit application

for the above mentioned winery building code violations, within 30 days of the date of the modification approval. When the plans are ready to submit to the Building Division please make an appointment with the Code Enforcement Division so that we may assist you with the application process.

5. Please submit a complete building permit application for the above mentioned non-winery building code violations within 30 days of the receipt of this letter.

6. Grading and vineyard development must cease until the current ECPA modification (P16-00271) has been approved. Vineyard related activity shall be limited to winterization activities necessary to properly protect the site from erosion and as required by approved erosion control plan P11-00317-ECPA.

7. Immediately cease or obtain proper permits to store hazardous materials if such storage is continuing. If materials are stored outside they must be kept in such a manner so as to prevent contact with areas of potential or actual stormwater runoff. Contact Doug Calhoun at (707) 253.4839, with the Environmental Health Division to ensure the storage of all hazardous materials meets State and County code requirements.

8. Within 30 days of the date of this letter, please submit wine production records in the format of copies of the Tax and Trade Bureau forms (TTB) beginning January 2009 through December 2015 for Bremer Family wines and Bob Bolan wines.

9. Please call this office within ten days of your receipt of this notice to arrange a life safety inspection of the winery property.

NAME OF CODE ENFORCEMENT OFFICERS:	DEPT. PHONE NUMBER:
Linda St. Claire LSC Attorneys 9/14/16	(707) 299-1348
District Supervisor:	
Diane Dillon	Supervisor District 3

YOU FACE THE ENFORCEMENT MEASURES BELOW UNLESS YOU PROMPTLY CORRECT THE ABOVE-DESCRIBED CODE VIOLATION(S)

Unless you come into compliance with the County Code and correct the violations described above by the date specified above, one or more of the following code enforcement measures will be implemented by the County:

1. **Issuance of a Citation pursuant to Napa County Code Chapter 1.28.**
Under Chapter 1.28 of the Napa County Code, Code Enforcement staff may issue a Citation. The issuance of a Citation for a violation of the Code shall, unless the violation is corrected prior to the deadline stated in the Citation, result in the imposition of administrative penalties. Such penalties may vary with the type of violation, but currently the lowest penalties that may be levied are as follows:

   - $100 for the first violation
   - $200 for the second violation of the same Code provision within 1 year
   - $500 for the third violation and for each additional violation of the same Code provision within 1 year.

a) For violations that pertain to real property, the Citation will be recorded with the Napa County Recorder's office and constitute a lien on the property if you fail to correct the violation by the deadline stated in the Citation.
b) You will be given an opportunity to request a hearing before a hearing officer to contest the Citation and/or to contest the administrative penalties or recordation of the Citation.
c) If you fail to pay an administrative penalty and/or fail to correct the Code violation after a Citation is issued, the matter will then be referred to County Counsel or the District Attorney for further enforcement through civil litigation proceedings and a lien for the amount of unpaid penalties will be recorded on the property and may be subject to foreclosure proceedings to enforce the lien.

2. **Issuance of Notice of Nuisance pursuant to Napa County Code Chapter 1.20**

a) Alternatively, the Enforcement Officer may issue a Notice of Nuisance pursuant to Napa County Code Section 1.20.040, which will be copied to all lienholders of record of the property.
b) This Notice will include an order to abate the nuisance by a specified, reasonable time.
c) If the violation is not corrected by the stated deadline, an abatement hearing may be held before the Napa County Board of Supervisors.
d) The Board may, if it finds a nuisance exists, order the violator to pay all administrative costs incurred in the course of abatement proceedings and investigation.
e) Recordation of the notice of nuisance and imposition of administrative penalties under Chapter 1.28 may also occur.
f) Depending on the nature of the violation and whether it poses a threat to health and safety, County Code Enforcement may choose to engage in summary (immediate) abatement steps to eliminate the nuisance without an administrative hearing before the Board of Supervisors.

3. **Issuance, if applicable, of a Notice of Violation and Order to Repair or Abate Substandard Housing Conditions pursuant to Health and Safety Code Sections 17980 and 17980.6.**

a) The Notice of Violation as to substandard housing conditions will include an order to remedy the violation(s) within a reasonable period of time.
b) Administrative penalties under Chapter 1.28 may also be imposed if the conditions are not corrected by the deadline stated in the Notice.
c) If the violations are not corrected by the deadline, the Notice of Violation will be recorded with the Napa County Recorder's office and constitute a lien on the property.
d) Failure to correct substandard housing conditions may also result in appointment of a receiver for the property affected by the violation.

4. **Referral to County Counsel or the District Attorney for Filing of Enforcement Proceedings in Court.**

Depending on the circumstances and severity of the violation, direct referral of a violation to County Counsel or to the District Attorney for filing of enforcement proceedings may occur at the outset, without the issuance of a Citation or the other Notices described above. Pursuant to Napa County Code Section 1.20.155, in the course of such litigation, the County may seek civil penalties up to $1,000.00 for each day that the violation continues to exist.

A Tradition of Stewardship
A Commitment to Service

Planning, Building & Environmental Services

1195 Third Street, Suite 210
Napa, CA 94559
www.countyofnapa.org

David Morrison
Director

DATE:
October 18, 2016

NOTICE OF VIOLATION

IMPORTANT ENFORCEMENT INFORMATION

This letter is a courtesy notice to advise you of the code violations which exist on the property identified below. A Courtesy Notice was sent to you on September 16, 2016 which identified a number of violations. These violations were subsequently identified during an inspection that occurred on October 6, 2016. Our department encourages voluntary compliance and you are being given the opportunity to correct the violation identified in this notice before further enforcement action is taken.

NAME OF PERSON/ENTITY	ADDRESS OF VIOLATION:	MAILING ADDRESS:
Scott Greenwood-Meinert	975 Deer Park Road St. Helena, CA	1455 First Street, Suite 301 Napa, CA 94559
John Alex & Laura Joyce Bremer TTEE Bremer Family 1995 Living Trust Dba Bremer Family Winery	APN# 021-400-002	975 Deer Park Rd St. Helena, CA. 94574
American Ag Credit, FLCA		42429 Winchester Rd Temecula, CA 92590
Cc: Chron, File		

CODE SECTION(S) VIOLATED:	VIOLATION DESCRIPTION:
1. 2013 California Building Code Section 105.1 Permits Required	APN: 021-400-002 – The following items were constructed or installed without building permits: • Framing and electrical alterations on the second floor of the winery building. • Fermentation tanks installed. • Catwalks installed. • Rock walls in excess of four feet. • Stairs reconstructed without permits.
2. 2013 California Building Code Section 116 Unsafe Structures and Equipment	APN: 021-400-002 – The following items were constructed or installed without building permits: • Unprotected electrical throughout winery. • Inadequate guardrails along creek and foot bridges. • No hand rails on reconstructed stairs around winery, main dwelling and bocce/courtyard area.
3. Napa County Code Section 18.108.025 General Provisions- Intermittent/perennial	APN: 021-400-002 – The following items were constructed or installed in violation of NCC Section 18.108.025:

streams – Construction of structures, earthmoving activities, grading or removal of vegetation shall be prohibited within the stream setback areas unless specifically permitted, exempt, or authorized through the granting of an exception.	• Construction of rock walls and walking bridges in the creek and the creek setback.
4. California Fire Code	APN: 021-400-002 During the inspection, the Fire Marshall provided a list of safety items that need to be addressed to comply with the California Fire Code. See attached.
5. Napa County Code Section 18.144.040 Nuisance	APN: 021-400-002 Any building set up, erected, built, moved or maintained, and any use of property contrary to the provisions of this title, shall be hereby declared to be unlawful and a public nuisance.

CORRECTION(S) REQUIRED AND DEADLINE TO CORRECT:

1. Cease all construction until building permits have been issued and within 30 days submit an alteration or demolition application with the Building Division for the construction which has occurred.
2. As a part of the building permit alteration application for all of the stairways, please include handrails where required.
3. Submit within 30 days of the date of this notice, an application requesting an exemption from the Napa County Conservation Regulations. There is no guarantee that the exemption can be granted until a review of the application has been completed by this department. Alternatively, remove all of the rock walls constructed within the creek setback (not during the winter shutdown period).
4. Upon receipt of this letter, please respond in writing to the Cal Fire Marshall with information about how you will correct the deficiencies identified in the Fire and Life Safety Compliance Order (attached).
5. Upon receipt of this letter, please respond in writing to the Code Enforcement Division and identify how you will correct these violations in order to reach compliance with the 2013 California Building Code and Napa County Zoning Code.

NAME OF CODE ENFORCEMENT OFFICERS:	DEPT. PHONE NUMBER:
Linda St. Claire Linda St Claire	(707) 299-1348
District Supervisor:	
Diane Dillon	Supervisor District 3

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c) If the violations are not corrected by the deadline, the Notice of Violation will be recorded with the Napa County Recorder's office and constitute a lien on the property.
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NAPA COUNTY FIRE DEPARTMENT

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

CAL FIRE

FIRE MARSHAL'S OFFICE

1199 Big Tree Road, St. Helena, California 94574-9711
Phone: (707) 967-1419 Fax: (707) 967-1474

FIRE AND LIFE SAFETY COMPLIANCE ORDER

Facility Name: BREMER Contact Person: _____

Address: 975 DEER PARK City/Town: ST. HELENA Zip Code: _____

Phone Number: 963.5414 Inspection Date: 10/5/16 Occupancy Class: S F

THE PROPERTY IS IN *VIOLATION* OF THE FOLLOWING:

CA. FIRE CODE _____ CA. BUILDING CODE _____

CA. HEALTH & SAFETY CODE _____ NFPA _____

OTHER _____

1) FARM HOUSE NEEDS SINGLE ACTION HARDWARE W/NO KEY LOCKS FROM INSIDE
2) FARM HOUSE REQ'S 1 EXTINGUISHER 2A:10BC
3) WINERY MAIN DOOR REQ'S SINGLE ACTION HARDWARE / NON LOCKABLE
4) MOUNT EXTINGUISHER IN WINERY IN VISIBLE LOCATION
5) REMOVE TABLES & CHAIRS FROM CAVE
6) REPLACE GREEN EXIT SIGNAGE TO UPDATED SIGNS
7) INSPECT & RECORD EXTINGUISHER TAGS MONTHLY
8) MAINTAIN 36" EMERGENCY WALKWAY IN ALL ROOMS & HALLS
9) SERVICE ALL EMERGENCY LIGHTING FIXTURES IN CAVE. CFD?
10) BARN - ADD EXTINGUISHER
11) BARN - SECURE PROPANE TANKS
12) CELLAR UPSTAIRS ADD EXTINGUISHER
13) COPY OF CAVE KEY FOR KNOX BOX
14) NEED TO ACQUIRE COPY OF FIRE ALARM RECORDS

☐ Supplemental Attached

The deficiencies identified above are to be corrected immediately. On _____, a reinspection will be conducted.

COMPLIANCE IS MANDATORY. FAILURE TO DO SO MAY RESULT IN LEGAL ACTION.

INSPECTOR

Thomas Greenwood
RECEIVED BY / TITLE

DICKENSON PEATMAN & FOGARTY

1455 First Street, Suite 301
Napa, CA 94559

T: 707.252.7122
F: 707.255.6876

SCOTT GREENWOOD-MEINERT
scottgm@dpf-law.com

October 6, 2016

Linda St. Claire, Planner II
Napa County Planning, Building and
Environmental Services Department
1195 Third Street, Room 210
Napa, CA 94559

Re: AP# 021-400-005

Dear Ms. St. Claire:

This letter is in response to the Notice of Violation (NOV) you issued to John and Laura Bremer regarding their vineyard development on Deer Park Road. The NOV also includes issues that are addressed in a separate letter regarding the Bremer Family Winery on other property owned by the Bremers.

1. The NOV states that the construction of rock walls in excess of four feet in height is in violation. There are no rock "walls" on the property. There are piles of rocks that were excavated from the property that are sloped substantially as shown on the approved Erosion Control Plan. We have email confirmation from Brian Bordona on August 21, 2016 that he concurs that the rock piles conform with the ECP.

2. The NOV states that the installation of three water tanks is a violation. The water tanks have been brought to the property in preparation of obtaining a building permit for the foundations. They have not been "installed" yet.

3. The NOV states that there was improper storage of hazardous materials. There was some equipment that was leaking fluid that was immediately removed from the property well before the NOV was issued. This would have been an easy item to confirm compliance with instead of including it in the NOV.

4. The NOV states that ongoing grading and installation of subsurface drainage and related infrastructure is being done without review and approval. Revised Plans for Block N/O were first submitted in February, 2016. They were then re-submitted in June as "as builts" with a more comprehensive set of proposed revisions for other Blocks pursuant to County Code § 18.108.080.E and F. Highlights of the "as builts" are the retention of the roadway in its current position and an improved location for the run off pond that better uses the natural slope of the property, both of which allow for the retention of more mature oak trees on the property and reduced grading. At a minimum, these plans are equivalent to the original ECP and perhaps better. As of the NOV date, to the best of our knowledge, the submittals for Block N/O still have not been reviewed by staff, causing a regulatory catch-22 for the Bremers.

If there are other issues with the Block N/O Revised Plans, they should be more specifically articulated.

Accordingly, the NOV citations are not correct or are insufficiently detailed or the result of delay beyond the Bremers control. However, the Bremers are at a stopping point as mandated winterization efforts are now underway. Mr. Ryan met yesterday at the vineyard with Greg Nowell, Drew Aspergren and Diane Wilson to go over those winterization efforts. Perhaps now is an opportune time for County Staff to complete its review of the June, 2016 submittal so both parties can use this winter to establish a new "as built" baseline for work to recommence in the spring.

Respectfully,

DICKENSON, PEATMAN & FOGARTY

Scott Greenwood-Meinert

SGM:bab

cc: John and Laura Bremer
Tim Hoyt, Code Enforcement
David Morrison, Director
Minh Tran, County Counsel

DICKENSON PEATMAN & FOGARTY

1455 First Street, Suite 301
Napa, CA 94559

T: 707.252.7122
F: 707.255.6876

SCOTT GREENWOOD-MEINERT
scottgm@dpf-law.com

October 6, 2016

Linda St. Claire, Planner II
Napa County Planning, Building and
Environmental Services Department
1195 Third Street, Room 210
Napa, CA 94559

Re: 975 Deer Park Road; AP# 021-400-002

Dear Ms. St. Claire:

This letter is in response to the Notice of Violation (NOV) you issued to John and Laura Bremer regarding their winery, Bremer Family Winery, on Deer Park Road. The NOV also includes issues that will be addressed in a separate letter regarding their Erosion Control Plan for other property owned by the Bremers.

1. The NOV states that outdoor plumbing to a sink was installed without a building permit. The Bremer's were unaware that an outdoor sink required a building permit. The Bremers will apply for the required plumbing permit by the end of October, 2016 or will remove the sink.

2. The NOV states that alterations were made to the residence for winery-related uses. A 1991 building permit for the residence (one of many building permits in the County's files) clearly shows "existing offices" in the residence. The use of the residence for offices may very well have begun at the time of the Use Permit. Building permits were also pulled to modify the exterior of the residence, including to fix the roof and add a walk-around porch. No interior alterations have been done other than temporary cabinetry in the laundry room for temporary use as a laboratory. The Bremers will obtain a building permit by the end of October, 2016 to use the permitted second story in the winery and relocate the laboratory there. They are evaluating the movement of the offices as well.

3. The NOV states that the occupancy of the caves (properly permitted) has changed and it is used for events and tastings. We understand that a winery employee incorrectly told you that occasional tastings for winery customers have occurred in the caves. In fact, customer tastings or events never occur in the caves. The owners uses the caves for sampling wine in bulk and bottle with the winemaking staff as part of the normal winery operations, like every other winery in the valley, but there is no commercial component as defined in the County Code for those activities.

4. The NOV incorrectly states that there has been an increase in the number of parking spaces allowed by the winery use permit. The use permit required a minimum of five parking spaces but does not limit how many more than five may be installed.

5. The NOV states that visitation on weekends is not permitted by the winery use permit. The NOV also states "marketing events and food service" as a bullet point but does not specify what

the alleged violation is. The winery use permit approved in 1979 does not limit the hours or days of operation of the winery. The use permit also only prohibits public tours and tastings, but does not limit the number of visitors to the winery by appointment. Consistent with current county policy (See Opus One UP modification staff report; 5/18/2016), the numbers written on supplemental application forms for pre-WDO wineries do not limit the number of actual activities conducted by the winery unless there are specific conditions stating such limitations. Since there are no limitations in this use permit the winery may operate seven days per week and have as many visitors by appointment and marketing events as have been historically occurring.

6. The NOV states that the rental of the winery for events is a violation. The winery use permit does not contain any prohibition on the owners renting the winery to third parties.

7. The NOV states that the tractor storage shed and grounds with bocce ball court and pizza oven are used for events and wine tasting. The tractor storage shed is an old, partially renovated rock sided (three sides) structure in which a 1928 Model A pickup is stored, along with firewood. It is not used for any winery purpose. The winery use permit does not prohibit the bocce ball court or pizza oven to be used for guests to the winery.

Once the laboratory is moved out of the house and into the approved winery building there will be no violations of the winery use permit and an application for a modification will not be necessary. The Bremers do intend to apply for a modification to increase production in the very near future, and at that time will establish a baseline for daily visitation and marketing plan for review by the Planning Commission and County Staff.

Respectfully,

DICKENSON, PEATMAN & FOGARTY

Scott Greenwood-Meinert

SGM:bab

cc: John and Laura Bremer
Minh Tran, County Counsel
David Morrison, Director
Tim Hoyt, Code Enforcement

SCOTT GREENWOOD-MEINERT
scottgm@dpf-law.com

November 18, 2016

VIA EMAIL: linda.stclaire@countyofnapa.org

Linda St. Claire, Planner II
Napa County Planning, Building and
Environmental Services Department
1195 Third Street, Room 210
Napa, CA 94559

Re: Notices of Violation and Your Letter of October 31, 2016

Dear Linda:

Bremer Family Winery will not be submitting a use permit modification today. While we appreciate your extension of the due date for the Notice of Violation of September 19, 2016, given the additional Notice of Violation of October 18, 2016, the interceding time-consuming winterization efforts regarding the Erosion Control Plan, efforts to comply with the Fire Marshall's list of items regarding the cave, and other due diligence matters related to the history of the winery, the Bremer Family Winery simply has not been able to complete the tasks and analysis necessary to submit anything more than an unacceptably incomplete application. We do expect to have a more adequate use permit modification submitted before the Thanksgiving holiday for Planning staff to evaluate.

We will also be presenting evidence to the County regarding historic visitation levels and historic property conditions that we believe will be better suited to a Certificate of Legal Conformity ("CLC") process, as your letter of October 31, 2016 alludes to in its third paragraph. We do not agree with your implicit concession argument in that same paragraph. A winery owner's complying with an express permit condition does not mean that the winery's owner concedes to the County's position regarding a matter not addressed at all in the original permit. The September NOV makes it clear that the County's position is cease all visitation and marketing, yet the County was apprised ahead of the NOV that the Bremers' believed that the winery has pre-WDO private tours and tastings as well as marketing rights. While the WDO provides for a CLC process, as you properly noted, this process was not previously known to the Bremers' and the Notices of Violation make no mention of that process at all for resolving such issues. Frankly, your estimation process as set forth in paragraph 4 and 5 of your letter is insufficiently detailed and fails to enumerate every factor involved or state with specificity the analysis involved in reaching your conclusions.

Furthermore, the 1979 permit did not require any submittals regarding "marketing plan." The WDO acknowledges that such a thing didn't exist prior to it. So it remains arguable, and to be established by the County and the Applicant, what those marketing levels are or were. It is

wrong for the County to say that an owner of a winery operating pursuant to a 1979 permit that did not address marketing events or private tours and tastings "per se" violates that very same permit by "expanding" operations beyond the 1979 permit as the County as done here. Why not simply ask the winery to establish those rights through a CLC process instead of threatening the very use permit and therefore the business itself. Furthermore, the CLC process is not confined to "documented evidence of historical use." The CLC process allows for personal evidence, anectodal evidence and so forth, acknowledging that an owner should not be constricted in right by poor record keeping by prior owners or documents simply being lost in time. For instance, there was no legal requirement to even keep visitation or marketing records prior to the WDO and some of the first CLC applicants provided verbal evidence that was sufficient for the deciders.

We will also be providing evidence that the office in the ground floor of the farm house has been longstanding, pre-dating the Bremers' ownership of the winery and the Bremers will wish to continue that use going forward. Please note that Bremers did not submit that building permit application in 1991 as they did not own the winery then. Nevertheless, the office will be either processed through a use permit modification or through the CLC process, and in either event the space should be factored in the

As indicated previously, the remainder of any winery uses in the farm house has been merely temporary and will be moved to the second floor of the winery itself. Your October 18, 2016 NOV details a great number of building permit violations that will be addressed by a series of building permit applications that will follow shortly. Greg Nowell, the Bremers' architect, will be in charge of submitting those and he is working on the drawings and schematics for those right now.

We disagree with your analysis of the WDO as to bocce ball courts and the sport of bocce being not allowed by the WDO. The WDO is obviously silent on this issue, as is the General Plan. What is hospitality and what is accessory are not finitely articulated in the either the General Plan or the WDO. In fact, the General Plan and the WDO contemplate hospitality and accessory uses and in many instances throughout the valley bocce has been approved by the Planning Commission and the Board of Supervisors for wineries. The Bremers will quite likely be asking for the inclusion of the bocce and pizza oven/sink be included for the winery through the upcoming use permit modification. We will not be arguing that the bocce court was installed by anyone other than the Bremers after they acquired the winery.

Please be aware that the exterior fermentation tanks were installed when the Bremers bought the winery. But they will be seeking the appropriate after the fact building permits for those. They did not know that such a thing was required.

There is, as you noted, unprotected electrical wiring in the original historic first floor of the winery that pre-dates the Bremers' buying the winery. They will address all such wiring issues

through a building permit process and carefully seek to preserve the architectural heritage of the historic winery in that process.

Fire Code issues are almost completely addressed and on one or two items the Bremers are seeking further clarification from the Fire Marshall in order to comply.

As mentioned in an email to you, the rock walls in the creek predate the Bremers ownership of the winery and in fact those rock walls may predate the Conservation Regulations. We are not interested in getting California Fish & Wildlife involved in any process until we have finished researching when those rock walls were installed. They were there as early as 1993 according the Bremers as they were observed by the Bremers on their first visit to the winery as customers that year. We also disagree that guard rails are required on those rock walls. The guardrails on the foot bridges are being further evaluated for their compliance with the building code. The handrails on stairs and the bocce/courtyard area are also being evaluated.

We would also like to reiterate that the winery cave has not been used for events or tasting. Nor is that intended at this time. However, the Bremers will be converting a portion of the cave to the private tasting room and perhaps beyond to a Class 3 cave so that they can at least personally use that space for their own private tasting and library wine storage. They will be getting the appropriate building permits for sprinkler for that purpose and are presently in the process of designing those sprinklers and the items that go with that.

Finally, as mentioned in my letter to you of October 6, 2016, the Bremers submitted revised ECP plans with PBES in June without any comment to date. The Bremers continue to be concerned that you may be doing your job in a time sensitive and professional manner, but that others have not provided any written comment on June submittals that may very well have addressed some items of concern in your September NOV. We are very close to six months having elapsed regarding those ECP submittals and yet the Bremers are doing everything they can to get the PBES Department a meaningful use permit modification and CLC application in less than two months, with the Bremers efforts being far more costly and time-consuming. This does not seem fair, to say the least.

Please let me know if you would like to meet to discuss this further. We certainly appreciate your patience and understanding with us on this considerable effort.

Respectfully,

DICKENSON, PEATMAN & FOGARTY

Scott Greenwood-Meinert

cc: John and Laura Bremer
Tim Hoyt, Code Enforcement
David Morrison, Director
Minh Tran, County Counsel

MEETING REPORT

Meeting Date:
Monday, July 25, 2016 at 10:00am

Attendees:
Warden Mark White, DF&G Warden
Suzanne Gilmore, DF&G Scientist
John Bremer
Greg Nowell

1. Suzanne said the project would have required a DF&G 1601 permit.

2. DF&G defines creeks differently than County. They don't deal with setbacks. They consider all of it to be habitat. Widths can vary and not necessarily relate to County setbacks.

3. The defined channels are their concern. This goes farther than just blue line streams. They can claim a wider jurisdiction. She mentioned the off-site drainage channel adjacent to the southern property line as a habitat they would have evaluated.

4. We should fence tree clusters inside of the perimeter fence, so they don't attract deer to jump the fences.

5. To satisfy DF&G, Suzanne wants us to either - 1) produce the letter saying that DF&G reviewed and took no issue, or that issues were mitigated; or 2) voluntarily consult with DF&G and do the things she would have wanted us to do if we were to apply for a permit. This is so she can write a letter saying we complied with the requirements. If we do this, the 1601 permit will not be required.

6. She suggested that we not use straw wattles with plastic mesh because it is bad for reptiles.

7. She wants us to fill-in under the perimeter fencing to prevent small mammals from entering.

8. DF&G would not have approved the channelization of the stream bed (between Blocks K & L/M).

9. DF&G would not have approved the tank location at Well 1 - it is too close to the creek. It intrudes into habitat, even if not within County setbacks.

10. Suzanne directed us to direct future communications to Warden White. He will get her involved if/when needed to review and give comments.

END MEETING REPORT

COUNTY OF NAPA
CONSERVATION, DEVELOPMENT & PLANNING DEPARTMENT
1195 THIRD ST., ROOM 210
NAPA, CA 94559
(707) 253-4416

Initial Study Checklist
(Reference CEQA, Appendix C)

1. Project title: Bremer Family Winery Vineyard Conversion: Agricultural Erosion Control Plan (ECPA) #P11-00317-ECPA

2. Property owner(s): Laura and John Bremer, Maryann and Gregory Nowell*

3. Contact person and phone number: Donald Barrella, Planner III, (707) 299-1338, donald.barrella@countyofnapa.org

4. Project location and APN: 975 Deer Park Road, St Helena California, 94574
   021-400-002, -004, - 005, 021-420-027, 025-370-057*, and -058 (Figures 1 and 2).

5. Project sponsor's name and address: Laura Bremer, Bremer Family Winery, 975 Deer Park Road, St. Helena CA 94574
   Agent: Tom Carey, Dickenson Peatman & Fogarty, 809 Coombs Street, Napa, CA 94559

6. General Plan description: Agriculture, Watershed & Open Space (AWOS)

7. Zoning: Agricultural Watershed (AW)

8. Description of Project. (including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation.)

   The project includes earthmoving, clearing of Chamise/chaparral, Live oak woodland, and Grey pine woodland, and installation of erosion control measures associated with the development of approximately 34.6-acres of new vineyard and access roads (±26 net vine acres) related to 24 vineyard blocks (i.e. the project area or project site) located on an approximate 156.3-acre holding (the subject property). Typical slopes within the project area boundaries range from 6% to 40% with an average slope of 22.5%: approximately 3-acres of noncontiguous area within the project area are proposed for development on slopes over 30%. Approximately one thousand fifty nine (1,059) trees are proposed to be removed. Rock generated from vineyard development would be utilized in the construction of erosion control measures (detention basin, rocked lined ditches and channels, and outfall protection), rock storage benches, the construction of retaining walls, surfacing of the access roads and vineyard avenues, and for rock mulch within the vineyard: any remaining rock would be stored within the vineyard development area. Water from two existing on-site wells would be used for vineyard irrigation via a drip irrigation system. No frost protection is being proposed as part of the project.

   Erosion Control Measures: Temporary erosion control measures include straw mulch applied at 2 tons per acre, fiber roll dikes (i.e. straw wattles), and water bars. Permanent erosion control measures include vegetative or rock-lined diversion ditches and channels, drop inlets and culverts, rock-lined collection basin, water spreaders (one earth berm and one pipe), a detention/sediment basin, rock protected outfalls (primarily associated with water bars), rock storage bench, and a permanent no-till cover crop maintained at a plant residue density of approximately 80%: vineyard avenues and access roads that are not rock surfaced will also maintain a vegetative cover of 80%. Details of the proposed erosion control measures are provided in the Bremer Family Winery Vineyard Agricultural Erosion Control Plan #P11-00317-ECPA[1], dated August 27, 2010 (date stamped January 3, 2012), prepared under the direction of Drew Aspegren (Registered Professional Engineer #31418) of Napa Valley Vineyard Engineering, St. Helena, California (Figure 4).

   Earthmoving: Earthmoving and grading activities associated with the installation of erosion control measures and subsequent vineyard include, but are not limited to, tree and vegetation removal, ripping to a depth of approximately 36 inches, the importation of approximately 15,000 cubic yards (cy) of soils/fill and redistribution of an approximately 12,000 to 15,000 cy of soils stockpiled on the property (imported under County Department of Public Works Permit No. W06-01372) to be utilized in the development of three of the proposed vineyard blocks (Blocks K, L/M, and N), and land smoothing and contouring.

   Other Activities and Features: Other activities and features of the proposed project and subsequent vineyard development and operation:

   a. Installation of a clear span access bridge between proposed Vineyard Blocks L/M and K.
   b. Construction of approximately 3,400 square feet (sq/ft) of new all-weather (i.e. rocked surfaced) access roads/vineyard avenues and the upgrading of approximately 2,100 sq/ft of existing dirt roads to all-weather roads.

[1] Application materials and associated background information are on file and available for review at the Napa County Conservation, Development and Planning Department.

c. The installation of Rock Slope Protection (RSP), which consists of nonwoven filter fabric placed between rock fill utilized in the construction of erosion control measures or other project features and any earthen material.
d. Installation of eight 10,000 gallon water tanks for vineyard irrigation purposes.
e. Installation of wildlife exclusion fencing (8 foot tall deer fencing) generally around the perimeter of proposed vineyard blocks as follows: Blocks A through D as an individual unit; Blocks G and H as an individual unit; Block K as an individual unit; Blocks L/M through CC as an individual unit; and, Blocks DD and EE as an individual unit.
f. Installation of vineyard trellis and drip irrigation systems, and planting rootstock on a 7 foot by 4 foot spacing pattern for a vine density of 1,556 vines per acre.
g. Utilization of an existing developed area near the existing winery and tractor shed as a staging area.
h. Ongoing inspection and maintenance of temporary and permanent erosion control measures.
i. Ongoing operation and maintenance of the vineyard, which includes: vine management (pruning and mildew control), weed control (application of Roundup as needed), irrigation and trellis system maintenance, and fruit harvesting. The use of fertilizers and pesticides is not anticipated as part of the project. Weed control will be accomplished by spot spraying around the base of vines (spray strips within vine rows are not proposed as part of cover crop management) and vineyard blocks of less than one acre will be hand farmed.
j. Environmental Commitments - the owner/applicant, as part of the ECPA, will be including the following elements:
    1. Nest Protection: Pre-construction surveys, conducted by a qualified wildlife professional, for active raptor nests within 500 feet of disturbance/project areas for work conducted between April 1 and August 15. If active nests are present a 500 foot no disturbance buffer from active raptor nests will be implemented and maintained until nestlings have fledged.
    2. Tree protection: Installation of protective fencing around the driplines of trees that border project/development areas or that are designated for retention.
    3. Construction Dust Control: Implementation of a dust control measures consisting of the following: application of water twice daily to areas of active ground disturbance; seeding of disturbed areas as quickly as possible; and, suspension of grading activities when wind gusts exceed 25 m.p.h.
    4. Vegetation Replacement: Development and implementation of a Re-vegetation Plan that includes oak trees, Holly-leaf ceanothus and other native plants.

Table 1 lists a general schedule for the construction of the proposed project and Table 2 outlines general ongoing vineyard operations. The final implementation schedule is pending action on #P11-00317-ECPA: It should be noted that the entire project may not be developed in one phase and development of any subsequent phase(s) would follow the implementation schedule outline in Table 1, and/or development of individual vineyard blocks could be accomplished in one year resulting in activities identified in Year 1 and Year 2 in Table 1 occurring in the same year.

TABLE 1 – IMPLEMENTATION SCHEDULE

Year 1 - April to October	Conduct preconstruction surveys as necessary prior to vegetation removal, earthmoving and grading activities associated with project implementation. Implementation of protection measures for trees and nests (as necessary). Clear existing vegetation, ground ripping, rock removal, and land contouring. Apply soil amendments as needed. Install erosion control measures and winterize project/development areas.
Year 2 - April to October	Construct rock walls, importation and redistribution of fill, land contouring, vineyard layout, install irrigation and trellis systems, Install erosion control measures, plant rootstock. Seed/plant cover crop on entire vineyard including avenues and spread mulch.*
October to April of the subsequent year.	Maintain erosion control measures during rainy season. Reseed cover crop as needed to maintain appropriate cover of any storm damaged areas.
April & Beyond	See annual maintenance schedule for ongoing vineyard operations.

*During the winter months (October 15 to April 1 of the succeeding year), no earthmoving work is allowed by the County (Section 18.108.027.C, Conservation Regulations, Sensitive domestic water supply drainages).

TABLE 2 - ANNUAL MAINTENANCE FOR ALL VINEYARD BLOCKS

January - February	a. Pruning vines.
April - July	a. Sulfur applications to protect against mildew. b. Mowing cover crops
September - October	a. Harvest. b. Winterize vineyard, vineyard avenues, and vineyard roads.
November -April	a. Monitor and maintain erosion control measures, culverts, and diversion ditches, outfalls during rain events. b. Weed Control

Implementation of the project will be in accordance with the Bremer Family Winery Vineyard ECPA, and the accompanying narrative prepared by Drew Aspegren (RPE #31418). The project is further described in the application materials and *Supplemental Project Information.* All documents are incorporated herein by reference and available for review in the Napa County Conservation Development and Planning Department.

9. Describe the environmental setting and surrounding land uses.

The proposed project would occur on an approximate 156.3-acre holding (the "subject property") located on the east side of Deer Park Road at its northern intersection with Sanitarium Road (Figures 1 through 3). The approximate 34.6-acre project area (or project site) is located predominately within the southern portion of the subject property south of the existing Bremer Family Winery: approximately 28-acres of the project area are located in the southern portions of the holding and approximately 6.6-acres of the project area are located immediately north and south of the existing winery facility. An existing all weather access drive that provides access to the existing winery also provides access to the northern portions of the project site. An existing access drive that provides access to 881 Deer Park Road and 150 Pine Place would provide access to the southern portions of the project site from Deer Park Road (Figures 1 through 3). The subject property is bordered to the north and east predominately by undeveloped woodlands and shrub-lands, to the west by Deer Park Road and existing rural residences, and to the south by existing rural residences.

Land uses within the immediate vicinity (i.e. within approximately 0.5 to1 mile) of the subject property predominately consist of rural residential, scattered agricultural uses (vineyards and wineries), and undeveloped woodlands and shrub-lands. There are 4 producing wineries (Rossini, Burgess Cellars, Viader Vineyards, and the Bremer Family Winery – further described below) and 3 approved wineries (Broman Cellars, Vineyard 22, and Woodbridge) within approximately one-half mile of the property. The St. Helena Hospital is located approximately 0.5 miles to the southwest of the property and the Bell Canyon Reservoir is located approximately 0.5 miles to the northwest of the property. The nearest school (Foothill Elementary) is located approximately 0.75 miles to the south. The nearest residence is approximately 150 feet from the project site (945 Deer Park Road – The lands of Broman), the next nearest residences are located approximately 500 feet to the south and west of the project area.

The project area is located at elevations between approximately 460 and 810 feet generally within the foothills associated with Howell Mountain. General topography of the project site consists of gentle to steeply west facing slopes that range from 6% to 40% with an average slope of ±22.5%. General topography of the area consists of western facing hillsides associated with the foothills of Howell Mountain. More sloped terrain containing canyons and peaks (elevations over 2700 feet) that are associated with Rattle Snake Ridge and Bell Canyon located to the north and Howell Mountain (elevations over 1900 feet) to the east.

No faults have been mapped on the project site: the nearest mapped faults are located over 1.5 miles to the southeast and over 4.5 miles to the south west. The West Napa fault and Green Valley fault are located over 10 miles and 18 miles, respectively, to the south of the subject property (Napa County GIS: Faults, West Napa Fault and Alquist-Priolo fault layers). Soils of the project area, as classified in the United States Department of Agriculture Soil Conservation Service's Napa County Soil Survey (USDA, Soil Survey of Napa County, 1978) consist of the following: Aiken loam 2 to 15% (Series #100) which exhibits medium runoff and slight erosion potential; Boomer gravelly loam 30 to 50% (Series #109) which exhibits rapid runoff and moderate erosion potential; Cortina very stony loam 0 to 5%(Series #125) exhibits slow runoff and slight erosion potential; Rock outcrop-Kidd Complex 50 to 75% slopes (Series #177), exhibits rapid runoff and very high erosion potential.

The vegetation types of the area and the subject property generally consists of the following: chamise/chaparral (shrubland), oak woodland, annual grassland, coniferous forest, and vineyard (Napa County Geographic Information System Sensitivity Maps/Layers: Vegetation I.C.E. layer). Vegetation types within the subject property, according to the project biologist (Kjeldsen Biological Consulting, November 2011) are as follows: approximately 53.75-acres of Live Oak/Bay woodland located primarily in the northern portions of the property (including approximately 0.75-acres of Blue Oak woodland located along the southern border of the property), approximately 68-acres of Chamise shrubland located predominately in the southern portion and the very northern end of the property, approximately 8-acres of Grey Pine woodland located in isolated stands primarily in the northern portions of the property, approximately 3-acres of Douglas Fir forest in an isolated stand located in northern portion of the property, and approximately 8-acres of riparian drainage associated with a blue line watercourse that bisects the northern portion of the property (discussed further below) that falls within the broader Live Oak/Bay, Grey Pine and Douglas Fir woodlands/forests. There are also approximately 5-acres of existing vineyard located in the western portion of the property along Deer Park Road generally at the entrance to the winery facility (975 Deer Park Road), and approximately 10-acres of previously disturbed land associated with the development of the existing winery and single family residence (150 Pine Place) located on the subject property (see Figure 3, 4 and 7). In October of 2008 a wildfire in this area (primarily east of Deer Park Road) burned approximately 300-acres, approximately 80-acres of which occurred on the subject property (Wooster, March 2011).

The subject property and project area are located in the Canon Creek drainage. There is one primary seasonal (intermittent) drainage feature occurring subject property as shown on the St. Helena, Calf. Topographic Quadrangle map (USGS 1978), an unnamed blue line tributary to Canon Creek. Canon Creek is located approximately 0.75 miles south of the property which ultimately connects to the Napa River located approximately 2 miles southwest of the property. The unnamed blue line tributary generally bisects the northern portion of the property in a southwesterly direction: in the southern portion of the property this tributary generally runs along the eastern side of Deer Park Road in a southerly direction (see Figures 1 and 2). There is one other seasonal drainage feature located within the southwest corner of the property (between proposed Vineyard Blocks K and L/M) that ultimately connects to the unnamed blue line tributary just north

of the access to 881 Deer Park Road (APN 021-400-005). Located just outside the southeast corner of the property and project area (i.e. off site), there is another seasonal drainage course running in a southwest direction that is considered a County definitional stream subject to the stream setbacks of County Code Section 18.108.025 (General Provisions – Intermittent/perennial streams) that extend into the subject property.

The subject property (or holding) is developed as follows: approximately 0.5-acers of vineyard on APN 021-420-027; approximately 4.5-acres of vineyard, a winery facility, barn, guest house, and tractor shed on APN 021-400-002 (975 Deer Park Road); an unpaved access drive and soils stockpile on APN 021-400-005 (881 Deer Park Road); a single family residence, a second dwelling unit, an associated access drive, and barn on APN 025-370-058 (150 Pine Place); a single-family residence, a second dwelling unit and an access drive on APN 025-370-057; and, APN 021-400-004 is undeveloped. See Figures 3 and 4 for greater detail of these features. The subject property is not currently fenced with wildlife exclusion fencing. The existing winery facility at 975 Deer Park Road was originally approved in 1979 under Use Permit No. U697879, with subsequent modifications in 2007 for an approximate 12,000 square foot wine cave (UP #P07-00645), in 2008 for a porch and deck addition (UP #P08-00088), and in 2009 for a 400 square foot increase of the wine cave (UP #P09-00179)[2]. There is an area of APN 025-370-058 (150 Pine Place) that has been altered due to the permanent placement of cave spoils and associated drainage improvements conducted under Grading Permit W07-00895: this area is within proposed Vineyard Blocks V through Y2. The cave spoils were produced from winery cave construction at 975 Deer Park Road. Of the approximate 4.5-acres of vineyard located on APN 021-400-002 (975 Deer Park Road) approximately 2.5-acres located north of the blue line stream were developed prior to 1993, approximately 2-acres located south of the blue line stream were developed between 1998 and 1999 and are subject to the Conservation Regulations (Chapter 18.108) requiring an Agricultural Erosion Control Plan and subject to the stream setbacks of Napa County Code (NCC) Section 18.108.023. Pursuant to these provisions, removal of vines and restoration of the designated buffers areas where the vineyard has encroached within the estimated minimum 45 to 55 foot stream setbacks and establishment of appropriate erosion control measures will be required: refer to Section IV, Biological Resources for a more detailed discussion.

The soils stockpile on APN 021-400-005 (881 Deer Park Road) that is proposed for utilization in the development of Vineyard Blocks K, L/M, and N, was imported from the Rutherford Reach Restoration Project, which is comprised of a 4.5-mile reach of the mainstem Napa River south of the City of Saint Helena between Zinfandel Lane and the Oakville Cross Road. The restoration project aims to reduce existing bank erosion and enhance riparian and aquatic habitats by, among other things: setting back earthen berms from the top of the river bank; excavating and planting inset floodplain benches; and, installing biotechnical bank stabilization to stabilize actively eroding banks. Additional information about this project can be obtained from the Napa County Watershed Information Center and Conservancy http://www.napawatersheds.org/

10. Other agencies whose approval may be required (e.g., permits, financing approval, or participation agreement, that potentially may be required from the identified permitting authority/agency).

Regional Water Quality Control Board – Region 2 San Francisco Bay (Section 401 Water Quality Certification)
Army Corps of Engineers (404 Permit)
California Department of Fish and Game (1601 permit)
California Department of Forestry and Fire Protection (Timber Harvest Plan and Timber Conversion Permit)

Responsible (R) and Trustee (T) Agencies
California Department of Fish and Game (DFG) (T)
US Army Corps of Engineers (ACOE) (T)
Regional Water Quality Control Board (RWQCB) (R)
California Department of Forestry and Fire Protection (CalFire) (T)

Other Agencies Contacted
Napa County Resource Conservation District (RCD)

[2] Winery use permit files and associated background information are available for review at the Napa County Conservation, Development and Planning Department.

ENVIRONMENTAL IMPACTS AND BASIS OF CONCLUSIONS

The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. They are based on a review of the Napa County Environmental Resource Maps, the other sources of information listed in the file, and the comments received, conversations with knowledgeable individuals; the preparer's personal knowledge of the area; and visit(s) to the subject property and project sites.

Other sources of information used in the preparation of this Initial Study include site specific studies conducted by the applicant and filed by the applicant in conjunction with Erosion Control Plan #P11-00317-ECPA as listed below, and the environmental background information contained in the permanent file on this project. These documents and information sources are incorporated herein by reference and available for review at the County Administrative Office located at 1195 Third Street, Suite 210, Napa, CA 94559:

- Kjeldsen Biological Consulting, November 2011, Biological Resources Report, Bremer Family Winery ECP (Figure 5).
- Theodore Wooster Consulting Biologist, March 25, 2011, Biological Resources Assessment, Bremer Family Winery and Vineyards (Figure 6).
- Theodore Wooster Consulting Biologist, December 20, 2011, Addendum to the 2011 report, Bremer Family Winery and Vineyards (Figure 6).
- Stephen Smith, Consulting Forester, Registered Professional Forester #1944, letter dated February 25, 2011.
- Napa Valley Vineyard Engineering Inc., December 19, 2011, Water Demand and Availability Analysis, Bremer ECPA (Figure10).
- Napa Valley Vineyard Engineering Inc., December 2011, Universal Soil Loss Equation (USLE) modeling, Bremer ECPA.
- Napa Valley Vineyard Engineering Inc., December 2011,Bremer Family Winery Hydrology Study.
- Napa Valley Vineyard Engineering Inc., December 20, 2011, Tree Removal Plan, Bremer Family Winery ECPA (Figure 4)
- Tom Origer & Associates, April 8, 2011, Cultural Resources Survey, Bremer Family Winery Property.
- Tom Origer & Associates, November 3, 2006, Archaeological Survey Report, Bremer Winery Property.
- Napa County Geographic Information System (GIS) Sensitivity Maps/layers.

☐ 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. Attached as Figure 12 is the signed Project Revision Statement.

☐ 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 "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.

_____
Signature

June, XX, 2012
Date

Donald Barrella
Printed Name

Napa County Conservation, Development & Planning
For

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I.	AESTHETICS. Would the project:				
	a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
	b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
	c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
	d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion:

a-b. The subject property and project site are located on the east side of Deer Park Road generally within the foothills of Howell Mountain. Views of vineyard would be consistent with the area as there are other hillside vineyards located in the area. The property is not located on a major or minor ridgeline or scenic vista; more prominent topographic and geologic features are located to the north, east and west. There are no significant rock outcroppings or geologic features on the property that would be impacted by the project[3]. The project is not visible from a scenic highway: there are no scenic highways in the area (CA Dept. of Transportation: http://www.dot.ca.gov/hq/LandArch/scenic/schwy). There are no historic buildings within the project /development area (Origer June 2009). Therefore, the project would have no effect on a scenic vista, scenic highway, historic buildings or rock outcrops.

c. The project area is located in various areas throughout the property: the majority of the project area is located in the southern portion of the property/holding where less woodland and trees occur. A majority of the project located in the northern portion of the property is occurring adjacent to existing vineyard. Trees to be removed do not provide a significant visual resource; the larger intact woodlands in the northeastern portions of the property, currently provide visual resources. Existing trees would screen and obscure visual effects of tree removal and vineyard. Therefore, the proposed project would not substantially degrade the existing visual character or quality of the site or its surroundings resulting in a less than significant impact.

d. Earthmoving activities associated with erosion control plan installation and maintenance, and vineyard installation would not involve the introduction of nighttime lighting or sources of glare to the site, resulting in no impact. Subsequent vineyard operation and maintenance requires seasonal operation of equipment using small downward directional lights during pre dawn and post dusk activities: primarily during harvest and the application of sulfur for mildew control. The periodic seasonal use of lighting related to vineyard operations would not create new sources of substantial light and glare, resulting in a less than significant impact.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
II.	AGRICULTURE AND FOREST RESOURCES[4]. Would the project:				
	a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Important (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

[3] Site inspection Napa County Staff September 29, 2010; Wooster December 2011; Napa County Geographic Information System (GIS) Vegetation and Geology layers

[4] "Forest Land" is defined by the state as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." (Public Resource Code Section 12220(g)) The Napa County General Plan anticipates and does not preclude conversion of some "forest land" to agricultural use, and the program-level EIR for the 2008 General Plan Update analyzed the impacts of up to 12,500 acres of vineyard development between 2005 and 2030, with the assumption that some of this development would occur on "forest land". In the analysis specifically, and in the County's view generally, the conversion of forest land to agricultural use would constitute a potentially significant impact only if there were resulting significant impacts to sensitive species, biodiversity, wildlife movement, sensitive biotic communities listed by the California Department of Fish and Game, water quality, or other environmental resources addressed in this checklist.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	Conflict with existing zoning for, or cause rezoning of, forest land as defined in Public Resource Code Section 12220(g), timberland as defined in Public Resource Code Section 4526, or timberland zoned Timberland Production as defined in Government Code Section 51104(g)?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use in a manner that will significantly affect timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, or other public benefits?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion:

a-b. The project site is not identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Important on the April 2005 map prepared by the California Department of Conservation. The parcel has a General Plan designation of Agriculture, Watershed and Open Space (AWOS), and is zoned Agricultural Watershed (AW); therefore, the establishment of vineyard totaling approximately 34.6-acres is consistent with the property's land use and zoning designations. The parcel does not have a Williamson Act contract associated with it. Therefore, the project would not have an impact on farmland within Napa County or a Williamson Act contract.

c-d The proposed project does not include the rezoning of forest land. Within the subject property and project area there are areas mapped as coniferous forest that have to potential to be forest land (Napa County GIS Vegetation Layer). The biological resources reports have identified areas within the property containing Grey Pine, Ponderosa Pine, and Douglas Fir vegetation alliances. The proposed project would avoid areas containing Ponderosa Pine and Douglas Fir vegetation alliances. Approximately 4.8-acres of the Grey Pine vegetation alliance occur within the project area (Kjeldsen Biological Consulting 2011). However, an inspection of the property by Stephen Smith (Registered Professional Forester #1944) has concluded that within the project area there is no commercial timberland requiring a Timber Harvest Plan or Timber Conversion Permit (Smith, February 25, 2011). Therefore, the project would not have an impact on forest land or the conversion of forestland in Napa County.

e. The project does not include the construction of roadways or other infrastructure that would result in the conversion of existing farmland or forest land in the area to non-agricultural or forest land uses. As such, the project would not have an impact on the agricultural or forest resources of Napa County.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
III.	AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c)	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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion:

a-c. The proposed project has the potential to violate construction-related and operational-related air quality standards and plans as adopted by the Bay Area Air Quality Management District (BAAQMD). The project site is within the northern end of the Napa Valley, which forms one of the climatologically distinct sub regions (Napa County Sub region) within the San Francisco Bay Area Air Basin. The topographical and meteorological features of the Napa Valley create a relatively high potential for air pollution. In the short term, potential air quality impacts are most likely to result from construction activities. Construction-related emissions, which are temporary in nature, consist mainly of particulate matter (PM) generated from fugitive dust during grading or other earthmoving activities and other criteria pollutants generated through the exhaust from construction related equipment and vehicular haul and worker trips. In the long term, potential air quality impacts are most likely to result from ongoing activities associated with the operation and maintenance of the proposed vineyard. Operational-related emissions, which are seasonal in nature, are primarily generated from vehicular trips associated with workers going to and from the site (including grape haul trucks) and equipment necessary for ongoing vineyard maintenance. Refer to Section XVI, Transportation/Traffic, for the anticipated number of construction-related and operational-related trips.

In a recently certified Environmental Impact Report (EIR) for an approximate 400-acre vineyard development (Circle-S Ranch Vineyards #P06-01508-ECPA, AES April 2011, SCH #2007062069 certified December 22, 2011[5]) potential air quality emissions associated with vineyard development/construction and operations were analyzed utilizing the URBEMIS 2007 air quality-modeling program. The analysis anticipated construction of the project would be conducted in 3 phases totaling approximately 150-acres of per year generating approximately 100 trips per day (75 worker trips and 25 truck trips) of approximately 15 miles. With regard to vineyard operation and maintenance, the analysis anticipated that maximum operational emissions (i.e. occurring during harvest) of an approximate 400-acre vineyard would generate approximately170 one way trips per day (approximately 160 worker trips and 8 grape haul truck trips) of approximately 15 miles. Table 3 shows the approximate anticipated construction emissions associated with the development of approximately 150-acres of vineyard and the operational emissions associated with a +400-acre vineyard. Also shown in Table 3 are the *2011 BAAQMD CEQA Guidelines* thresholds of significance for the emission of the following criteria pollutants: reactive organic gas (ROG); nitrogen oxide (NOx); particulate matter ten micrometers in size (PM10) or less; and, particulate matter of two and one half micrometers in size (PM2.5) or less.

Table 3 –Emissions from Vineyard Development and Operation[6]

Emission Source and Thresholds	Criteria Pollutants- Constituents			
	ROG	NOx	PM2.5	PM10
	Pounds per Day			
Construction Emissions	8.43 to 11.39	34.39 to 52.16	3.93 to 4.47	13.93 to14.53
BAAQMD Construction threshold	54	54	54	82
	Tons per Year			
Operational Emissions	0.78	0.35	0.11	0.58
BAAQMD Operational threshold	10	10	10	15

Source: Circle-S Ranch Vineyard EIR 2011; Napa County February 2012; BAAQMD CEQA Guidelines May 2011

Since in this case, the proposed vineyard development is much smaller than 150-acres from a construction perspective and +400-acres from a operational perspective, construction and operational emissions of constituents that could negatively affect air quality are expected to be much less that those identified in Table 3 and well below identified thresholds. It is anticipated that construction emissions and operational emissions of the proposed project could be approximately 4 times less and 10 times less, respectively, than those identified in Table 3. The owner/applicant has included limited construction dust control measures as part of the proposed project; however, project approval, if granted, would be subject to the following standard Air Quality conditions, which include measures consistent with those identified in Table 8-1 of the *BAAQMD CEQA Guidelines (May 2011)*, and would further reduce potential air quality impacts associated with construction and ongoing operation of the proposed project. While the BAAQMD's thresholds of significance established by the May *2011 BAAQMD CEQA Guidelines*" have been set aside pending further CEQA review and re-adoption, they continue to provide guidance as to the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution" to the regional air basin's existing air quality conditions

Air Quality - Conditions of Approval:

The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following Air Quality Best Management Practices (BMPs) during construction activities and vineyard maintenance:

- All exposed surfaces (graded areas, staging areas, stockpiles, and unpaved roads) shall be covered or watered twice per day.
- All trucks hauling soil, sand and other loose materials shall be covered in accordance with Section 23114 of the California Vehicle Code during transit to and from the site.

[5] This EIR is incorporated herein by reference and available for review in the Napa County Department of Conservation, Development and Planning (CDPD) permanent files.
[6] Emissions identified in this table are based on an approximate 150-acre vineyard development and operations of an approximate 400-acre vineyard.

- The site access road and adjacent public roads shall be swept daily with wet power vacuum street sweepers, if visible soil material is carried/tracked out onto roadways.
- Traffic on unpaved areas and roads shall be limited to 15 mph.
- Grading and earthmoving activities shall be suspended when winds exceed 25 mph.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes, as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations (CCR). Signs clearly indicating this provision shall be installed at all access points.
- All construction equipment shall be maintained and properly tuned in accordance in manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A sign with the telephone number and person to contact at the Lead Agency regarding dust complaints shall be visibly posted at the site. The contact person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Given that installation of the proposed project is well below these thresholds, results in minimal temporary construction emissions, contains other features that minimize fugitive dust (cover crop), and that ongoing vineyard operations would introduce a minimal number of new vehicle trips or emission sources to the subject property or immediate area, the implementation of the proposed project would result in less than significant air quality impacts, and would not violated air quality standards or result in cumulatively considerable effects. Additionally, the implementation of standard Air Quality conditions are anticipated to further reduce any negative air quality effects associated with construction and operations of the proposed project.

For a discussion of potential Greenhouse Gas Emission impacts see Section VII (Greenhouse Gas Emissions) of this Initial Study.

d-e. Land uses such as schools, hospitals and convalescent homes are considered sensitive to poor air quality, because infants and children, the elderly, and people with health afflictions, especially respiratory ailments, are more susceptible to respiratory infections and other air quality related health problems than the general public. Residential areas are also considered to be sensitive to air pollution because residents, which include children and the elderly, tend to be at home for extended periods of time. There are scattered rural residential uses located in the vicinity of the proposed project; the nearest off-site residence to the project site is approximately 150-feet to the south, the next closest residences are approximately 500 feet to the south and west. There are no schools, hospitals or convalescent homes within the immediate vicinity of the project: the St. Helena Hospital is located approximately 0.5 miles to the southwest of the property and the nearest schools are Foothill Elementary located approximately 0.75 miles to the south and Pacific Union College Elementary School located over 1.7 miles to the east (Napa County GIS Sensitivity Maps: Parcels and Schools layer). The closest residential communities to the project area are Angwin ,located approximately 1.5 miles to the northeast, and the City of St. Helena located approximately 2 miles to the south.

During installation of the erosion control plan, vineyard planting, and subsequent vineyard operations, airborne pollutants and odors would be created through the use of grading and farm equipment (e.g. tractors, trucks, and ATV's) or by sulfur applied to control mildew. These sources would be temporary and/or seasonal in nature occurring at substantial distances from sensitive receptors providing dilution of pollutants and odors. The proposed expansion of agricultural land uses and activities on the property (vineyard development and operation) are consistent with agricultural uses in the surrounding area. Furthermore, construction activities would be subject to the dust control measures described in Section III.a-c above. Therefore, the proposed vineyard project would not expose sensitive receptors or a substantial number of people to pollutants or objectionable odors, resulting in a less than significant impact.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IV.	BIOLOGICAL RESOURCES. Would the project:				
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 Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
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 Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, Coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion:

The following site specific reports were utilized in this analysis: Kjeldsen Biological Consulting, November 2011, Biological Resources Report, Bremer Family Winery ECP; Theodore Wooster Consulting Biologist, March 25, 2011, Biological Resources Assessment, Bremer Family Winery and Vineyards; Theodore Wooster Consulting Biologist, December 20, 2011, Addendum to the 2011 report, Bremer Family Winery and Vineyards; and, Stephen Smith, Consulting Forester, Registered Professional Forester #1944, letter dated February 25, 2011. These reports are incorporated herein by reference and available in the project file for review. It should also be noted that field surveys conducted in 2006 and 2007 by the project biologists (Kjeldsen and Wooster) for a previous use permit modification application (#P09-00179) were also utilized in the preparation of the Biological Resources Reports prepared by Kjeldsen Biological Consulting and Theodore Wooster. Additionally, the following Napa County Geographic Information System (GIS) Sensitivity Maps/layers were utilized in this biological resources assessment: Natural Diversity Database, Biological Points and Areas, Wetlands and Vernal Pools, Biological Critical Habitat Areas, Sensitive Biological Groups, Spotted Owl Habitat, Biological Areas, and Soil types.

a. Special-Status Plants: One special-status plant species was identified within the project area and portions of the subject property by Kjeldsen Biological Consulting (November 2011): Holly-leaf Ceanothus (*Ceanothus Purpureus*) a California Native Plant Society (CNPS) List 1B.2 species. The Kjeldsen Biological Consulting survey area included the project area and immediately adjacent areas, as well as areas extending northeast of proposed Vineyard Block H and east of proposed Vineyard Blocks A and C, located outside the current project area: see Plate III (Aerial Photo / Survey Area) of Figure 5 (Biological Reconnaissance Report, Kjeldsen November 2011). These areas were originally considered for vineyard development by the owner/applicant, thus were surveyed by Kjeldsen Biological however these areas have been excluded from this proposal.

CNPS List 1B.2 species are "Rare, Threatened, or Endangered in California and Elsewhere" and are considered fairly threatened in California (i.e. moderate degree/immediacy of threat). As proposed the vineyard development project would remove approximately 20 Holly-leaf Ceanothus plants. Known Holly-leaf Ceanothus populations within the subject property primarily occur in the northeastern portions of the property in two primary concentrations: Northeast of proposed Vineyard Block H and east of proposed Vineyard Blocks C and D (see Plate VI "Location of Holley-leaved Ceanothus" of Figure 5). The project biologists (Kjeldsen 2011, Wooster 2011) have indicated that a wildfire in 2008 has cleared overstory and allowed this plant species to expand its population on the subject property, concluding that it is very likely that significant populations occur outside of the survey areas (Kjeldsen 2011). The Holly-leaf Ceanothus plants proposed for removal are located in the following locations: approximately eight (8) plants located in proposed Vineyard Block R/S and approximately 12 plants located in proposed Vineyard Blocks Q and Z (see Figure 5, Plate VI). These individual plants are not located within the areas containing higher concentrations of Holly-leaf Ceanothus found in the northeast portion of the subject property: the areas containing higher concentrations of Holly-leaf Ceanothus (or core populations) have been avoided as part of the project. Kjeldsen Biological Consulting has estimated that less than 2% of the project area (or approximately 0.7-acres) contain populations of Holly-leaf Ceanothus. While removal of approximately 20 special-status plants (i.e. Holly-leaf Ceanothus) as part of the proposed project could be considered a potentially significant impact, the proposed vineyard development project includes a vegetation replacement component via a Re-vegetation Plan that includes the replanting of Holly-leaf Ceanothus to reduce impacts associated with removal of this plant species. Furthermore, the Botanical Resources Report (Kjeldsen 2011) concluded that the removal of approximately 20 Holly-leaf Ceanothus plants that are not within the core populations located on the property would not be a significant impact to this species or its habitat provided that Holly-leaf Ceanothus plants removed as part of the project be replaced at a 3:1 ratio.

To ensure that the proposed Re-Vegetation Plan included by the owner/applicant as part of the project reduces direct impacts to Holy-leaf Ceanothus and its habitat to a less than significant level, and is adequately prepared, Mitigation Measure BR-1 shall be implemented. The provisions specified in Mitigation Measure BR-1 include a restoration component for Holy-leaf Ceanothus that results in no net loss of Ceanothus habitat and plants

Furthermore, due to the proximity of Holly-leaf Ceanothus to the proposed vineyard development, potentially significant indirect impacts could occur due to earthmoving activities and subsequent cultivation of vineyard. As proposed vineyard development would occur immediately

adjacent to higher concentrations (or core populations) of Holly-leaf Ceanothus, primarily northeast of proposed Vineyard Block H. Furthermore, there are no buffers proposed or provided from these populations to earthmoving activities and vineyard development. To ensure that the remaining Holly-leaf Ceanothus plants are not impacted or inadvertently removed during vineyard installation and subsequent vineyard operation and maintenance, Mitigation Measure BR-1 shall be implemented to reduce potential indirect impacts to Holly-leaf Ceanothus populations to a less than significant level.

Mitigation Measure:

Measure BR-1: The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following measures to minimize impacts to Holly-leaf Ceanothus populations and habitat:

a. Revise the proposed vineyard layout of #P11-00317-ECPA prior to County approval to provide a 10 foot buffer from Holy-leaf Ceanothus plants located adjacent to the project area that are to be retained as part of the project.
b. Revise the proposed wildlife exclusion fencing layout of #P11-00317-ECPA prior to County approval so that it is installed a minimum of 10 feet from Holly-leaf Ceanothus plants/populations to remain.
c. At the applicant's expense and in consultation with a qualified professional, the proposed Re-vegetation plan shall be prepared and submitted to the County for review and approval prior to the approval Erosion Control Plan #P11-00317-ECPA by the County. The Re-Vegetation plan shall be incorporated into #P11-00317-ECPA and shall include the following provisions:
    i. A restoration component containing no less than 0.7-acres of area that has been identified by a qualified professional to be suitable on-site habitat for Holly-leaf Ceanothus and replaces removed plants at a 3:1 ratio. Once the re-vegetation plan has been approved by the County, implementation shall commence in conjunction with development of vineyard as specified under Erosion Control Plan P11-00317-ECPA.
    ii. The areas identified in the plan to be re-vegetated shall be clearly marked in the field with flagging and approved by Planning staff prior to implementation of the Re-vegetation plan.
    iii. Plants shall be obtained from a reputable local California native plant nursery, using locally collected seeds or clipping, or from local ecotypes where available. The re-vegetation plan shall require a minimum 80% survival rate after the first 3-5 years. In the event that more than 20% of the plants should die, additional plants shall be planted and monitored for an additional 3-5 years to ensure long-term survivability at a rate of no less than 80%. Irrigation shall be provided to each individual plant with drip emitter for a minimum of 3 years or until established. The irrigation system should run at regular intervals, and be monitored to ensure each plant is getting sufficient water.
    iv. Following implementation of the re-vegetation plan, a monitoring report shall be provided to the County annually until which time a minimum 80% survival rate has been reported. Monitoring reports shall include the success of planting, number of replacements necessary, photographs, and other information that illustrates the condition and location of any failed plantings.
d. Prior to any earthmoving activities, temporary fencing shall be installed a minimum of 10 feet from the outer boundary of Holly-leaf Ceanothus plants/populations proposed for retention. The precise locations of the protection fencing shall be inspected and approved by the Planning Division prior to the commencement of any earthmoving activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of erosion control plan installation, vineyard installation. All fencing shall be maintained for the duration of vineyard construction.
e. Wildlife exclusion fencing shall be installed a minimum of 10 feet from Holly-leaf Ceanothus plants/populations to remain.
f. In accordance with County Code Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) Holly-leaf Ceanothus plants inadvertently removed that are not within the boundary of the project and/or not identified for removal as part of #P11-00317-ECPA shall be replaced on-site at a ratio of 2:1 at locations approved by the planning director. Replant locations will be supported by recommendations of a qualified professional: any replaced Holly-leaf Ceanothus shall have a 100% survival rate.

With the implementation of Mitigation Measure BR-1 potential direct and indirect impacts to special-status plant species is anticipated to be less than significant. Additionally, implementation of this measure will result in conformance with General Plan Conservation Goal CON-3 which requires protections for the continued presence of special-status species and their habitat, and Conservation Policy CON-17, which, among other things, discourages the disturbance and/or removal of sensitive natural communities that contain special-status plant species and requires, no net loss of sensitive biotic communities and habitats of limited distribution.

Special-Status Animals: No special-status animal species were observed on the subject property or project area during the surveys conducted by Kjeldsen Biological Consulting or Theodore Wooster; however, in 2007 a red-shouldered hawk was heard vocalizing by T. Wooster in the vicinity of the project area. While no special-status animal species were observed within the project sites, preferred habitats for special-status bird and bat species, in particular woodlands and associated trees that could be utilized for nesting and roosting, is found in the general vicinity and may occur within or adjacent to the project area. The removal of woodland and associated trees, and the noise generated through grading and ground disturbing activities has the potential to affect resources within and adjacent to the project area for special-status bird species. Potential direct impacts resulting from tree removal would include loss of nests. Potential indirect impacts resulting from temporary and intermittent increase in noise levels may cause nest abandonment and death of young or loss of reproductive

potential at active nests located near project activities. The owner/applicant has included a nest protection measure, as part of the project, so that raptor species are not adversely affected during project implementation. This measure includes pre-construction surveys within 500 feet of earth disturbing activities (i.e. project boundaries) for raptor nests for work conducted between April 1 and August 15. If active nests are identified, a 500 foot no disturbance buffer from active raptor nests will be implemented and maintained until nestlings have fledged. However, this measure only applies to special-status raptor species and does not extend to other special-status bird species that may occur within or adjacent to the project area, and is not consistent with current California Department of Fish and Game (DFG) protocol and/or practice.

To reduce potentially significant impacts to special-status bird species as a result of the project to less than significant levels, Mitigation Measure BR-2, shall be implemented.

Mitigation Measure:

Measure BR-2: The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following measures to minimize impacts associated with the loss and disturbance of passerine bird and raptor species consistent with and pursuant to California Department of Fish and Game Code Sections 3503 and 3503.5:

a. For earth-disturbing activities occurring between February 1 and August 31, (which coincides with the grading season of April 1 through October 15 – NCC Section 18.108.070.L, and bird breeding and nesting seasons), a qualified wildlife biologist shall conduct preconstruction surveys for raptor and passerine bird courtship activities and/or their nests within a 300-feet radius of earthmoving activities. The preconstruction survey shall be conducted no more than 14 days prior to vegetation removal and ground disturbing activities are to commence (surveys should be conducted a minimum of 3 separate days during the 14 days prior to disturbance). A copy of the survey will be provided to the County Conservation Division and the DFG prior to commencement of work.
b. In the event that nesting raptors and/or birds are found during preconstruction surveys, the property owner shall consult with DFG and obtain approval for specific nest-protection buffers as appropriate based on species found prior to commencement of ground-breaking activities: generally a minimum 150-foot no-disturbance buffer will be created around all active passerine bird nests and a minimum 300-foot buffer shall be created around all active raptor nests during the breeding and nesting season or until it is determined by a qualified biologist that all young have fledged. All nest protection measures shall apply to off-site active nests that are located within 300 feet of project activities. These buffer zones may be modified in coordination with DFG based on existing conditions at the project site. Buffer zones shall be fenced with temporary construction fencing and remain in place until the end of the breading season or until young have fledged.
c. If a 15 day or greater lapse of project-related work occurs during the breeding season, another bird and raptor pre-construction survey and consultation with DFG will be required before project work can be reinitiated.

Regarding special-status bat species, based on the property specific research the project biologist (Wooster) determined that potentially suitable habitat for bats was marginal or lacking within the project area and immediate vicinity, primarily due to the level of human disturbance of the property and surrounding areas. However, there remains the potential of special-status bats to utilize the project area and immediate vicinity should the proposed project be initiated. Vegetation removal has the potential to result in the direct mortality of special-status bat species, which is considered a potentially significant impact. To ensure that special-status bat species are not impacted vineyard development Mitigation Measure BR-3 will be implemented to reduce potential impacts.

Mitigation Measure:

Measure BR-3: The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following measures to reduce impacts to special-status bat species:

a. A qualified biologist shall conduct a habitat assessment for potential suitable special-status bat habitat/trees within 14 days of project initiation.
b. If the habitat assessment reveals suitable special-status bat habitat and/or habitat trees, the qualified biologist shall submit an avoidance plan to the County and California Department of Fish and Game (DFG) for approval. The avoidance plan shall identify and evaluate the type of habitat present at the project site and detail habitat and/or habitat tree removal. Bat habitat/tree removal shall occur in two phases conducted over two days under the supervision of a qualified biologist: day one in the afternoon limbs and branches of habitat trees without cavities, crevices and deep bark fissures would be removed by chainsaw (limbs with cavities, crevices and deep bark fishers would be avoided); day two the entire tree can be removed. In the event the bat avoidance measures required by DFG result in a reduction or modification of vineyard block boundaries, the erosion control plan shall be revised by the applicant/engineer and submitted to the County.

The project as proposed with incorporation of Mitigation Measures BR-1 BR-2, and BR-3 and identified conditions of approval will result in a less than significant impact to special-status plant and animal species.

b. There is one primary seasonal (ephemeral) drainage feature occurring subject property as shown on the St. Helena, Calf. Topographic Quadrangle map (USGS 1978), an unnamed blue line tributary to Canon Creek. Canon Creek is located approximately 0.75 miles south of the property which ultimately connects to the Napa River located approximately 2 miles southwest of the property. The unnamed tributary generally bisects the property in a southwesterly direction in the northern portion of the property: in the southern portion of the property this tributary generally runs along the eastern side of Deer Park Road (see Figures 1 and 2). Located just outside the southeast corner of the property and project area (i.e. off site), there is another seasonal drainage course running in a southwest direction that is a County definitional stream subject to setbacks subject to County Code Section 18.108.025.

Approximately 8-acres of riparian drainage have been identified within the subject property (Figure 5 – see Table II and Plate IV), however, there are no identified riparian, aquatic, or sensitive natural vegetative communities located within the project area (Kjeldsen Biological Consulting, 2011). Therefore, there are no impacts anticipated to riparian habitat or other natural communities identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.

With regard to required stream setbacks, pursuant to Chapter 18.108.025 of the Napa County Code (General Provisions – Intermittent/perennial streams), the proposed project has been designed to provide creek setbacks that conform to Section 18.108.25 NCC, which range from 55 feet to 150 feet depending on the slope between the stream and development area. Furthermore, project approval, if granted, would be subject to the following standard condition to prevent the potential encroachment into creek setbacks required pursuant to Section 18.108.025 NCC, further protecting protect watercourses and associated riparian features during project implementation.

Creek Protection – Standard Conditions

The applicant/owner shall implement the following measures to prevent the inadvertent encroachment into specified creek setbacks and associated riparian features during construction and subsequent vineyard operations:

- The location of creek setbacks shall be clearly demarcated in the field with temporary construction fencing, which shall be placed at the outermost edge of required setbacks shown on the project plans. Prior to any earthmoving activities, temporary fencing shall be installed: the precise locations of said fences shall be inspected and approved by the Planning Division prior to any earthmoving and/or development activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of erosion control plan installation and vineyard installation. The protection fencing shall remain in place for the duration of project implementation and until wildlife exclusion fencing is installed as shown on the plans.
- All construction and related traffic will remain on the inside (vineyard block side) of the protective fencing to ensure that the creek, buffer zones, and associated riparian habitat and/or woodland remains undisturbed.
- In accordance with County Code Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) trees that are inadvertently removed that are not within the boundary of the project and/or not identified for removal as part of #P11-0317-ECPA shall be replaced on-site with fifteen-gallon trees at a ratio of 2:1 at locations approved by the planning director

As indicated in the Environmental Setting section, approximately 2-acres of vineyard located on APN 021-400-020 south of the blue line stream (immediately west of proposed Vineyard Blocks A and B) were developed between 1998 and 1999 without the benefit of an approved ECPA, portions of which are located in required stream setbacks of Section 18.108.025: approximately 20 feet of setback are provided where it appears that 45 to 55 feet are required, resulting in approximately 0.59-acres of vineyard and associated improvements occurring within required stream setbacks (see Figure 8)[7]. Prior to vineyard development this area consisted of grassland. Based on County records and aerial photography, this vineyard was developed between 1998 and 1999, and therefore it is subject to applicable setbacks and ECPA requirements pursuant to the County's Conservation Regulations. Stream setbacks, among other things, provide buffer areas to filter out sediment and pollutants (such as agricultural chemicals and those associated with agricultural equipment) and areas for runoff to be slowed (or attenuated) so that bank stability, both on and off-site, is maintained, as well as provide for associated riparian features. Inadequate stream setbacks are considered a potentially significant impact because of the potential decrease in the ability for buffer areas to effectively filter out sediments and pollutants which could negatively affect in and off-site tributaries and related aquatic resources, as well as the potential of loss of riparian features or habitat typically associated with streams. Furthermore, inadequate stream setbacks result in less area for vegetation and habitat associated with stream corridors. Pursuant to Conservation Regulation Section 18.108.025, the proposed project shall be required to remove vineyard, vineyard avenues and associated improvements located within required stream setbacks and restore those areas through implementation of Mitigation Measure BR-4. As indicated in the project description the owner/applicant has included a Vegetation Replacement component via a Re-vegetation plan, as part of the project. However no details of this re-vegetation have been provided: the provisions of the proposed re-vegetation plan shall be revised and enhanced as part of the implementation of Mitigation Measure BR-4.

Furthermore, the Napa County Resource Conservation District (RCD) has recommended that the proposed water spreader located below proposed Vineyard Block N (which is part of the outfall structure associated with the detention basin) be replaced with the rock storage bench

[7] Referenced dimensions and areas are approximate, actual dimensions and areas of stream setback encroachments shall be subject to verification pursuant to NCC Section 18.108.025 (General provisions – Intermittent/perennial streams).

that is included as part of this plan (see Rock Storage Detail on Page 2 of the ECPA attached as Figure 4). The RCD has indicated that runoff is already concentrated in this area due to topography and the pipe spreader would not adequately return concentrated flows from this feature back to sheet flow which could negatively affect bank stability of the blue line tributary which this feature outfalls to: the rock storage bench would provide a more adequate feature to slow and redistribute concentrated flows to sheet flows in this area. However, the rock storage bench has the potential to encroach into the required stream setback, thereby resulting in a potentially significant impact as identified above. The implementation of Mitigation Measure BR-4, which would require the rock storage bench to observed required stream setback would reduce this potential impact to a less than significant level.

Implementation of Mitigation Measure BR-4 would reduce potentially significant impacts to streams and tributaries, and local stream setback requirements to a less than significant level by providing setbacks that are consistent with County Code and provide for adequate filtering, vegetation, and habitat that are associated with streams and tributaries. Additionally, implementation of Mitigation Measure BR-4 would result in consistency with Napa County General Plan Conservation Element Policies CON 50a and CON 26. These policies in part, require the retention of natural vegetation along perennial and intermittent streams through adequate buffering.

Mitigation Measure:

Measure BR-4: The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following measures which establish stream setbacks for the vineyard development that are in compliance with the County Conservation Regulations (Napa County Code Section 18.108.025):

a. To clearly delineate the required stream setbacks along the northern boundary of the existing vineyard blocks located immediately south of the blue line tributary on APN 021-400-002 (adjacent to proposed Vineyard Blocks A and B) in accordance with NCC Section 18.108.025. The revised plans shall show top of bank, percent slope, and required stream setback and shall be designed to include erosion control measures consistent with this plan and result in no net increase in soil loss and runoff as compared to pre-development conditions. Runoff calculations shall be prepared using acceptable modeling tools such as the Universal Soil Loss Equation (USLE) and Technical Release 55 (TR-55) demonstrating no net increase in soil loss and runoff in a manner satisfactory to the County.
b. The proposed Re-vegetation plan specified in Mitigation Measure BR-1.c shall include a stream setback restoration component to restore areas within required County stream setbacks resulting from existing vineyard development encroaching into the designated stream setbacks as required by Mitigation Measure BR-4a along the southern side of the blue line tributary located on APN 021-400-002. The plant pallet of the re-vegetation plan shall include native ground cover, shrubs and a minimum of 25 oak trees that are typically found in this area and are compatible/consistent with the area to be restored: plant selection, procurement, and survival criteria for the stream setback restoration component shall be that specified in Mitigation Measure BR-1.c. Once the re-vegetation plan has been approved by the County, implementation shall commence in conjunction with development of vineyard as specified under Erosion Control Plan P11-00317-ECPA.
c. Required stream setbacks shall be clearly marked in the field and approved by Planning staff, as indicated in the Creek Protection Condition above, prior to implementation of the Re-vegetation plan.

Therefore, the project as proposed in conjunction with the implementation of Mitigation Measures BR-4 and identified conditions would reduce potentially significant impacts as a result of inadequate stream setbacks to less than significant levels and achieve consistency with General Plan Policies CON-27, which requires enforcement and continued implementation of stream setback requirements and CON-50 a and h, which are designed to protect surface water quality through the preservation and enhancement of adequate stream setbacks and the restoration of riparian vegetation as part of erosion control plan approval. As previously noted, all other required stream setbacks of the proposed project conform to Section 18.108.25 NCC, which range from 45 feet to 150 feet.

Also see Sections Xb (Land Use and Planning) for additional discussion regarding County Code and General Plan consistency.

c. There are no wetlands that have been identified on the subject property or within the project area (Wooster, March 2011; Napa County GIS sensitivity maps/layers: Wetlands & Vernal Pools, Sensitive Biotic Groups Aquatic, and Soil types). Therefore, no impacts to wetlands are anticipated.

d. Presently the subject property is not currently fenced with wildlife exclusion fencing. Proposed wildlife exclusion fencing would consist of 8 foot tall wire mesh deer fencing, generally located around the perimeter of proposed vineyard blocks as follows: Blocks A through D as an individual unit; Blocks G and H as an individual unit; Block K as an individual unit; Blocks L/M through CC as an individual unit; and, Blocks DD and EE as an individual units: see Figure 4, Plan Sheets 2 and 3 for proposed fencing locations.

The Biological Resource Assessment (Wooster 2011 – Figure 6) did not identify any wildlife movement corridors or wildlife nursery sites within the subject property or project sites due to the existing rural residential development in the area and a major roadway (Deer Park Road). If any wildlife corridors were evident in an east west direction they would lead to Deer Park Road, which is located along the entirety of the properties western frontage that acts as a significant barrier to east/west wildlife movement. Likely wildlife movement areas in the

immediate vicinity of the project areas would be the areas associated with unnamed blue line tributary to Canon Creek within the subject property that ultimately connects to Canon Creek to the south (Figures 1, and 2). As proposed the project maintains a majority of the holdings eastern and northern areas in their current condition, so that wildlife movement and use in these areas can continue. Additionally, future development within the northern and eastern portions of the property is not anticipated due to environmental constraints (i.e. creek setbacks and slopes exceeding 30%).

Considering that the scale and layout of the proposed project would maintain approximately 120-acres (or 77%) of the property available for wildlife movement and use, likely north south wildlife movement areas are maintained, and likely east west wildlife movement is currently effected by the location of Deer Park Road, the proposed project is not anticipated to substantially interfere with the movement of 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. Therefore the proposed project is anticipated to have a less than significant impact to the movement of native resident wildlife species and the use of native wildlife sites.

To ensure that wildlife exclusion fencing is installed according to plan specifications, the following condition of approval shall be implemented, should the project be approved.

Fencing – Conditions of Approval:

- Installation of deer exclusion fencing shall be limited to the perimeter of the proposed vineyard areas and only as specified in approved Erosion Control Plan P11-00317-ECPA, designed to ensure adequate wildlife movement through the remainder of the property.
- Any modifications to the location of deer fencing as specified in Erosion Control Plan P11-00317-ECPA shall be strictly prohibited, and would require County review and approval to ensure the modified deer fencing plan would not result in potential impacts to wildlife movement.

e. Plant communities occurring on the subject property and project sites consist of: approximately 53.75-acres of Live Oak/Bay woodland located primarily in the northern portions of the property; approximately 68-acres of Chamise located predominately in the southern portion and the very northern end of the property; approximately 8-acres of Grey Pine woodland located in isolated stands primarily in the northern portions of the property, approximately 3-acres of Douglas Fir forest in an isolated stand located in northern portion of the property; and approximately 8-acres of riparian drainage (associated with the blue line watercourse that bisects the northern portion of the property and within the broader Live Oak/Bay, Grey Pine, and Douglas Fir forest/woodlands). Existing Development, which consists of residential development and winery development and associated improvements (approximately 10-acres), and vineyard (approximately 5-acres), totaling approximately 15-acres, make up the remainder of the cover types on the subject property (Table 4). It should be noted that In October of 2008 a wildfire in this area (primarily east of Deer Park Road) burned approximately 300-acres, approximately 80-acres of which occurred on the subject property (Wooster, March 2011). As proposed the following would be removed as part of the proposed project: approximately 9.4-acres (17%) of the Live Oak/Bay woodland; approximately 17.6-acres (25%) of Chamise; and, approximately 4.8-acre (60%) of the Grey Pine woodland. Approximately 2.2-acres of the proposed development would occur on previous disturbed land primarily within proposed Vineyard Blocks T through Y2 (Table 4). A map showing the vegetation alliances within the parcel has been included as Figure 7: this map is also located in Figure 5 Plate IV.

Table 4 – Plant Communities / Vegetation Alliances

Plant Community/ Vegetation Alliance	Acreage within property	Acreage Removed	Acreage Retained	Percent Cover Removed	Percent Remaining
Live Oak/Bay woodland	53.75	9.4	44.35	17%	83%
Chamise shrubland	68	17.6	50.4	25%	75%
Grey Pine woodland	8	4.8	3.2	60%	40%
Ponderosa Pine forest	0.25	0	0.25	0%	100%
Douglas Fir forest	3	0	3	0%	100%
Riparian Drainage	8	0	8	0%	100%
Vineyard	5	0.59*	4.41*	12%*	88%*
Disturbed Land	10	2.2	7.8	22%	100%
Total	156	34.59	121.41	22%	78%

Source: Kjeldsen Biological Consulting, November 2011

* Approximate area: actual area is subject to the provisions of NCC 18.108.025

It is estimated that there are approximately 2,800 trees within the property. The oak and pine woodlands/forest appear to contain approximately 30 trees per acre; however, some areas especially within the riparian drainage may contain a higher density of trees per acre,

and the Chamise appears to contain approximately 9 trees per acre (Napa County GIS, ICE Vegetation layer). In terms of oak trees it is estimated that approximately 80% of the trees within the various vegetation alliances are oak trees, resulting in an estimated 2,240 oak trees within the property: there are approximately 787 oaks within the project area that are proposed for removal.

Oak woodland is the most common land cover in the County, occurring on approximately 167,000-acres (33% of the County's area): approximately 733-acres of oak woodland or 0.5% of the total area of oak woodland in the County have been cleared for residential and agricultural purposes between 1993 and 2002[8]. Napa County General Plan Conservation Element Policy CON-24 requires that oak woodland be maintained and/or improved to the extent feasible to provide for oak woodland and wildlife habitat, slope stabilization, soil protection, and species diversity, General Plan Conservation Element Policy CON-24c specifically provides for the preservation of oak woodland (on an acreage basis) at a 2:1 ratio where feasible, where preservation/avoidance of oak woodland is not feasible replacement of oak woodland at a 2:1 ratio is required. As proposed the project would meet this 2:1 ratio; in that, approximately 44-acres of the 53-acres (or 83%) of oak woodlands would be retained; in terms of number of oak trees, approximately 1453 (or 65%) of the estimated 2,240 oak trees within the subject property would be retained. Based on the estimated number of oak trees within the property and the number of oak trees proposed to be removed, approximately 1,478 oaks (or 25 additional oak trees) should be retained to meet the 2:1 retention ratio of 66%. Mitigation Measure BR-4.b includes a provision that 25 oak trees be included in the proposed Re-vegetation plan so that the number of oak trees ultimately retained as part of the project would achieve this 2:1 removal/retention ratio. Additionally, potential indirect impacts to oak woodlands due inadvertent tree removal and limited regeneration as a result of the project are considered potentially significant. However, the owner/applicant has included tree protection measures, as part of the project, so that potential indirect impacts to oak woodlands would not occur.

To ensure that the tree protection measures included by the owner/applicant as part of the project are implemented and because the project will also be subject to the provisions of Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement), the following provisions will be included as conditions of approval should the proposed project be approved:

Tree/Woodland Protection – Conditions of Approval:
The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following Tree/Woodland Protection measures:

- Prior to any earthmoving activities, temporary fencing shall be placed at the edge of the dripline of trees to be retained that are located within 50-feet of the project area. The precise locations of said fences shall be inspected and approved by the Planning Division prior to the commencement of any earthmoving activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated area for the duration of erosion control plan installation and vineyard installation.
- Trees removed that are not within the boundary of the project and/or not identified for removal as part of #P11-00317-ECPA shall be replaced on-site with fifteen-gallon trees at a ratio of 2:1 at locations approved by the director.
- The permitee shall refrain from severely trimming the trees and vegetation to be retained adjacent to the vineyard conversion areas.

Considering the oak woodland and associated habitat to remain on-site with the incorporation of Mitigation Measure BR-4 and the relatively low amount of anticipated vineyard development of approximately 27 to 45 acres of the next 3 to 5 years, averaging approximately 9-acres per year, within the Canon Creek Drainage-(see XVIII.b Mandatory Findings of Significance for a detailed discussion), potential project specific and cumulative impacts to oak woodlands are considered to be less than significant.

f. There are no Habitat Conservation Plans, Natural Community Conservation Plans or other similar plans applicable to the project site; therefore, there would be no impact.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
V.	CULTURAL RESOURCES. Would the project:				
	a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?	☐	☐	☐	☒
	b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines§15064.5?	☐	☐	☒	☐
	c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☒	☐

[8] Napa County Baseline Date Report, Biological Resources Section, pages 4-22 and 4-25, Version 1, November 2005

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Discussion:

a. Archaeological and Cultural Resources surveys were conducted for the project area by Tom Origer and Associates (November 3, 2006 and April 8, 2011). No historic-period resources or historic-period buildings or structures were identified within the project area (Origer 2006 and 2011); therefore, there will be no impact on historical resources.

b. The closest known archeological sites occur approximately 0.5 miles to the north and south of the subject property. There have been no archeological resources identified within the project areas or subject parcel (Origer 2006 and 2011: Napa County Geographic Information System Sensitivity Maps/layers: Arch Sensitive Areas, Archaeological Surveys, and Arch Sites); therefore, impacts to archaeological resources as a result of the proposed vineyard project would be less than significant. Furthermore, project approval, if granted, would be subject to the following standard conditions, that would further avoid and/or reduce potential archeological and cultural resource impacts.

Cultural Resources –Conditions of Approval:

Discovery of historical, archaeological, paleontological resources, or human remains during construction, grading, or other earth moving activities:

- In accordance with CEQA Subsection 15064.5(f), should any previously unknown historic or prehistoric resources, including but not limited to charcoal, obsidian or chert flakes, grinding bowls, shell fragments, bone, pockets of dark, friable solids, glass, metal, ceramics, wood or similar debris, be discovered during grading, trenching or other on-site excavation(s), earth work within 100-feet of these materials shall be stopped until a professional archaeologist certified by the Registry of Professional Archaeologists (RPA) has had an opportunity to evaluate the significance of the find and suggest appropriate mitigation(s), as determined necessary.
- If human remains are encountered the Napa County Coroner shall be informed to determine if an investigation of the cause of death is required and/or if the remains are of Native American origin. Pursuant to Public Resources Code Section 5097.98, if such remains are of Native American origin the nearest tribal relatives as determined by the State Native American Heritage Commission will be contacted to obtain recommendations for treating or removal of such remains, including grave goods, with appropriate dignity.
- In the event that a discovery of a breas, true, and/or trace fossils are discovered during ground disturbing activities, all work within 100 feet of the fined shall be temporarily halted of diverted until the discovery is examined by a qualified paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that should be followed before ground disturbing activities are allowed to resume at the location of the find.
- All persons working on-site shall be bound by contract and instructed in the field to adhere to these provisions and restrictions.

c. There are no unique geologic features on the project site[9]. Due to the rocky nature of the project site and because vineyard ripping depth is limited to 36-inches the probability of encountering paleontological resources within the project area is minimal. Therefore, impacts to geologic features and paleontological resources are anticipated to be less than significant. Furthermore, project approval if granted would be subject to the standard condition above, which would ensure that potential impacts to paleontological resource will be less than significant.

d. The Archaeological and Cultural Surveys did not locate any human remains in the project area and do not anticipate the discovery of human remains due to the proposed project. Therefore, impacts on human remains are anticipated to be less than significant. Furthermore, project approval, if granted, would be subject to the standard condition above, which would ensue that potential impacts on human remains will be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				

[9] Site visits conducted by Napa County Staff September 29, 2010.: Wooster December, 2011

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
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 off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Discussion:

a The project site could experience potentially strong ground shaking and other seismic related hazards based on the number of active faults in the San Francisco Bay region. The project consists of maintenance of erosion control measures and earthmoving activities associated with the installation of erosion control measures for vineyard development: it does not include the construction of new residences or other facilities (i.e. enclosed areas where people can congregate) that would be subject to seismic forces. Additionally, the project would not result in a substantial increase in the number of people to the site. Therefore, the potential for the proposed project to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, ground shaking, liquefaction, and landslides would be less than significant. Additional information supporting this conclusion is identified below:

i) No faults have been mapped on the project site and the project area is not located on an active fault and is not within an "Earthquake Fault Hazard Rupture Zone" designated by the Alquist-Priolo Earthquake Zoning Act: the nearest mapped faults are located the over 1.5 miles to the southeast and over 4.5 miles to the south west. The West Napa fault and Green Valley fault are located over 10 miles and 18 miles, respectively, to the south of the subject property (Napa County GIS: Alquist-Priolo fault, West Napa Fault and Faults layers).
ii) The subject parcel is located in an area that is subject to moderate seismic ground shaking potential (http://gis.abag.ca.gov/Website/shakingpotential/index.html) and the proposed project does not include construction of any new residences or enclosed areas where people can congregate.
iii) The project area is not in an area subject to high liquefaction potential: liquefaction potential is identified to be low to very low (Napa County GIS: Liquefaction Layer).
iv) Land slides have not been identified within the project area (Napa County GIS: Landslide Layers).

b. Soils of the project area, as classified in the United States Department of Agriculture Soil Conservation Service's Napa County Soil Survey (USDA, Soil Survey of Napa County, 1978) consist of the following: Aiken loam 2 to 15% (Series #100) which exhibits medium runoff and slight erosion potential; Boomer gravelly loam 30 to 50% (Series #109) which exhibits rapid runoff and moderate erosion potential; Cortina very stony loam 0 to 5%(Series #125) exhibits slow runoff and slight erosion potential; Rock outcrop-Kidd Complex 50 to 75% slopes (Series #177), exhibits rapid runoff and very high erosion potential.

Installation and implementation of the erosion control plan would involve earthmoving activities and vegetation removal within the proposed project area. Pursuant to Section 18.108.070.L of the County Code (Erosion Hazard Areas) earthmoving activities cannot be preformed from October 15th to April 1st of the proceeding year; therefore, earthmoving and construction activities would take place during the dry season when rain storms are less likely, resulting in negligible erosion and sedimentation during project installation.

Based upon soil loss calculations prepared by Napa Valley Vineyard Engineering (July and December 2011 – Date stamped January 3, 2012) using the Universal Soil Loss Equation (USLE) the proposed conversion of approximately 34.6-acres of woodland, forest, and chamise shrubland to vineyard is anticipated to reduce overall soil loss, or surface erosion, as compared to existing conditions. Under existing conditions the current annual soil loss within the vineyard blocks ranges from 1.86 to 12.68 tons per acre per year depending on soil type and slope length and gradient: the annual average pre-project soil loss within the entire project area is approximately 6.76 tons per acre. Under

proposed project conditions annual soil loss within the vineyard blocks would range from 1.82 to 4.56 tons per acre per year depending on soil type and slope length and gradient: the annual average post-project soil loss within the entire project area is approximately 2.8 tons per acre (Table 5). Overall the proposed project is anticipated to reduce project area soil loss by approximately 3.96 tons per acre (or approximately -54%) as compared to existing conditions.

The USLE model evaluates the environmental conditions and physical forces that lead to the detachment and movement of soil particles, it does not describe travel distances of soil particles once dislodged. Potential soil loss associated with vineyard installation, operation and maintenance would primarily be controlled through a no-till cover crop with an anticipated vegetative density of 80%, which increases the cover factor and density of the project area and the ability to trap eroded soil on-site, thereby reducing soil loss potential. The implementation and maintenance of other proposed erosion control measures, which include installation of fiber rolls (i.e. straw wattles), water bars, vegetated and rock lined diversion ditches and channels, rock slope protection (i.e. the placement of filter fabric between all rock slopes and earthen material), and rock protected outfalls and energy dissipaters (earth berm water spreader, pipe water spreader, rock storage bench, and detention basin) that return any concentrated flow back to sheet flow reducing overland flow velocities and erosive power, would further reduce soil loss potential. These erosion control features decrease slope length, thereby, reducing overland flow velocities and erosive power, in addition to allowing sediment to settle out of runoff. Additionally, the annual application of straw mulch cover on all seeded and disturbed areas at 2 tons per acre would offset any soil loss experienced during vineyard and cover crop establishment.
As mentioned above, the primary reason for the anticipated reduction in soil loss as a result of the project is due to the cover factor applied the pre and post-project configurations. The USLE modeling utilized a cover factor of 60% ground cover and 75% brush canopy based on existing conditions (for a cover factor of 0.036 in the USLE model). The post project USLE modeling utilized a cover factor of 80% based on the proposed cover crop density (for a cover factor of 0.022 in the USLE model). These factors explain the anticipated reduction in soil loss. Additionally, the pre and post-project site conditions and USLE modeling has been reviewed by the Napa County Resource Conservation District (RCD) and found to be appropriate given current site conditions and proposed project conditions.

Table 5: USLE Soil Loss Analysis

Vineyard Block	Pre-Project Soil Loss* (tons/acre/year)	Post Project Soil Loss* (tons/acre/year)	Difference	Percent Change (approximate)
A	10.8	2.79	-8.01	-74%
B	4.94	3.02	-1.92	-39%
C	8.45	2.93	-5.52	-65%
D	4.61	2.82	-1.79	-39%
G	9.24	4.09	-5.15	-56%
H	6.81	2.36	-4.45	-65%
K	2.93	2.29	-0.64	-22%
L	8.22	2.66	-5.56	-68%
M	7.28	2.68	-4.60	-63%
N	5.92	2.56	-3.36	-57%
O	5.14	2.82	-2.32	-45%
P	9.10	3.79	-5.31	-58%
Q	12.68	3.17	-9.51	-75%
R/S	10.71	2.70	-8.01	-75%
T	4.94	3.02	-1.92	-39%
V	8.11	2.99	-5.12	-63%
W	7.67	2.67	-5.00	-65%
X	2.29	1.40	-0.89	-39%
Y1	5.47	2.47	-3.00	-55%
Y2	4.61	2.82	-1.79	-39%
Z	10.05	2.83	-7.22	-72%
AA	4.39	2.69	-1.70	-39%
BB	4.82	2.95	-1.87	-39%
CC	6.67	2.92	-3.75	-56%
DD	4.53	2.77	-1.76	-39%
EE	5.37	2.55	-2.82	-53%
Project	Overall Average Pre-Project Soil Loss	Overall Average Post Project Soil Loss	Overall Average Difference	Overall Average Percent Change

	6.76	2.80	-3.96	-54%

Source: Napa Valley Vineyard Engineering July and December 2011
*Average based on pre and post project slope lengths and soil types

Therefore, the proposed erosion control measures would reduce soil erosion and the loss of topsoil as compared to existing conditions, as well as maximize the potential for containment of detached soil particles to the project area, resulting in no impact impact with regard to soil erosion, soil loss, and sedimentation. Additionally, as shown in the soil loss modeling following development, soil loss is not anticipated to be greater than predevelopment conditions, which is consistent with General Plan Conservation Element Policy CON-48, which requires predicted soil loss following development is not greater than predevelopment conditions.

Furthermore it is not expected that land preparation activities associated with vineyard, such as removal of rocks from the soil profile, would substantially affect the USLE modeling results. The USLE model evaluates the environmental conditions and physical forces that lead to the detachment and movement of soil particles. The primary goal of cultivating the soils within the development area during implementation is to prepare the site for planting, including fracturing and mixing layers of compressed soil and rock to facilitate root growth and improve permeability, rather than to remove all the rock within the development area soils. Soil cultivation may result in a greater number of smaller rocks at the soil surface: smaller rocks that emerge through development would be left within the vineyard, and only the larger rocks that surface would be removed. Since the larger rocks that may be removed from the site are generally underneath the soil surface, the removal of large rocks that emerge during development would not significantly alter the composition of soil. Therefore, the soil type classification utilized in the USLE calculations would remain unchanged (Oster, 2008: and the Stagecoach Vineyards #P06-0042-ECPA Environmental Impact Report, AES 2007, SCH #2006082143 certified October 7, 2008). With regard to the imported material to be utilized in the development of proposed Vineyard Blocks K through N, post project USLE modeling takes into account that particular soil type: Bale loam, soil series #105: this fill is also anticipated to come from the Rutherford Reach Restoration Project.

c. The project area is not in an area prone to landslides, ground failure or liquefaction. The proposed project identifies the soil types in the project area and addresses any potential soil instability. Therefore, this project will not result in any significant impacts of on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

d. As stated in Section VI.b. above soils within the project area consist of following: Aiken loam (Series #100) which exhibits a low shrink-swell potential; Boomer gravelly loam (Series #109) which exhibits a low to moderate shrink-swell potential; Cortina very stony loam (Series #125) which exhibits a low shrink-swell potential; and, Rock outcrop-Kidd Complex (Series #177) which exhibits a low shrink-swell potential (USDA, Soil Survey of Napa County, 1978). Minor structures (approximately eight 10,000 gallon water tanks) are being proposed as part of this project and expansive soils pose little risk to vineyards and related agricultural improvements. Therefore, impacts associated with expansive soils are anticipated to be less than significant.

e. The proposed project involves the development of vineyards, no septic tanks or alternative wastewater disposal systems are needed or proposed at the project site. Therefore, there would be no impact with regard to soils supporting septic tanks or alternative wastewater disposal systems.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VII.	GREENHOUSE GAS EMISSIONS. Would the project:				
	a) Generate a net increase in greenhouse gas emissions in excess of applicable thresholds adopted by the Bay Area Air Quality Management District or the California Air Resources Board which may have a significant impact on the environment?	☐	☐	☒	☐
	b) Conflict with a county-adopted climate action plan or another applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion:

a-b. Napa County has prepared a Revised Draft Climate Action Plan (March 2012), which is currently under public review. The proposed Climate Action Plan (CAP) quantifies and provides baseline inventory of green house gas (GHG) emissions from all sources in unincorporated Napa County as of 2005 and proposes emission reduction measures designed to reduce emissions to 1990 levels by 2020, consistent with the goal of California Assembly Bill (AB) 32 from 2006. Although the plan is not required by State law, the Bay Area Air Quality Management District (BAAQMD) has concluded that development projects that are consistent with a "qualified" CAP would not result in "significant" GHG emissions

in the context of the California Environmental Quality Act (CEQA). Preparation and adoption of a Climate Action Plan was included as action item in the Napa County General Plan, adopted in June of 2008. Additional information on the Draft CAP can be obtained at the County Administrative Offices or the County Website http://www.countyofnapa.org/CAP/. On January 18, 2012, the Napa County Planning Commission recommend adoption of the Revised Draft CAP to the County Board of Supervisor, as well as using the emissions checklist in the draft CAP, on a trial basis, to determine potential GHG emissions associated with at project

The draft CAP suggests that development projects reduce their "Business as Usual" emissions by 38%. The CAP if adopted would require new vineyard projects on slopes over 5% to: a) calculate the GHG emissions associated with their project using the worksheet included in the draft CAP; b) implement "best practices" such as mulching rather than burning debris, using cover crops, etc.; and c) implement one or more other measures to reduce or off-set one-time construction emissions by 38%. Since the CAP is not formally adopted, it is not considered a significance threshold for CEQA purposes. However as noted above the checklist has been utilized, in part, to determine potential GHG emissions associated with the proposed project (Tables 7 and 8).

One time (or "construction") emissions associated with vineyard development includes the carbon that is lost when site vegetation (including any woody debris and downed wood) is removed and soil is ripped in preparation for planting. One time or "construction" emissions also include energy used to prepare the site and plant the vineyard, including any farm equipment and worker vehicles (see Section XVI, Transportation/Traffic, for anticipated number of construction trips).

Ongoing or operational emissions of the vineyard would include any reduction in the amount of carbon sequestered by soil and vegetation on the site when the proposed project is compared to a "no project" scenario over an extended period of time (usually 100 years). Ongoing emissions are also derived from the energy used to maintain the vineyard, including any farm equipment, pumps, frost protection, worker vehicles, etc. See Section XVI, Transportation/Traffic, for anticipated number of operational trips.

Ongoing emissions from the proposed vineyard would be modest when compared to one time ("construction") emissions (as discussed below), and a quantitative estimate would require many assumptions about what would happen during the next 100 years on site under "project" and "no project" conditions (e.g. the life expectancy of the proposed vineyard and existing site vegetation, incidences of disease and fire, etc.).

Carbon Dioxide (CO_2) is the greenhouse gas whose concentration is being most affected directly by human activities (i.e. is the principal greenhouse gas being emitted by human activities) and also serves as the reference to compare all other greenhouse gases: sources of carbon emissions include forest clearing, land-use changes and biomass burning (http://www.climatechange.ca.gov/glossary/letter_c.html). Equivalent Carbon Dioxide (CO2e) is the most commonly reported type of GHG emission and a way to get one number that represents total emissions from all the different greenhouse gases (BAAMD CEQA Air Quality Guidelines, June 2010), in this case carbon dioxide (CO2). Carbon is converted to carbon dioxide equivalents (CO_2e) by multiplying the carbon total by 44/12 (or 3.67), which is the ratio of the atomic mass of a carbon dioxide molecule to the atomic mass of a carbon atom (http://www.ncasi2.org/COLE/index.html).

As a comparison, three large vineyard projects were recently analyzed to determine annual emissions associated with changes in carbon sequestration on site.[10] Assumptions varied, yet the analyses all concluded that the change in annual sequestration, even for vineyards of over 150 acres, was no more than around 300 metric tons of Carbon Dioxide equivalents (MT CO_2e) per year. This is equivalent to the energy used annually by about 19 households in Napa County, and well below the threshold of 1,100 MT CO_2e that BAAQMD has defined as significant for CEQA purposes when considering land development projects. As noted in Section III (Air Quality), while the BAAQMD's thresholds of significance established by the May *2011 BAAQMD CEQA Guidelines*" have been set aside pending further CEQA review and re-adoption, they continue to represent the levels at which a project's individual emissions could result in potentially significant project level and cumulative impacts. Since in this case, the proposed vineyard is much smaller than 150-acres, its ongoing annual emissions associated with loss of sequestration are expected to be much less that than 300 MT CO_2e per year. Additionally, one study included vehicular equipment emissions associated with construction and ongoing operation. It was anticipated that vehicular and equipment related emissions associated with construction of an approximate 150-acre vineyard would be approximately 405 metric tons of carbon (or approximately 1,485 MT CO_2e) and ongoing vineyard operation emissions associated with vehicles and equipment would be approximately 24 metric tons of carbon per year (or approximately 88 MT CO_2e per year): resulting in approximately 9.9 MT CO_2e of vehicular and equipment emissions per acre of vineyard development (1,485 CO_2e divided by 150-acres) and approximately 0.59 MT CO_2e of vehicular and equipment emissions per acre of vineyard associated with ongoing operation (88 CO_2e divided by 150-acres). Based on these calculations it is anticipated that equipment related emissions associated with construction of the proposed 34.6-gross acre vineyard, would be approximately 342.54 MT CO_2e (34.6-acres times 9.9 MT CO_2e) and on-going vehicular and equipment emissions would be approximately 20.41 MT CO_2e per year (34.6-acres times 0.59 MT CO_2e): also see Table 8.

[10] Copies of three studies, together with an "apples to apples" comparison of their findings are included in the project file and are available for review during normal business hours at the Department of Conservation, Development and Planning, 1195 Third Street, Suite 210, Napa, California.

Furthermore, grapevines are photosynthetic plants and therefore have value in terms of carbon capture. Additionally, the use of cover crops, which are also photosynthetic plants, as proposed, tend to result in less soil CO_2 loss from vineyard soils[11]. Carbon sequestration loss would be partially offset by the proposed vineyard, which would likely act as a sink for atmospheric CO2, depending on the longevity of grapevine roots and the quantity of carbon stored in deep roots. In addition to vines, the sequestration of atmospheric carbon is also achieved by the soil between vinerows through cover-cropping and from the breakdown of leaves and vine pruning material.

Regarding construction emissions associated with vegetation removal and soil preparation the proposed project converted approximately 34.6, Live Oak/Bay woodland (oak woodland), Grey Pine woodland (coniferous forest), and Chamise shrubland (chaparral) to vineyard. While there is scientific research remaining to be done before it will be possible to easily and precisely calculate emissions due to vegetation conversion and soil disturbance, there are some tools that allow for a reasonable estimate. These include a Carbon On-Line Estimator (COLE)[12] and a variety of technical studies of soil and vegetative carbon, including studies specific to the Napa Valley[13]. As mentioned above, utilizing the Green House Gas Emissions Checklist of the Draft CAP and the acreage of the existing vegetation types within the project area, the County has estimated total project site carbon, including soil carbon, to be approximately 5,357 MT CO_2e (Table 6). It should be noted that the estimated carbon stocks for this project have used the most conservative estimates and include 100% of the carbon storage in soils. The 2.2-acres of previously disturbed lands located within the project area were valued as grassland in Table 6.

Table 6 - Estimated Project Site Carbon Stocks/Storage

Vegetation Type/ Carbon pool	Project Acreage	Carbon Storage/Stock Per Acre (MT C acre)*	Total Carbon Storage in Metric Tons	Total Carbon Storage in MT CO2e
Oak woodland	9.4	95.1	893.9	3,277.8 MT CO_2e
Coniferous forest / Grey pine woodland	4.8	58.1	278.9	1,022.6 MT CO_2e
Shrubland	17.6	16.2	285.1	1,045.4 MT CO_2e
Grassland	2.2	1.4	3.1	11.3 MT CO_2e
Total			1,461.0	5,357.1 MT CO_2e

Source: Napa County Draft CAP, October 31, 2011 *Includes 100% of soil carbon stock

Presently there is no scientific agreement about the percentage of carbon that would be lost/emitted from soils through grading, some recent analyses have suggested 20-25% while others have suggested 50%.[14] Using 50% as a more conservative estimate, the project could result in one time emissions from vegetation removal and soil preparation (i.e. soil ripping) of approximately 4,799.5 MT CO_2e as shown in Table 7.

Table 7 - Estimated Project Carbon Loss/Emissions Due to Vegetation Removal

Vegetation Type/ Carbon pool	Project Acreage	Carbon Loss/Emission Per Acre (MT C acre)*	Total Carbon Loss in Metric Tons	Total Carbon Loss/ Emission MT CO2e
Oak woodland	9.4	89.6	842.2	3,088.2 MT CO_2e
Coniferous forest / Grey pine woodland	4.8	52.5	252.0	924.0 MT CO_2e
Shrubland	17.6	12.1	213.0	780.9 MT CO_2e
Grassland	2.2	0.8	1.8	6.5 MT CO_2e
Total			1309.0	4,799.5 MT CO_2e

Source: Napa County Draft CAP, October 31, 2011 *Includes 50% soil carbon loss

Based on the above estimates, the proposed project could result in one time construction emissions of up to 5,142 MT CO_2e and annual on-going emissions associated with vineyard operations of less than 320.4 MT CO_2e (Table 8).

Table 8 - Estimated Project Related GHG Emissions

Construction Emissions in Metric Tons of C02e		Annual On-Going Emissions in Metric Tons of C02e	
Vehicles and Equipment	342.5	Vehicles and Equipment	20.4
Vegetation and Soil	4,799.5	Loss of Sequestration[10]	<300
Total	5,142.0	Total	<320.4

Source: Napa County

[11] See Carlisle et al., Effects of Land Use on Soil Respiration: Conversion of Oak Woodlands to Vineyards, *J. Environ Qual.*2006; 35: 1396-1404. Pierce, D.L., Steenwerth, K.L., Harris, D., Smart, D.R. 2005. Vineyard management methods for carbon sequestration in soil: a stable isotope approach. Soil Science Society of America Annual Meeting.
Carlisle, Eli A. etal., The Influence of Land Conversion on Carbon Mineralization and CO2 Emissions from Vineyard and Adjacent Oak Woodland in the Napa Valley, Department of Viticulture and Enology, University of California, Davis.

[12] COLE is a collaborative project produced by the US Forest Service and the National Council for Air and Stream Improvement (NCASI) designed to enable users to analyze forest carbon characteristics anywhere in the US. The estimator can be filtered to use data from plots in Napa County and surrounding areas.

[13] See the three studies cited earlier.

[14] See the three studies cited earlier.

There is no adopted CEQA significance threshold at the State, regional, or local level for construction-related GHG emissions, and the County has therefore evaluated the significance of one-time project-generated emissions of approximately 5,142 MT CO_2e by considering the size of the proposed vineyard in relation to projected vineyard development in the County. The program level EIR for the 2008 Napa County General Plan Update (SCH#2005102088 certified June 3, 2008) projected there would be 12,500 acres of new vineyard development in the County between 2005 and 2030[15]. The County's conclusion in the General Plan EIR was that emissions from all sources (i.e. land uses and development), not just agriculture, over the planning period would result in significant and unavoidable GHG emissions despite measures adopted to address the impact. Therefore, the General Plan did not determine that emissions solely from projected agricultural development would result in significant unavoidable impacts. Pursuant to Section 15183(a) of the California Code of Regulation (CCR) projects which are consistent with the general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific effects which are peculiar to the project or its site.

In the context of 12,500 acres of projected vineyard development, the proposed project would constitute less than approximately 0.28 percent of the total. The proposed project also contains measures to reduce and/or offset emissions from vineyard development and vineyard operations such as the no-till vineyard cover crop maintained at an 80% density, vegetated and rock surfaced vineyard avenues and roads, and the maintenance and establishment of grape vines. These measures in conjunction with the standard air quality conditions detailed in Section III Air Quality (if approved) would further reduce potential GHG air quality impacts associated with construction and ongoing operation of the project. For these reasons, the County does not consider one-time GHG emissions from the proposed vineyard development to be a significant impact on a project level basis or to be a "considerable" contribution to the significant unavoidable impact identified in the General Plan EIR.

With regard to ongoing GHG emissions, as described above total annual emissions are anticipated to be much less than 320.4 MT CO_2e per year which is well below the threshold of 1,100 MT CO_2e per year that BAAQMD has defined as significant for CEQA purposes when considering land development projects (BAAQMD CEQA Guidelines May 2011). Therefore, ongoing emissions, including loss of sequestration, due to the proposed project are considered less than significant. Also see the discussion in Section III (Air Quality), for additional discussion and information on air quality impacts.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
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?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, 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?	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

[15] A copy of the General Plan EIR is available for review during normal business hours at the Department of Conservation, Development and Planning, 1195 Third Street, Suite 210 in Napa, CA.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wild-land fires, including where wild-lands are adjacent to urbanized areas or where residences are intermixed with wild-lands?	☐	☐	☐	☒

Discussion:

a-b. Installation of the proposed erosion control plan and subsequent vineyard operation and maintenance would require a variety of equipment and vehicles that would use fuel and other petroleum based products such as oil and transmission fluids, which are considered hazardous materials. Ongoing vineyard operations would also involve the transport and use of herbicides, and mildewcides/fungicides that are considered hazardous materials. According to #P11-00317-ECPA, pesticides and fertilizers are not anticipated to be utilized as part of vineyard operations (and are not currently utilized in existing vineyard operations). Additionally, herbicide applicators must be licensed by the state, and the Napa County Agricultural Commissioner enforces application of pesticides and regulates applicators.

Vehicles and equipment necessary for vineyard development and ongoing operation typically require bull-dozers (D-10 or smaller), excavator, dump truck (2-5 cubic yard), backhoe, flatbed truck, tractors, a grape haul truck, and various small vehicles (such as ATVs, pickup trucks, and passenger vehicles). Equipment and vehicles are utilized on-site either on a short term temporary basis (plan implementation and vineyard installation) or short term seasonal basis (ongoing vineyard operation). See Section XVI.a-b (Transportation/Traffic) for a detailed description of anticipated vehicles and equipment associated with the project. Due to the minimal number of vehicles and equipment anticipated on the project site and their limited use (seasonal and/or temporary), a large scale spill of hazardous materials associated with vehicle and/or equipment use is highly unlikely.

The storage of agricultural chemicals (in this case weed control) would occur in an existing tractor shed and barn located adjacent to the winery facility: the staging area is also located at this area (see Plan Sheet 2 of Figure 4). On-site mixing of agricultural chemicals and the cleaning and washing of chemical application equipment would occur at a concrete pad associated with the winery. These locations are at least 50 feet from adjacent water resources and properties. The storage and mixing mildewcides/fungicides, and cleaning of associated application equipment, would not occur on-site: a vineyard management company would provide this service, and therefore would not occur on-site. The annual application of mildewcides/fungicides is anticipated to occur up to 6 times per year from May through July. A listing of agricultural chemicals, in addition to application methods, application amounts, and numbers of annual applications that would be used for on-going vineyard maintenance and operation is provided within Supplemental Project Information on file at the Planning Department. Due to the limited amount of herbicides, mildewcides/fungicides anticipated for on-going vineyard operation and their seasonal use, a large scale spill of hazardous materials associated with vineyard operation is highly unlikely.

The potential migration of agricultural chemicals that have been applied to the vineyard reaching adjacent water resources or properties would be minimized by maintaining vegetated buffers around vineyard blocks. The National Resource Conservation Service (NRCS) recommends a minimum 50-foot wide vegetated buffer from water resources (streams and wetlands) because under most conditions it is a generally adequate buffer width to provide enough vegetation to adequately entrap and filter chemicals, nutrients, and sediment thereby, facilitating degradation within buffer soils and vegetation (USDA 2000). The use of a staging area and chemical mixing and washing facilities that are located at least 50 feet from adjacent water resources and properties for the storage, refueling, and maintenance of equipment associated with vineyard development and subsequent operation would substantially reduce the risk of potentially hazardous materials reaching or affecting aquatic resources or adjacent properties. Additionally, the owner/applicant is anticipating utilizing integrated pest management (IPM) techniques when feasible during the application of chemical pesticides, which would optimize their effectiveness. IPM is an effective and environmentally sensitive approach to pest management that relies on a combination of reasonable application and use practices such as using current comprehensive information on the life cycles of pest and their interaction with the environment to determine application times and amounts. IPM is used to manage pest damage by the most economical means, and with the least possible hazard to people, property and the environment (EPA, 2005).

Furthermore, project approval, if granted, would be subject to the following standard conditions, that would further avoid and/or reduce potential impacts associated with routine transport and use of hazardous materials during project implementation and ongoing vineyard operations and maintenance.

Hazardous Materials –Conditions of Approval:

The owner/operator shall implement the following Hazardous Materials Best Management Practices (BMPs) during construction activities and vineyard maintenance and operation:

- Workers shall follow manufacturer's recommendations on use, storage and disposal of chemical products;
- Workers shall avoid overtopping fuel gas tanks and use automatic shutoff nozzles where available;
- During routine maintenance of equipment, properly contain and remove grease and oils;

- Discarded containers of fuel and other chemicals shall be properly disposed of;
- Spill containment features shall be installed at the project site wherever chemicals are stored overnight;
- All refueling, maintenance of vehicles and other equipment, handling of hazardous materials, and staging areas shall occur at least 100 feet from water courses, the existing groundwater well, and any other water resource to avoid the potential for risk of surface and groundwater contamination; and,
- To prevent the accidental discharge of fuel or other fluids associated with vehicles and other equipment, all workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

Because of the: 1) limited number of vehicles and equipment necessary for project installation and on-going vineyard operation; 2) limited quantity of agricultural chemicals that will used, stored, mixed, or cleaned on the subject property; 3) the buffers/setbacks provided from adjacent water resources and properties in the project design, most of which are a minimum of 50 feet; 4) the seasonal and limited use of agricultural chemicals; 5) regulation of pesticide and herbicide applicators; and, 6) implementation of standard conditions to avoid/reduce incidental spills and their affect; impacts associated with the routine use and transport of hazardous materials are considered to be less than significant. For a more detailed discussion of potential water quality impacts associated with proposed vineyard development and operation, see Section IX (Hydrology and Water Quality).

c. The closest schools to the subject property is Foothill Elementary located approximately 0.75 miles to the south and Pacific Union College Elementary School located over 1.7 miles to the east (Napa County GIS: Schools layer) and there are no proposed schools within the vicinity of the subject property. Therefore, there would be no impact to existing or proposed schools.

d. No portion of the project site is included on a hazardous materials site (Napa County GIS: Hazardous Facilities layer); therefore, there is no impact.

e-f. The subject property is neither located within an airport land use plan area, nor within two miles of a public or private airstrip; the Virgil O Parrett air field is located approximately 2.1 miles to the northeast (Napa County GIS Sensitivity Maps: Napa Airport and Angwin Airport Compatibility Zone, and DRG Quads layers). Therefore, no impacts are anticipated:

g. The proposed project would not impair implementation of or physically interfere with any adopted emergency response plan or emergency evacuation plan, in that there would be no permanent substantial increase in the number of people working or residing at the project site (there would only be negligible numbers of workers visiting the parcel on either a temporary or seasonal basis for erosion control plan and vineyard installation and subsequent vineyard operations) therefore, a less than significant impact is anticipated.

h. The risk of fire in the vineyard is very low due to limited amount of fuel, combustibles, and ignition sources present. Vineyards are irrigated and cover crops are generally mowed in the spring (May through June); thereby, reducing the fuel loads within the vineyard. Additionally, the subject property is located approximately 3.5 miles from the Los Posadas Road CalFire station and approximately five miles from the City of St. Helena Fire Department and the Big Tree Road CalFire station. Therefore, the project would not increase the exposure of people or structures to wild-land fires, resulting in no impact.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IX.	HYDROLOGY AND WATER QUALITY. Would the project:				
	a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
	b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
	c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
	d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
e)	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?	☐	☐	☐	☒
f)	Otherwise substantially degrade water quality?	☐	☐	☒	☐
g)	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?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion:

The project site is located within the sub-watershed of the Canon Creek Drainage, which has not been designated as critical habitat for steelhead (Napa County GIS Sensitivity Maps: Biological Critical Habitat layer); however, Canon Creek drains into the Napa River, which has been designated as critical habitat for steelhead and is located within the Napa River watershed. According to the Regional Water Quality Control Board, San Francisco Bay Region's Napa River Sediment total maximum daily load (TMDL) and Habitat Enhancement Plan Staff Report dated September 2009, the watershed stewardship, along with several others have developed management plans and/or have implemented, or are planning, large-scale projects to enhance water quality and stream-riparian habitat with this sub-watershed. The Napa River is currently listed as an impaired body of water for nutrients, pathogens, and sediment under Section 303 9(d) of the Clean Water Act (CWA). Historically, the construction of large dams and other impoundment structures between 1924 and 1959 on major tributaries in the eastern Napa River watershed and northern headwater areas of the Napa River has affected sediment transport processes into the mainstem of the Napa River by reducing the delivery of the coarse load sediments to the river (Stillwater Science and W. Dietrich, 2002). However, the finer sediments that are not trapped by dams, are negatively affecting salmonid habitat by reducing gravel permeability potentially affecting special-status fish species (Stillwater Science and W. Dietrich, 2002). In response, the Regional Water Quality Control Board, San Francisco Bay District has released a technical report that proposes a TMDL for the Napa River, which calls for reductions in the amount of fine sediment deposits into the watershed to improve water quality and maintain beneficial uses of the river, including spawning and rearing habitat for salmonid species.

a. Waste discharge is not anticipated as part of the project or ongoing vineyard operations; therefore, there is no impact anticipated on waste discharge requirements.

b. The project proposes to drip irrigate the vineyard from two existing on-site groundwater wells. Typically, the annual irrigation season ranges from late May to September. Water use for frost protection is not proposed.

The subject property is located within the Canon Creek Drainage containing approximately 1,900-acres. In 1993, there were approximately 85-acres of vineyard within this drainage. Between 1993 and 2011, approximately 43.4-acres of vineyard (or 2.3% of the drainage) were approved and developed. Overall there are approximately 128.4-acres of vineyard within the drainage, resulting in approximately 6.6% of the drainage containing vineyard. Presently there are no other proposed erosion control plans pending within the Canon Creek Drainage. There are 3 producing wineries within the Canon Creek Drainage with a production capacity totaling approximately 44,400 gallons: there are no pending winery use permit applications on file. There are also approximately 200 single family residences within the drainage.

Water use calculations provided by the applicant indicate that the proposed 26-acres of planted of vineyard, at a vine density of approximately 1556 vines per acre, would use approximately 0.5 acre feet of water per acre of vineyard per year (af/ac/yr), totaling 12.5 af/yr.. Existing groundwater use on the parcel provided by the applicant is estimated to be approximately 3.95 af/yr (1 af/yr for residential uses, 2.5 af/yr for existing vineyard, and 0.45 af/yr for landscaping). Total groundwater use anticipated on the subject property from the proposed project and other existing groundwater water usage is anticipated to be approximately 17.45 af/yr (this total includes 1 af/yr for cover crop repair). Water for the existing winery facility is provided by the Howell Mountain Mutual Water Company, and therefore does not rely on groundwater.

As determined by the Phase 1 Water Availability Analysis for the subject property the allowable groundwater allotment for this property is 78.2 acre-feet per year (af/yr) based on the "fair-share" standards established by the Napa County Department of Public Works: which allow 0.5 acre feet per acre per year in mountain areas (0.5 af/yr times 156.3-acres equals 78.2 af/yr). Based on the Phase 1 Water Availability allotment, groundwater use on the parcel for the existing and proposed vineyard development in conjunction with existing uses that rely in groundwater would be below both the "fair-share" standards.

The applicant has also provided a more detailed Water Demand and Water Availability Analysis, or water budget, for the property and proposed project (D. Aspegren, Napa Valley Vineyard Engineering, December 2011 – Figure 10). Based on annual average annual rainfall for the area (approximately 36 inches) and the size of the subject property (approximately 156.3-acres), it is estimated that the property would receive approximately 469 af of rainfall annually. Of the annual average rainfall it is estimated, based on geological conditions and runoff and evapotranspiration characteristics of the subject property, that approximately 10% (or 47 af of water) would be available for groundwater aquifer recharge.

In a recent study prepared by Luhdorff and Scalmanini Consulting Engineers (Napa County Groundwater Conditions and Groundwater Monitoring Recommendations, February 2011) it was determined, based on available data, that groundwater levels in the county are generally stable, with the exception of the Millieken Sarco Tulucay (MST) Subarea, which is located over 16 miles to the southeast of the subject property. Furthermore, the County has not received (or is aware of) any information, complaints, or records of any potential groundwater problems or reports of declining well production in the Canon Creek/Deer Park area of the County; therefore, the County has no record of groundwater concerns in this area (personal communication, Assistant Engineer, Napa County Department of Public Works, February 29, 2012).

The project proposes to use a limited amount of groundwater to irrigate the proposed vineyard, approximately 12.5 af/yr: and maintain existing water uses of approximately 3.95 af/yr, for a total annual water use of approximately 17.45 af/yr. Considering that: i) the anticipated water use of approximately 12.5 af/yr of the proposed project is within the property's Phase I allowable groundwater allotment of 78.15 af/yr; ii) below the property's anticipated groundwater recharge rate of approximately 47 acre-feet per year; and, iii) there is no evidence to date indicating that there are groundwater problems or declining well production in the Cannon Creek/Deer Park area of the County, the proposed project is anticipated to result in less that significant impacts to groundwater supplies, groundwater recharge, local groundwater aquifer levels, and well interference or drawdown effects on nearby wells.

Additionally, project approval, if granted, would be subject to the following standard condition, that would further reduce potential impacts associated with water use as a result of ongoing vineyard operations and maintenance:

Water Use – Condition of Approval:
The permittee may be required (at the permittee's expense) to provide well monitoring data if the Director of Environmental Management determines that water usage at the vineyard is affecting, or would potentially affect groundwater supplies or nearby wells. Data requested could include, but may not be limited to, water extraction volumes and static well levels. If applicant is unable to secure monitoring access to neighboring wells, onsite monitoring wells may need to be established to gage potential impacts on the groundwater resource utilized for the project proposed. Water usage shall be minimized by use of best available control technology and best water management conservation practices. In the event that changed circumstances or significant new information provide substantial evidence that the groundwater system referenced in the permit would significantly affect the groundwater basin, the director of environmental management shall be authorized to recommend additional reasonable conditions on the permittee as necessary to meet the requirements of the Napa County Groundwater Ordinance and protect public health, safety, and welfare. That recommendation shall not become final unless and until the director has provided notice and the opportunity for hearing in compliance with the County Code section 13.15.070.G – K

c-d. Earthmoving activities have the potential to alter the natural pattern of surface runoff, which could lead to areas of concentrated runoff and/or increased erosion. The conversion of woodlands/forest and shrubland to vineyard would alter the composition of the existing land cover and infiltration rates, which could affect erosion and runoff. The project does not propose any alteration to a stream or river or include the creation of impervious surfaces that would concentrate runoff.

Erosion control measures and plan features that are not anticipated to affect drainage patters, but will assist in minimizing the potential for increased erosion and water runoff include: a no-till cover crop with a density of 80%, grass covered vineyard avenues and turn spaces, and the annual application of straw mulch cover on all seeded areas and disturbed slopes at a rate of 2 tons per acre. These features will slow and filter surface runoff water, thereby minimizing sediment, nutrients, and chemicals from leaving the project site and entering nearby aquatic resources. Please refer to Figures 4 and 9 for details related to the following discussion.

Proposed erosion control and project features that have the potential to alter natural drainage patters include: fiber roll sediment barriers (i.e. straw wattles), water bars, rock stabilization, vegetated or rock lined diversion ditches and channels, access drives, subsurface drain lines (including drop inlets and rocked lined collection basin), water spreaders (pipe and earth berm), the detention basin, rock walls (retaining) and associated fill areas, and rock storage bench. Fiber roll sediment barriers would be placed on contour at various locations of the perimeter

vineyard avenues to slow and maintain surface/sheet flow. Water bars would be placed on all perimeter vineyard avenues according to degree of slope and are designed to channel runoff from vineyard avenues to slow water flow and return any concentrated flows back sheet flow through the use of rock protected outfalls. Fiber roll sediment barriers water bars are spaced according to the Universal Soil Loss Equation to maintain soil losses below the tolerable levels for the soil types found on the site. Rock stabilization would be constructed in a low spot located within perimeter vineyard avenue of the southern end of proposed Vineyard Block R/S to provide an all weather surface in these areas: the rock storage bench could also be substituted for this feature, which provides the same function. The design and location of fiber roll sediment barriers, rock stabilization, and water bars would have a negligible effect on existing drainage patterns. The design and location of access drives, is intended to maintain sheet flow and are not anticipated to have a negative effect on existing drainage patterns. The rock retaining walls and associated fill areas are designed to maintain sheet flow and are therefore not anticipated to substantially alter existing drainage patterns.

Diversion ditches and channels (and associated access drives where applicable), and sub-surface drainage lines have a greater potential to alter drainage patters in that they are designed to capture sheet flow before it reaches erosive velocities and divert it to other locations within the project area. Diversions would be designed with a gentle gradient (2% to 4%) to prevent erosive velocities from occurring in the swale and allow water infiltration and sediment to settle out. Diversions would also be lined with jute netting after seeding and mulching or with rock to further slow velocities and allow water infiltration and sediment to settle out. Diversions would outfall at either a rock protected energy dissipater or connect to subsurface drain lines via drop inlets. Subsurface drain line outfalls would consist of rock protected outfalls, rock storage bench, Water Spreaders or a detention basin, that are designed to attenuate and dissipate concentrated flows and return them back to sheet flow at the outfall point. While these improvements would have the potential to divert water to other locations within the project area they do not divert water into different drainage areas or sub-drainage areas (as further described below), therefore, these drainage improvements are not anticipated to substantially alter the overall drainage patterns in within the subject property or the surrounding area.

Runoff calculations generated from the Technical Release 55 (TR 55) Runoff Model that show hydrologic changes as a result of the proposed project have been prepared by Drew Aspegren (R.P.E) of Napa Valley Vineyard Engineering (Figure 9 and Table 9). Four sub-watershed (or sub-drainage) have been identified for modeling purposes based on topography and drainage characteristics of the project area, subject property, and surrounding area. The four sub-watersheds represent the four locations where runoff exits the project site as follows: i) Watershed A, a 366-acre area that drains the northern portions of the property that contains proposed Vineyard Blocks A through H; ii) Watershed B, a 79.6-acre area that drains the north central portion of the property that contains proposed Vineyard Blocks K, L, V, X, Y1-3, and AA through EE; A through H; iii) Watershed C, a 89-acre area that drains the southern portion of the property that contains proposed Vineyard Blocks R, S, and T; and, iv) Watershed D, a 35-acre area that drains the south central portion of the property that contains proposed Vineyard Blocks M through Q and Z (Figure 9). All of these sub-drainage areas ultimately lead to blueline stream that bisects the northern portions of property and runs along western periphery of the southern portion of the property (Figures 1 and 2).

The pre-project condition modeling analysis assumed a mix of cover types that includes developed areas consisting of rural residential and vineyard, and undeveloped areas consisting of brush/shrubland, grass, woodland, and burned areas (in 2008 a fire affected a portion of each Sub-Watershed area). Vegetative cover in undeveloped areas and vineyard was considered to be in fair condition, except for burned areas which was considered to be in poor condition. Post project modeling conditions assume vineyard with a permanent 80% cover and the same soil type following soil ripping, except for proposed Vineyard Blocks K, L, and N which are to be constructed with imported fill: soil type for this blocks has been identified as Bale loam. Additionally, post-project modeling in areas where the soils are mapped as Rock outcrop-Kidd complex (Soil Series #177), utilize a hydrologic group of "C" as ripping of soils of this type/series would generally result in increased infiltration rates, and a change to the soil hydrologic group from a "D" rating to a "C" rating.

According to the project engineer, the TR-55 modeling originally predicted an increase in peak runoff from Sub-Watershed D ranging from 1.68 cubic feet per second (cfs) to 1.92 depending on storm interval. To attenuate for this increase in runoff a detention basin has been proposed near the northwestern end of Sub-Watershed D (in between proposed Vineyard Blocks L/M and N) that has been designed to attenuate 2 cfs for each storm event, thereby reducing this potential increase in runoff to pre-project levels or less. The TR-55 modeling results (Table 9), indicate that peak runoff rates and times of concentration of runoff are not anticipated to change in comparison to existing conditions due to the project within Sub-Watersheds A through C, within Sub-Watershed D runoff rates are anticipated to be slightly lower than pre-project conditions and times of concentration are not anticipated to change (taking into account the detention basin) as a result of the project. These modeling results are also consistent with General Plan Conservation Element Policy CON-50c that requires peak runoff following development is not greater than predevelopment conditions.

Additionally, as discussed in Section VI (Geology and Soils) the proposed project is anticipated to reduce soil loss by approximately 54% as compared to existing conditions. Therefore, the proposed project is anticipated to have a less than significant impact with respect to alterations of existing drainage patterns of the site or area that would result in increased runoff, considerable on or off-site erosion, siltation or flooding.

TABLE 9 – HYDROLOGIC MODELING CALCULATIONS (TR-55) RESULTS

Peak Flow Discharge in Cubic feet per second (Cfs) and Time of Runoff Concentration in hours	24 Hour Storm Event Frequency					
	2 year	5 year	10 year	25 year	50 year	100 year
Sub-Watershed A						
Peak Flow Pre Project Conditions	240.14	316.26	394.36	473.84	553.12	658.66
Peak Flow Post Project Conditions	240.14	316.26	394.36	473.84	553.12	658.66
Time of Concentration Pre Project Conditions	8.18	8.17	8.17	8.17	8.15	8.16
Time of Concentration Post Project Conditions	8.18	8.17	8.17	8.17	8.15	8.16
Sub-Watershed B						
Peak Flow Pre Project Conditions	62.90	81.92	101.35	121.03	140.85	166.72
Peak Flow Post Project Conditions	62.90	81.92	101.35	121.03	140.85	166.72
Time of Concentration Pre Project Conditions	8.02	8.00	8.00	7.99	7.99	7.98
Time of Concentration Post Project Conditions	8.02	8.00	8.00	7.99	7.99	7.98
Sub-Watershed C						
Peak Flow Pre Project Conditions	59.73	80.00	100.98	122.44	144.23	172.88
Peak Flow Post Project Conditions	59.73	80.00	100.98	122.44	144.23	172.88
Time of Concentration Pre Project Conditions	8.02	8.01	8.01	8.00	8.00	7.99
Time of Concentration Post Project Conditions	8.02	8.01	8.01	8.00	8.00	7.99
Sub-Watershed D						
Peak Flow Pre Project Conditions	19.89	27.51	35.52	43.80	52.29	63.51
Peak Flow Post Project Conditions	19.62	25.68	31.80	38.23	49.97	63.16
Time of Concentration Pre Project Conditions	7.94	7.94	7.93	7.93	7.93	7.92
Time of Concentration Post Project Conditions	7.94	7.94	7.93	7.93	7.93	7.92

Source: Napa Valley Vineyard Engineering, January 3, 2012

Furthermore, pursuant to County Code Section 18.108.135 "Oversight and Operation" (Figure 12), projects requiring an erosion control plan will be inspected by the county after the first major storm event of each winter until the project has been completed and stable for three years to ensure that the implemented erosion control plan is functioning properly[16].

e. The project site is not located in an area of a planned stormwater drainage system. The project site is not directly served by a stormwater drainage system. As discussed above in subsection c-d, a decrease in runoff is anticipated to occur in relation to existing conditions due to the project. Therefore, the project would not contribute a substantial amount of additional runoff to the existing stormwater drainage system, resulting in no impact.

f. The project would not have an adverse impact on water quality because #P11-00317-ECPA has been designed to keep polluted runoff and sediment from leaving the project area and subject parcel. As discussed in Section VIII – Hazard and Hazardous Materials, the project proposes the use of potentially hazardous materials during implementation activities (i.e. oil, gasoline, and transmission fluids) and the application of chemicals (i.e. fertilizers, herbicides, pesticides) for ongoing vineyard maintenance. Only Federal and/or California approved chemicals would be applied to the vineyard in strict compliance with applicable state and federal law. Buffer areas provided in the plan would facilitate increased water infiltration so that chemicals associated with implementation and operation can be trapped and degraded in buffer soil and vegetation. The limited application of agricultural chemicals generally occurring during the non-rainy season will also minimize the amounts of chemicals that could affect any on or off-site water resources. Furthermore, because the project would not increase runoff in relation to existing conditions, as discussed in Subsection c-d above, the proposed cover crop and buffers/setbacks would be able to effectively trap and filter sediments minimizing their entry into nearby water resources. The affect of the proposed project on water quality would be less than significant.

The proposed project has been designed with site specific temporary and permanent erosion control measures and features to prevent sediment, runoff, and pollutants from leaving the project area. Agricultural Erosion Control Plan #P11-00317-ECPA includes Best Management Practices (BMPs) that are consistent with County Code Section 18.108.080C, as well as, with Regional Water Quality Control Board guidance from the Storm Water Best Management Practice Handbooks for Construction and for New Development and Redevelopment, and the Erosion and Sediment Control Field Manuel. The combination of erosion control measures would ensure that potential impacts to water quality of the site and to downstream receptors would be at less than significant levels. Additionally, as discussed in VIIIa-b above (Hazards and Hazardous Materials), the project has been designed to include buffers/setbacks from adjacent watercourses, water resources and properties, which are a minimum of 50 feet.

[16] Conformance with the provisions of Section 18.108.135 is achieved by including it as a condition of approval for the project, if granted.

g-j. The project involves the maintenance and development of vineyard totaling approximately 34.6-acres and therefore, would not create housing. The project area is not located within a FEMA 100-year flood zone (Napa County GIS, FEMA Flood Zone layer); therefore, there would be no impacts within flood hazard areas to people or structures due to flooding. The project area is not located within in a dam or levee failure inundation area (Napa County GIS, Dam Levee Inundation Areas Layer); therefore, no impacts to people or structures due to dam or levee failure inundation are anticipated. The project area is not located in an area subject to seiche or tsunami. The hillsides on which the vineyard blocks would be developed would not expose people or improvements to mudflows; therefore, no impacts are anticipated.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
X.	LAND USE AND PLANNING. Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion:

a. The proposed project and subsequent vineyard operation would not physically divide an established community. The subject parcel and adjacent parcels are zoned Agricultural Watershed (AW) and designated Agriculture, Watershed and Open Space (AWOS) in the Napa County General Plan Land Use Element. Vineyards and associated improvements are permitted uses under these designations: therefore no impact is anticipated.

b. The proposed project has been analyzed for consistency with applicable sections of the Napa County Code and with the County 2008 General Plan. The project has been found consistent with applicable Code Requirements and General Plan Goals and Policies, including but not limited to the following, through implementation of the proposed project, mitigation measures and standard conditions of approval.

- As proposed, in conjunction with conditions of approval, the project appears consistent with applicable General Plan Conservation Element Policy CON-24 as it retains oak woodland and oak trees at a minimum 2:1 ratio: approximately 44-acres of the 53-acres (or 83%) of the subject property's oak woodlands would be retained as proposed.
- As discussed in Section IV.b (Biological Resources) Conservation Element Policies CON 50a and h, CON-27, and CON 26, requires the avoidance of possible losses of fishery and riparian habitat and the avoidance of riparian woodland loss through the retention of natural vegetation along perennial and intermittent streams through adequate buffering. County Code Section 18.108.025 (General Provisions – Intermittent/perennial streams) requires minimum setbacks from agricultural development. As proposed and in conjunction with Mitigation Measure BR-4 and conditions of approval the proposed vineyard project would provide setbacks consistent with those specified in Section 18.108.025 resulting in consistency with Policies CON 50a and CON 26 and 27.
- The project is consistent with Policies CON-13 and CON-16, which requires discretionary projects consider and avoid impacts to fisheries, wildlife habitat, and special-status species through evaluation of biological resources. Biological Reconnaissance Reports have been prepared for the project and the owner/applicant has included pre-construction surveys for special-status birds as part of the project. The project as proposed and in conjunction with incorporation of Mitigation Measures BR-1, through BR-4, and conditions of approval the proposed vineyard project would avoid impacts to special-status plant and animal species.
- The project is consistent with Conservation Goals CON-2 and CON-3, requiring the continued enhancement of existing levels of biodiversity and protection of special-status species and habitat. The project as proposed and in conjunction with incorporation of Mitigation Measure BR-1 through BR-4 and conditions of approval the proposed vineyard project would not reduce the level of biodiversity and would avoid impacts to special-status plant and animal species.
- The project as proposed would be consistent with Code Section 18.108.010 which requires that soil loss and runoff as a result of a project be minimized to protect water quality. As discussed in Section VI (Geology and Soils) and Section IX (Hydrology and Water Quality) the project as proposed would reduce soil loss as compared to existing conditions and would not increase runoff as compared to existing conditions, thereby minimizing negative effects to water quality.
- The project is consistent with Policies CON 48 and CON 50c, which require pre-development sediment erosion conditions and runoff characteristics following development not be greater than predevelopment conditions. As discussed in Section VI (Geology and Soils) and Section IX (Hydrology and Water Quality) the project as proposed would reduce soil loss as compared to existing conditions and would not increase runoff as compared to existing conditions.

- The project is consistent with Policy AG/LU-1, which states that agricultural and related activities are the primary land uses in Napa Count, as the proposed project is vineyard development and would increase agriculture uses in the County.
- The proposed vineyard development project is consistent with General Plan land use designation of Agricultural, Watershed and Open Space, and is therefore consistent with Policy AG/LU-20.

Because of these reasons the proposed vineyard development project is not in conflict with applicable County regulations, policies, or goals and is anticipated to have a less than significant impact with respect to applicable County applicable County regulations, policies, or goals.

c. There are no habitat conservation plans or natural community conservation plans applicable to project site or adjacent parcels. Therefore, no impact would result.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XI.	MINERAL RESOURCES. Would the project:				
	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?	☐	☐	☐	☒
	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?	☐	☐	☐	☒

Discussion:

a-b. The project does not take place in the area of a known mineral resource of value to the region or state or within the area of a known mineral resource recovery area (Napa County Baseline Date Report, Figure 2-2 and Map 2-1, Version 1, November 2005: Napa County General Plan Map, December 2008). Proposed site improvements and development of vineyard on the property would not physically preclude future mining activities from occurring. Therefore, no impacts to mineral resources are anticipated.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XII.	NOISE. Would the project result in:				
	a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
	b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
	c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
	d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
	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 expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
	f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion:

a. The project site is located in a rural setting where some of the surrounding parcels contain vineyard and agricultural processing facilities (i.e. wineries). The nearest residence to the project area is approximately 150 feet to the south, the next closest residences are approximately 500 feet to the south and west. There are 3 producing wineries with a half a mile of the project area and a producing winery on the subject property: the Bremer Family Winery located on APN 021-400-002 (975 Deer Park Road). Activities associated with vineyard development

and installation, including earthmoving could generate noise levels above existing conditions. However, construction activities associated with vineyard development would be subject to implementation of measures contained in the County Noise Ordinance (N.C.C. Chapter 8.16) for construction-related noise, such limiting construction activities (typically between 7 am and 7 pm on weekdays) and proper muffling of equipment to minimize the temporary increases in noise due to construction. Additionally, increases in noise levels associated with construction and development activities would be temporary and seasonal in nature not resulting in a long-term permanent increase, and are considered typical and reasonable for construction and agricultural activities and consistent with the County's 'Right to Farm' ordinance.

Activities associated with vineyard operations would be at a level that are considered normal and reasonable for agricultural uses and would not substantially increase the noise levels over what currently exists on the subject property or in the project vicinity. Also any increases in noise levels associated with vineyard operations would be temporary and seasonal not resulting in a long-term permanent increase, and are considered typical and reasonable with the County's 'Right to Farm' ordinance and General Plan Land Use Policy 15, in addition to being consistent with other agricultural operations occurring on-site and in the immediate vicinity of the subject property. Therefore, the project and subsequent operation would not result in the exposure of persons to, or generation of noise levels, in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; thus, there would be a less than a significant noise impact as a result of the project and ongoing operation.

b. Activities associated with erosion control plan and vineyard installation, and subsequent vineyard operation would not result in the generation of excessive groundborne vibration or groundborne noise levels. Furthermore, any activity that generated groundborne vibrations or groundborne noise would be temporary. Therefore, no impact is expected.

c. Noise associated with on-going vineyard operation and maintenance would include a variety of vehicles and equipment. These noise sources, which are considered normal and reasonable for agricultural activities and consistent with the County's Right to Farm ordinance, would occur on a temporary and seasonal basis, thereby, not resulting in a permanent increase in ambient noise levels in the project vicinity. Furthermore, Section 8.16.090.E of the County Code (Exemptions to noise regulations) exempts agricultural operations from compliance with the noise ordinance. Therefore, there would be no significant impact.

d. During erosion control plan implementation and vineyard installation, the use of heavy equipment could result in a temporary increase in ambient noise levels in the vicinity of the project site. Implementation of measures identified in the County's noise ordinance for construction-related noise, such as a limitation of hours of construction activity and muffling of equipment, would result in temporary noise impacts that are less than significant. Routine vineyard operation and management could result in short-term temporary increases in noise during certain times of the year, which are considered consistent with existing activities on-the subject property and on surrounding parcels containing vineyard. Temporary increases in noise associated with the seasonal and temporary agricultural activities are anticipated to be at a less than significant level.

e-f. The project is neither located within an area covered by an airport land use plan, nor is it within two miles of a public, public-use, or private airport: the Virgil O Parrett air field is located approximately 2.5 miles to the northeast (Napa County GIS Sensitivity Maps: Napa Airport and Angwin Airport Compatibility Zone layers). Therefore, no impacts are anticipated.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII.	POPULATION AND HOUSING. Would the project:				
	a) Induce substantial 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)?	☐	☐	☐	☒
	b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
	c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion:

a. The project involves earthmoving and the installation and maintenance of erosion control measures in connection with the development and cultivation of vineyard: it does not involve the construction of new homes, business, new roads or infrastructure (water, sewer, utility lines) that would directly or indirectly induce population growth. Construction and installation activities of the proposed project would generate employees to the parcel on a temporary basis. Ongoing vineyard operation and maintenance activities would generate employees to the parcel on a permanent basis. The owner/applicant operates other vineyards on-site and it is anticipated that existing employees would be

utilized to manage the vineyard (see Section XVI, Transportation/Traffic for anticipated number of employees). Therefore, no impacts are expected.

b-c. There would be no impact because the project would not displace any existing housing or people.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the project result in:				
a) Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion:

a. The proposed project does not include the construction of residential or commercial structures, and as discussed in Section XIII. Population and Housing, the project does not result in substantial population growth in the area; and therefore would not increase the need or use of the listed services and amenities; resulting in no impacts to public services.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XV. RECREATION. Would the project:				
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?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion:

a-b. The proposed project does not include any recreational facilities. As discussed in Sections XIII. Population and Housing and XIV. Public Services the project does not result in substantial population growth, which would increase the use of recreational facilities or require the construction or expansion of recreational facilities. Therefore, there would be no impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system and/or conflict with General Plan Policy CIR-16, which seeks to maintain an adequate Level of Service (LOS) at signalized and unsignalized intersections, or reduce the effectiveness of existing transit services or pedestrian/bicycle facilities?	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
b)	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the Napa County Transportation and Planning Agency for designated roads or highways?	☐	☐	☒	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d)	Substantially increase hazards due to a design feature, (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e)	Result in inadequate emergency access?	☐	☐	☐	☒
f)	Conflict with General Plan Policy CIR-23, which requires new uses to meet their anticipated parking demand, but to avoid providing excess parking which could stimulate unnecessary vehicle trips or activity exceeding the sites capacity?	☐	☐	☐	☒
g)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities ?	☐	☐	☐	☒

Discussion:

a-b. According to the owner/applicant, the proposed vineyard project could be expected to generate approximately 15 to 35 (25 to 60 – including fill import trucks per day of approximately 6 per day) trips per day during construction and installation phases, for anticipated work crews of between 20 and 30 employees. Vehicular equipment anticipated for project implementation includes a tractor/trailer, dump truck, two to three bulldozers (D6 to D10), backhoe, loader, excavator, pickup trucks, rock crusher, and water truck. After ECPA and vineyard installation, routine vineyard maintenance activities are anticipated to generate 3 to 4 employees per week resulting in 2 to 4 trips per week; weed control, and pruning activities that occur periodically throughout the year are anticipated to generate between 5 and 10 employees resulting in 2 to 5 trips per day (on days when these activities occur); and harvest is anticipated to generate between 6 and 10 employees resulting in approximately 5 trips per day: trips associated with grape haul trucks are not anticipated as the grapes will be utilized at the existing on-site winery. Vehicular equipment anticipated for ongoing vineyard maintenance includes ATVs, and passenger cars and/or light trucks. Construction traffic would be intermittent throughout the non-peak hours generally arriving around 6-7 a.m. and departing around 2-3 p.m. Traffic associated with routine vineyard operation and maintenance, including harvest, would be intermittent during the non-peak hours, generally arriving around 6-7 a.m. and departing around 2-3 p.m. Harvest activities typically commence in between 3-5 a.m. and end between 2-3 p.m.

Deer Park Road is a two lane thoroughfare that connects to Silverado Trial to the west and provides access to the communities of Deer Park (to the south of the subject property) and Angwin and Pope Valley (to the northeast of the subject property). Site distances from the existing accesses to the project sites along this portion of Deer Park Road are as follows: from the southern access point approximately 600 feet to the south and approximately 500 feet to the north; and from the northern access point approximately 1,000 feet to the south and north. The existing Average Daily Traffic (ADT) volume for this portion of Deer Park Road (from Silverado Trail to Sanitarium Road north) is approximately 8,326 vehicles, peak hour traffic volume is approximately 755 vehicles. Daily capacity and peak hour traffic capacity for this portion of Deer Park Road is 15,600 vehicles and 1,480 vehicles respectively: currently this portion of Deer Park Road operates at a Level of Service (LOS) C for daily and peak hour traffic (Napa County Baseline Data Report Version 1, Nov., 2005: Transportation and Circulation Technical Report, Fehr & Peers 2003).

Anticipated increases in traffic on Deer Park Road based on given project activities is shown in Table 10. As noted above traffic associated with vineyard development, operation, and harvest would generally occur during off-peak hours; however, they are assumed to occur during the peak hours to provide the most conservative assessment of potential impacts.

Table 10: Increases in Traffic Volumes

Project Activity	Increase: Peak Hour Volume	Increase: Daily Volume
Vineyard Development	2.9%	0.29%
Ongoing Vineyard Operation	0.03%	0.27%
Harvest	0.36%	0.04%

Considering traffic generated by either construction of the proposed vineyard or subsequent vineyard operation (including harvest), would introduce a negligible number of new trips to the subject parcel (a maximum of approximately 35 trips a day occurring during vineyard development and up to approximately 5 trips a day occurring during pruning and harvest), and that many of these activities would occur on a temporary and/or seasonal basis that generally commence prior to and end before peak hours, traffic impacts of the vineyard project are considered to be less than significant, in that, they would not substantially increase the traffic load or negatively affect the current LOS of Deer Park Road and/or surrounding roadways.

c. The project would not affect existing air traffic and thus no impacts are anticipated on either air traffic patterns and/or air traffic safety.

d. The project does not include roadway or driveway improvements and/or modifications or other design feature that would result in a hazardous condition. The installation of the vineyard is consistent with the allowed use of the property and other agricultural uses in the area. Therefore, there would be a less than significant impact of the project creating or substantially increasing hazards.

e. The existing accesses would continue to provide adequate emergency access to the subject property and project area, resulting in no impact.

f. The project would generate its largest demand for parking (up to approximately 10 vehicles) during the harvest period which occurs on various days over an approximate 30 day period. The current county ordinances do not require formal parking for agricultural projects. Parking along the access roadway/driveway and within the existing/proposed vineyard avenues would satisfy the expected short-term seasonal parking demand of project implementation and ongoing vineyard maintenance and operation. Therefore there is no impact.

g. There are no adopted policies, plans, or programs supporting alternative transportation that applies to agricultural vineyard projects. Thus, the project would have no impact in this area.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of a new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of a new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) 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?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion:

a. The proposed project would not generate wastewater; therefore, there would be no impact.

b. Implementation of the project would not result in the construction or expansion of water or wastewater treatment facilities because it would not generate wastewater, existing wells would provide irrigation water to the vineyard: resulting in no impact.

c. The proposed project involves the installation of a limited number of on-site storm water drainage features. These features include, erosion control measures include vegetative or rock-lined diversion ditches and channels, drop inlets and culverts, rock-lined collection basin, water spreaders (one earth berm and one pipe), a detention/sediment basin, rock protected outfalls (primarily associated with water bars), and a

permanent no-till cover crop, that have been designed and spaced to meet project-related storm water drainage needs. The effect of the proposed storm water drainage system is discussed in Sections IV. Biological Resources, VI. Geology and Soils, and IX. Hydrology and Water Quality. As discussed in the referenced sections, the environmental affect of the construction of this system with incorporation of Mitigation Measures BR-1 throughBR-4, recommended conditions, as well as conditions identified in Sections VI. Geology and Soils and VIII. Hazards and Hazardous Materials, would be less than significant.

d. Discussion of water availability and water use is discussed in greater detail in Section IX.b. Hydrology and Water Quality. The proposed development of approximately 34.6-acres of vineyard (approximately 26 net vine acres) would be supplied by two existing on-site wells. As discussed in Section IX.b (Hydrology and Water Quality), the subject parcel's estimated water use would be well below the established "fair share" threshold for this property and below the property's anticipated groundwater recharge rate . Therefore, the project would have a less than significant impact on water supplies.

e. The project generates no wastewater that would require treatment; therefore, it will have no impact on wastewater treatment providers.

f. Implementation of the project would have no impact on existing landfills because the only significant solid waste generated by the project is cane generated during vine pruning. Materials generated during pruning or harvest activities are generally disposed of on-site by spreading back into the vineyard, burning it, or a combination of the two. Rock generated during vineyard preparation would be utilized on-site in the construction of erosion control measures, on-site rock retaining walls, surfacing of vineyard roads and avenues, or stored on-site. Solid waste generated during construction activities (i.e. broken pipe, fittings, trellis, end posts, etc.) would be negligible.

g. The California Integrated Waste Management Board is responsible for guaranteeing the proper storage and transportation of solid waste, by providing standards for storage and transportation of solid waste containing toxic materials generated by urban and industrial users. The applicant/owner would be required to compliance with these regulations, to the extent that they apply to agricultural projects, which will ensure that the project would have no impact in this area.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to 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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion:

a. As discussed in this Initial Study, implementation of #P11-00317-ECPA would not have the potential to degrade the quality of the environment. While sensitive or special-status species have been identified on the property and within the project area, the Environmental Commitments proposed by the owner/applicant as part of the ECPA in conjunction with Mitigation Measures BR-1 through BR-4 and conditions of approval will avoid those species which have the potential to occur within the area and replace those plant species that are removed as part of the project. Wildlife corridors have not been identified within the property and would not be obstructed, approximately 120-acres (or 77%) of the property available for wildlife movement and use, and the area not considered regionally unique or rare. Overall woodland retention would consist of approximately 58.8-acres of the 73-acres that occur on the property, of this overall total approximately 44.35-acres of properties 53.75-acres of oak woodland would be retained in their existing condition. The proposed project with incorporation of mitigation and conditions is anticipated to result in direct, indirect, and cumulative impacts to the quality of the environment and wildlife

species being reduced to a less than significant level. No cultural resources or examples of California history or prehistory have been identified within the project area. Therefore, the proposed project would have a less than significant potential to degrade the quality of the environment.

b. The parcel is located within the Canon Creek Drainage containing approximately 1,900-acres. In 1993, vineyard acreage was approximately 85-acres. Between 1993 and 2011, approximately 43.4-acres of vineyard development were added for a build out of 2.4% of the drainage, including this project (34.6 gross acres) the resulting potential build-out would total of approximately 78-acres, or approximately 4.1% of the drainage. Presently there are no other proposed erosion control plans within the Canon Creek Drainage. In considering existing and approved vineyard development (approximately 163-acres), and evaluation of the County's GIS layer identifying potentially productive soils within the Canon Creek Drainage, an estimated total of approximately over 80% of the drainage (or over 1500-acres) has the potential to be developed. This total does not taking into consideration other site specific limitations such as: applicable General Plan Conservation Element policies; water courses requiring setbacks; wetlands and other water features; rare plants and/or animal species, or cultural resources; nor does the potentially productive soils layer take into account other factors influencing vineyard development, such as sun exposure, soil type, water availability, or economic factors. There are 3 producing wineries within the Canon Drainage with a production capacity totaling approximately 44,400 gallons: there are no pending winery use permit applications on file. There are also approximately 200 single family residences within the drainage

While it is not possible to quantify precisely the acreage and location of additional vineyard development that would be pursued by property owners in this drainage over time, it is possible to make a conservative estimate based on previous trends. To estimate the number of reasonably foreseeable projects that may be developed in the future, the number of approved and pending vineyard projects in the cumulative environment over the last 18 years (1993-2011) and their relative sizes (in acres) were used to project an estimation of vineyard development for the next three to five years. Over the past 18 years, approximately 163 acres of vineyard development were submitted for ECP approval, creating an average of 9-acres of vineyard development per year.

However, an average over the 18 year period is a conservative estimate of potential future development for the watershed, since a large portion of vineyard development (approximately 45%) within Canon Creek Drainage watershed is proposed with this application. Combined with Napa County policies and other site selection factors that limit the amount of land that can be converted to vineyard, the development of approximately 27 to 45-acres over the next three to five years (or ±9-acres per year) is a conservative estimate. Chapter 18.108 of the Napa County code includes policies that require setbacks of 35 to 150 feet from watercourses (depending on slopes), and General Plan Conservation Policy CON 24c that requires the retention of oak woodland at a 2:1 ratio, which limits the amount of potential vineyard acreage that could be converted within the watershed. It has been the County's experience with ECP projects that there are generally site specific issues, such as wetlands, other water features, rare plant species, or cultural resources that further reduce areas that can be developed to other land uses. Additionally, the vineyard acreage projections for the next three to five years do not consider environmental factors that influence vineyard site selection, such as sun exposure, soil type, water availability, slopes greater than 30 percent, or economic factors such as land availability, cost of development or investment returns.

Air Quality: Sections III and VII

The project includes the installation of erosion control plan #P11-00317-ECPA concurrent with other projects in the air basin that would generate emissions of criteria pollutants, including suspended particulate matter (PM) and equipment exhaust emissions. For construction related dust impacts, the BAAQMD recommends that significance be based on the consideration of the control measures to be implemented (BAAQMD 2011). Conversion of oak woodland, chamise chaparral, and disturbance of soil would result in releases of carbon dioxide, one of the gasses that contribute to climate change (Tables 7 and 8). As discussed in Section III (Air Quality) and Section VII (Greenhouse Gas) the proposed project includes the installation of grapevines and permanent no-till cover crop, which may off-set (in whole or part) potential impacts related to reductions in carbon sequestration. Additionally, considering the proposed Re-vegetation plan that has been included as part of the project by the owner applicant, and with incorporation of Mitigation Measures BR-1 and BR-4 and air quality conditions of approval, carbon emissions associated with the project are anticipated to be reduced through increased vegetation on the property and emission controls. Potential contributions to air quality impacts associated with the proposed project would be considered less than cumulatively significant through implementation of identified mitigation measures and standard conditions of approval.

Section IV. Biological Resources

The project as proposed would result in the conversion of approximately 9.4-acres of oak woodland and the retention of approximately 44.35-acres of oak woodland. Biological reconnaissance reports were preformed to evaluate potential habitat loss and disturbance to plant and wildlife species. The reconnaissance reports included a records search to identify the presence or potential presence of special-status species within the holding or immediate vicinity. The records search included the California Department of Fish and Game Natural Diversity Database (CNDDB) and the California Native Plant Society (CNPS) databases. According to the results, no status plant or animal species were identified within the project area. However, there is the potential for special-status bird and bat species to occur within the vicinity of the project area. The owner/applicant has included pre-construction surveys for special-status bird species, as part of the project, to avoid

impacts to special-status bird species, and Mitigation Measures BR-2 and BR-3 have been incorporated to avoid impacts to special-status bird and bat species. The biological reconnaissance did identify one special-status plant species within the property and project area: *Ceanothus purpureus* (Holly-leaf ceanothus) a CNPS List 1B.2 species. Approximately 20 ceanothus plants would be removed as part of the project, however the project has been designed to avoid areas containing higher concentrations (or core populations) of Holly-leaf Ceanothus and includes a Re-vegetation Plan to offset the loss of these individual plants. Additionally, the incorporation of Mitigation Measure BR-1 and BR-4 would reduce direct impacts to a less than significant level and avoid any indirect impacts to this plant species. Therefore, the project would not contribute to a cumulatively significant impact to special-status plants and animals or habitats.

Section VI. Geology and Soils

Soil loss and associated sedimentation resulting from implementation of the proposed project has been estimated to be reduced by approximately 54% as compared to existing conditions (Soil Loss Modeling, Napa Valley Vineyard Engineering, 2011): also see Table 5. Based on these results the project is not anticipated to substantially contribute cumulative to sediment production within the Canon Creek drainage; therefore, impacts are not considered cumulative significant.

Section IX. Hydrology and Water Quality

As determined by the Phase 1 Water Availability Analysis for the subject parcel the allowable groundwater allotment for this parcel is 78.15 acre-feet per year (af/yr) based on the "fair-share" standards established by the Napa County Department of Public Works: which allows 0.5 acre feet per acre per year in mountain areas (0.5 af/yr times 156.3-acres equals 155 af/yr). Water use calculations provided by the applicant indicate that the proposed 26-acres of planted of vineyard, at a vine density of approximately 1556 vines per acre, would use approximately 0.5 acre feet of water per acre of vineyard per year (af/ac/yr), totaling 12.5 af/yr. Water use for frost protection is not proposed and water for the existing winery facility is provided by the Howell Mountain Mutual Water Company, and therefore does not rely on groundwater. Existing groundwater use on the parcel provided by the applicant is estimated to be approximately 3.95 af/yr (1 af/yr for residential uses, 2.5 af/yr for existing vineyard, and 0.45 af/yr for landscaping). Total groundwater use anticipated on the subject property from the proposed project and other existing groundwater water usage is anticipated to be approximately 17.45 af/yr. Additionally, it is estimated that groundwater aquifer recharge of the subject property is approximately 47 af/yr (D. Aspegren, Napa Valley Vineyard Engineering, December 2011 – Figure 10). Considering that: i) the anticipated water use of approximately 12.5 af/yr of the proposed project is within the property's Phase I allowable groundwater allotment of 78.15 af/yr; ii) below the property's anticipated groundwater recharge rate of approximately 47 acre-feet per year; and, iii) there is no evidence to date indicating that there are groundwater problems or declining well production in the Cannon Creek/Deer Park area of the County, the proposed project is anticipated to result in less that significant impacts to groundwater supplies, groundwater recharge, local groundwater aquifer levels, and well interference or drawdown effects on nearby wells.

Hydrologic calculations (TR 55) provided by Napa Valley Vineyard Engineering, indicate that peak runoff flows for the, 5-, 10-, 25-, 50-, and 100-year storm events are not anticipated to increase as compared to existing conditions due to the proposed project (Table 9). General Plan Conservation Element Policy CON-50c requires development projects to result in no net increase in runoff as compared to existing conditions. Due to General Plan runoff requirements and the design of the project, in addition to the decreased in soil loss in the project area (Table 5) the overall cumulative effect of the past, present, and foreseeable future vineyard projects, impacts of peak discharge would not result in cumulatively considerable impacts to on- or off-site water quality.

Section X. Land Use and Planning

As discussed in Section IV (Biological Resources) portions of an existing vineyard on the subject property encroach with required stream setbacks (Section 18.108.025). Implementation of Mitigation Measure BR-4 would result in a compliance with this regulation. The proposed project, in conjunction with the Environmental Comments included as part of the project by the owner/applicant, and incorporation of identified mitigation measures and conditions of approval achieve compliance with applicable County Code requirements and General Plan policies.

Proposed Project Impacts found to be Less Than Significant

In addition to the impact categories identified above, the following discussion summarizes those impacts considered to be less than significant as a result of the project, including Aesthetics, Agricultural Resources, Cultural Resources, Hazards and Hazardous Materials, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation/Traffic, and Utilities and Service Systems. The periodic use of lighting at the site would not create a substantial source of light. In addition, the periodic glare from vehicles would not create a substantial source of glare. The potential contribution to aesthetic impacts associated with the project would be rendered less than cumulatively considerable. The project does not conflict with any current zoning for agricultural use, nor does the project conflict with the any applicable land use plan, policies, or regulation as mitigated and conditioned. There are no mineral resource recovery sites within the project site or immediate vicinity. This project would generate noise levels that are considered normal and reasonable for agricultural activities and consistent with the County's "Right to Farm" policy. The potential contribution to noise impacts is considered less than cumulatively

considerable. Traffic related to farm worker trips would not increase by a discernible amount to be considered cumulatively considerable. Grape truck trips would increase slightly; however the effect of the relatively low and off-peak vehicle trips associated with the project is considered less than cumulative considerable. The project does not include the construction of structures that would in population growth or displacement of people, nor would the project would not adversely impacts current or future public services, or require the need to utilities and service systems. No cultural resources or examples of California history or prehistory have been identified within the project area. In conclusion, impacts associated with this project that may be individually limited, but cumulatively considerable, would be less than significant.

Considering the project site characteristics, the subject property, surrounding environment, and size and scale of the project, the proposed project with mitigation and conditions incorporated, as discussed throughout this initial study, is not anticipated to result in either project specific or cumulatively considerable negative impacts; therefore, impacts associated with this project that may be individually limited, but cumulatively considerable, would be less than significant.

c. The implementation of #P11-00317-ECPA would not have any potentially significant negative effects on human beings (see discussions under Section III, Air Quality; Section VIII Hazards & Hazardous Materials; Section IX, Hydrology/Water Quality; Section XII, Noise; Section XIII, Population and Housing; and Section XVI, Transportation and Traffic). The proposed project, the use of the property, and reasonably foreseeable projects would be activities at a level of intensity considered normal and reasonable for a parcel with an Agricultural Watershed zoning district. Therefore, less than significant impacts are anticipated on human beings.

Exhibits:

Figure 1 – Site Location Map
Figure 2 – US Geological Survey Map
Figure 3 – Subject Property and Project Area Air Photo, 2011
Figure 4 – Erosion Control Plan No. P11-00317
Figure 5 – Biological Reconnaissance Report, Kjeldsen Biological Consulting, November 2011
Figure 6 – Biological Resource Assessment, Theodore W. Wooster, March 2011, and addendum December 2011
Figure 7 – Vegetation Map
Figure 8 – Creek encroachments existing vineyard
Figure 9 – Hydrologic Study Drainage Map
Figure 10 – Water Demand and Availability Analysis
Figure 11 – Napa County Code Section 18.108.135 (Oversight and Operation)
Figure 12 – Project Revision Statement

Tables:

Table 1 – Implementation Schedule
Table 2 – Ongoing Operations Schedule
Table 3 – Development and Operational Emissions
Table 4 – Plant Communities / Vegetation Alliances
Table 5 – Soil Loss (USLE) Modeling Results
Table 6 – Project Site Carbon Stocks / Storage
Table 7 – Greenhouse Gas Emissions due to Vegetation Removal
Table 8 – Project Greenhouse Gas Emissions
Table 9 – Hydrologic (TR-55) Modeling Results
Table 10 – Increases in Traffic Volume

Working Copy

Bremer Family Winery Vineyard Conversion
Agricultural Erosion Control Plan #P11-00317-ECPA
Mitigation Monitoring and Reporting Program

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance/ Completion
Impact BR-1: Biological Resources. Installation and operation of #P10-00317-ECPA has the potential to impact Holly-leaf Ceanothus populations and habitat.	**Measure BR-1:** The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following measures to minimize impacts to Holly-leaf Ceanothus populations and habitat: a. Revise the proposed vineyard layout of #P11-00317-ECPA prior to County approval to provide a 10 foot buffer from Holy-leaf Ceanothus located adjacent to the project area that are to be retained as part of the project. b. Revise the proposed wildlife exclusion fencing layout of #P11-00317-ECPA prior to County approval so that it is installed a minimum of 10 feet from Holly-leaf Ceanothus plants/populations to remain. c. At the applicant's expense and in consultation with a qualified professional, the proposed Re-vegetation plan shall be prepared and submitted to the County for review and approval prior to ~~the approval~~ *installation of* Erosion Control Plan #P11-00317-ECPA by the *owner/permitee* ~~County~~. The Re-Vegetation plan shall be incorporated into #P11-00317-ECPA and shall include the following provisions: i. A restoration component containing no less than 0.7-acres of area that has been identified by a qualified professional to be suitable on-site habitat for Holly-leaf Ceanothus and replaces removed plants at a 3:1 ratio. Once the re-vegetation plan has been approved by the County, implementation shall commence in conjunction with development of vineyard as specified under Erosion Control Plan P11-00317-ECPA. ii. The areas identified in the plan to be re-vegetated shall be clearly marked in the field with flagging and approved by Planning staff prior to implementation of the Re-vegetation plan. iii. Plants shall be obtained from a reputable local California native plant nursery, using locally collected seeds or clipping, or from local ecotypes where available. The re-vegetation plan shall require a minimum 80% survival rate after the first 3-5 years. In the event that more than 20% of the plants should die, additional plants shall be planted and monitored for an additional 3-5 years to ensure long-term survivability at a rate of no less than 80%. Irrigation shall be	Applicant/owner shall implement **Measure BR-1** by incorporating provisions **a** through **f** of Measure BR-1 into the ECPA Schedule **BR-1a:** Prior to approval of #P11-00317-ECPA. Schedule **BR-1b:** Prior to installation of #P11-00317-ECPA. Schedule **BR-1c:** Prior to installation of #P11-00317-ECPA.	 P P P	 CD CD CD	 PC 4/9/13 PC 4/9/13 PC 6/4/13

Notes: P = Permittee, CD = Conservation Division, RCD = Resource Conservation District, AC = Agricultural Commissioner, DFG = Dept of Fish & Game, CT = CALTRANS, EM = Environmental Management, PW = Public Works Dept, PE/G =Project Engineer/Geologist
PC = Prior to Project Commencement CPI = Construction Period Inspections FI = Final Inspection OG = Ongoing

ECP-Mmrp
P11-00317 APN 021-440-002-000

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance/ Completion
	provided to each individual plant with drip emitter for a minimum of 3 years or until established. The irrigation system should run at regular intervals, and be monitored to ensure each plant is getting sufficient water. iv. Following implementation of the re-vegetation plan, a monitoring report shall be provided to the County annually until which time a minimum 80% survival rate has been reported. Monitoring reports shall include the success of planting, number of replacements necessary, photographs, and other information that illustrates the condition and location of any failed plantings.				
	d. Prior to any earthmoving activities, temporary fencing shall be installed a minimum of 10 feet from the outer boundary of Holly-leaf Ceanothus plants/populations proposed for retention. The precise locations of the protection fencing shall be inspected and approved by the Planning Division prior to the commencement of any earthmoving activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of erosion control plan installation or vineyard installation. All fencing shall be maintained for the duration of vineyard construction.	Schedule **BR-1d:** Prior to installation of #P11-00317-ECPA.	P	CD	PC __/__/__
	e. Wildlife exclusion fencing shall be installed a minimum of 10 feet from Holly-leaf Ceanothus plants/populations to remain.	Schedule **BR-1e:** Prior to completion of #P11-00317-ECPA.	P	CD	FI __/__/__
	f. In accordance with County Code Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) Holly-leaf Ceanothus plants inadvertently removed that are not within the boundary of the project and/or not identified for removal as part of #P11-00317-ECPA shall be replaced on-site at a ratio of 2:1 at locations approved by the planning director. Replant locations will be supported by recommendations of a qualified professional: any replaced Holly-leaf Ceanothus shall have a 100% survival rate.	Schedule **BR-1f:** Prior to completion of #P11-00317-ECPA.	P	CD	FI __/__/__

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Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance/ Completion
Impact BR-2: Biological Resources. Installation of #P10-00317-ECPA has the potential to disturb raptor and passerine birds.	**Mitigation Measure BR-2:** The owner/applicant shall revise Erosion Control Plan #P11-00211-ECPA prior to approval to include the following measures to minimize impacts associated with the loss and disturbance of passerine bird and raptor species consistent with and pursuant to California Department of Fish and Game Code Sections 3503 and 3503.5: a. For earth-disturbing activities occurring between February 1 and August 31, (which coincides with the grading season of April 1 through October 15 – NCC Section 18.108.070.L, and bird breeding and nesting seasons), a qualified wildlife biologist shall conduct preconstruction surveys for raptor and passerine bird courtship activities and/or their nests within a 300-feet radius of earthmoving activities. The preconstruction survey shall be conducted no more than 14 days prior to vegetation removal and ground disturbing activities are to commence (surveys should be conducted a minimum of 3 separate days during the 14 days prior to disturbance). A copy of the survey will be provided to the County Conservation Division and the CDFW prior to commencement of work. b. In the event that nesting raptors and/or birds are found during preconstruction surveys, the property owner shall consult with CDFW and obtain approval for specific nest-protection buffers as appropriate based on species found prior to commencement of ground-breaking activities: generally a minimum 150-foot no-disturbance buffer will be created around all active passerine bird nests and a minimum 300-foot buffer shall be created around all active raptor nests during the breeding and nesting season or until it is determined by a qualified biologist that all young have fledged. All nest protection measures shall apply to off-site active nests that are located within 300 feet of project activities. These buffer zones may be modified in coordination with CDFW based on existing conditions at the project site. Buffer zones shall be fenced with temporary construction fencing and remain in place until the end of the breading season or until young have fledged. c. If a 15 day or greater lapse of project-related work occurs during the breeding season, another bird and raptor pre-construction survey and consultation with CDFW will be required before project work can be reinitiated.	Applicant/owner shall implement **Measure BR-1** by adhering to the mitigation measures set forth by requiring that a professional biologist conduct a preconstruction survey prior to implementation of #P11-00211-ECPA Schedule **BR-1:** Prior to approval of #P11-00317-ECPA. Schedule **BR-1a** through **c:** Prior to installation of #P11-00317-ECPA.	 P P	 CD CD	 PC 4/9/13 PC/CPI/OG 5/8/13

Notes: P = Permittee, CD = Conservation Division, RCD = Resource Conservation District, AC = Agricultural Commissioner, DFG = Dept of Fish & Game, CT = CALTRANS, EM = Environmental Management, PW = Public Works Dept, PE/G =Project Engineer/Geologist
PC = Prior to Project Commencement CPI = Construction Period Inspections FI = Final Inspection OG = Ongoing

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance/ Completion
Impact BR-3 Biological Resources: Installation of #P11-00317-ECPA would have potential impacts on special-status bat species.	**Mitigation Measure BR-3:** The owner/applicant shall implement the following measures to reduce potential indirect impacts to special-status bats as a result of the project: a. A qualified biologist shall conduct a habitat assessment for potential suitable special-status bat habitat/trees within 14 days of project initiation. **b.** If the habitat assessment reveals suitable special-status bat habitat and/or habitat trees, the qualified biologist shall submit an avoidance plan to the County and California Department of Fish and Game (DFG) for approval. The avoidance plan shall identify and evaluate the type of habitat present at the project site and detail habitat and/or habitat tree removal. Bat habitat/tree removal shall occur in two phases conducted over two days under the supervision of a qualified biologist: day one in the afternoon limbs and branches of habitat trees without cavities, crevices and deep bark fissures would be removed by chainsaw (limbs with cavities, crevices and deep bark fishers would be avoided); day two the entire tree can be removed. In the event the bat avoidance measures required by DFG result in a reduction or modification of vineyard block boundaries, the erosion control plan shall be revised by the applicant/engineer and submitted to the County.	Applicant/owner shall implement **Measure BR-3** by adhering to the mitigation measures set forth by requiring that a professional biologist conduct a preconstruction survey prior to implementation of #P11-00317-ECPA. Schedule **BR-3:** Prior to approval of #P11-00317-ECPA. Schedule **BR-1a** and **b:** Prior to installation of #P11-00317-ECPA.	 P P	 CD CD	 PC 4/9/13 PC/CPI/OG 5/29/13
Impact BR-4 Biological Resources: Installation of #P11-00317-ECPA would have potential impacts on streams and tributaries, and local stream setback requirements.	**Mitigation Measure BR-4:** The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following measures which establish stream setbacks for the vineyard development that are in compliance with the County Conservation Regulations (Napa County Code Section 18.108.025): a. To clearly delineate the required stream setbacks along the northern boundary of the existing vineyard blocks located immediately south of the blue line tributary on APN 021-400-002 (adjacent to proposed Vineyard Blocks A and B) in accordance with NCC Section 18.108.025. The revised plans shall show top of bank, percent slope, and required stream setback and shall be designed to include erosion control measures consistent with this plan and result in no net increase in soil loss and runoff as compared to pre-development conditions. Runoff calculations shall be prepared using acceptable modeling tools such as Universal Soil Loss Equation (USLE) and Technical Release 55 (TR-55) demonstrating no net increase in soil loss and runoff in a manner satisfactory to the County.	Applicant/owner shall implement **Measure BR-4** by incorporating provisions **a** through **c** of Measure BR-4 into the ECPA Schedule **BR-4a:** Prior to approval of #P11-00317-ECPA.	 P	 CD	 PC 4/9/13

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PC = Prior to Project Commencement CPI = Construction Period Inspections FI = Final Inspection OG = Ongoing

Potential Environmental Impact	Adopted Mitigation Measure	Monitoring and Reporting Actions and Schedule	Implementation	Monitoring	Reporting & Date of Compliance/ Completion
	b. The proposed Re-vegetation plan specified in **Mitigation Measure BR-1.c** shall include a stream setback restoration component to restore areas within required County stream setbacks resulting from existing vineyard development encroaching into the designated stream setbacks as required by **Mitigation Measure BR-4a** along the southern side of the blue line tributary located on APN 021-400-002. The plant pallet of the re-vegetation plan shall include native ground cover, shrubs and a minimum of 25 oak trees that are typically found in this area and are compatible/consistent with the area to be restored: plant selection, procurement, and survival criteria for the stream setback restoration component shall be that specified in **Mitigation Measure BR-1.c**. Once the re-vegetation plan has been approved by the County, implementation shall commence in conjunction with development of vineyard as specified under Erosion Control Plan P11-00317-ECPA.	Schedule **BR-4b:** Prior to installation of #P11-00317-ECPA.	P	CD	PC/CPI 6/4/13
	c. Required stream setbacks shall be clearly marked in the field and approved by Planning staff, *in accordance with County Code Section 18.108.025 (General provisions – Intermittent/perennial streams)* and as indicated in the Creek Protection Condition ~~above~~, prior to implementation of the Re-vegetation plan.	Schedule **BR-1c:** Prior to installation of #P11-00317-ECPA.	P	CD	PC/OG 6/5/13

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PC = Prior to Project Commencement CPI = Construction Period Inspections FI = Final Inspection OG = Ongoing

NOTICE OF DETERMINATION

NAPA COUNTY PLANNING, BUILDING & ENVIRONMENTAL SERVICES
1195 THIRD STREET; SUITE 210 NAPA CA 94559

(Filed in compliance with Section 21108 or 21152 of the Public Resources Code)

ENDORSED

APR 10 2013

JOHN TUTEUR
Napa County Recorder - County Clerk
By _____ J. IBARRA
DEPUTY RECORDER - CLERK

To: ☒ Office of Planning and Research
P.O. Box 3044
Sacramento, CA 95812-3044

☒ Napa County Clerk
900 Coombs St
Napa, CA 94559

LEAD AGENCY: Napa County Planning, Building, & Environmental Services

CONTACT PERSON: Donald Barrella, Planner III **PHONE:** (707) 299-1338

STATE CLEARING HOUSE NUMBER: 2012082023

PROJECT TITLE: **Bremer Family Winery Vineyard Conversion**

PROJECT LOCATION: The project is located within the Canon Creek Drainage on a 156.35-acre holding located on the east side of Deer Park Road at its northern intersection with Sanitarium Road (APNs 021-400-002, -004, -005, 021-420-027, and 025-370-057, -058) (881 and 975 Deer Park Road), Napa County, California (Zoning: Agricultural Watershed).

PROJECT LOCATION – CITY (NEAREST): St. Helena **PROJECT LOCATION - COUNTY:** Napa

PROJECT DESCRIPTION: Conversion to vineyard of approximately 32.7-acres (±26 net vine acres), including earthmoving activities and installation and maintenance of erosion control measures, of gently to steeply sloping oak woodland, mixed cahparral, coniferous forest, and annual grassland (slopes typically range from 6% to 40%, average slope approximately 22.5%). The project applicant has prepared an Agricultural Erosion Control Plan (ECPA) as required by Napa County Code (Chapter 18.108, "Conservation Regulations).

COUNTY PERMIT (S): Agricultural Erosion Control Plan #P11-00317-ECPA

APPLICANT NAME: Laura Bremer – Bremer Family Winery
ADDRESS: 975 Deer Park Road, St. Helena CA 94574 **PHONE:** (707) 963-1216

REPRESENTATIVE: Drew Aspegren, Napa Valley Vineyard Engineering
ADDRESS: 176 Main Street, Suite B, St. Helena, CA 94574 **PHONE:** (707) 963-4927

This is to advise that the Napa County Conservation, Development and Planning Department as ☒Lead Agency ☐Responsible Agency has approved the above-described project on April 10, 2013 and made the following determinations:

1. The project ☐ will ☒ will not have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures ☒ were ☐ were not made a condition of the approval of this project.
4. A mitigation reporting or monitoring plan ☒ was ☐ was not adopted for this project.
5. A statement of Overriding Considerations ☐ was ☒ was not adopted for this project.
6. Findings ☒ were ☐ were not made pursuant to the provisions of CEQA.

This is to certify that the Mitigated Negative Declaration is available to the General Public at:
Napa County Planning, Building, & Environmental Services Department
1195 Third Street, Suite 210
Napa, CA 94559

SIGNATURE: _____ DATE: 4/9/13 TITLE: Director
Hillary Gitelman

State of California—Natural Resources Agency

RECEIPT # 32

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

2013 ENVIRONMENTAL FILING FEE CASH RECEIPT

STATE CLEARING HOUSE # 2012082023
(If applicable)

TYPE OR PRINT CLEARLY

LEAD AGENCY **NAPA COUNTY PLANNING, BUILDING, & ENVIRONMENTAL SERVICES**			DATE 04/10/2013
COUNTY/STATE AGENCY OF FILING **NAPA COUNTY CLERK**			DOCUMENT NUMBER 2013-032
PROJECT TITLE BREMER FAMILY WINERY VINEYARD CONVERSION			
PROJECT APPLICANT NAME **NAPA COUNTY PLANNING , BLGD, & EVRN. SERV.**		PHONE NUMBER (707) 299 - 1338	
PROJECT APPLICANT ADDRESS **1195 THIRD ST STE 210**	CITY **NAPA**	STATE **CA**	ZIP CODE 94559

PROJECT APPLICANT *(Check appropriate box):*

☒ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☐ Private

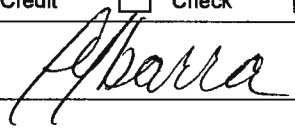
CHECK APPLICABLE FEES:

☐ Environmental Impact Report	$2,995.25	$ ____
☒ Negative Declaration	$2,156.25	$ **2156.25**
☐ Application Fee Water Diversion *(State Water Resources Control Board Only)*	$850.00	$ ____
☐ Projects Subject to Certified Regulatory Programs	$1018.50	$ ____
☒ County Administrative Fee	$50.00	$ 50.00
☐ Project that is exempt from fees		
☐ Notice of Exemption		
☐ CDFW No Effect Determination (Form Attached)		
☐ Other ____		$ ____

TRANSACTION # ____

PAYMENT METHOD:

☐ Cash ☐ Credit ☐ Check ☐ Journal 0000239336 TOTAL RECEIVED $2206.25

SIGNATURE X 	TITLE **DEPUTY COUNTY CLERK**

ORIGINAL - PROJECT APPLICANT COPY - DFW/ASB COPY - LEAD AGENCY COPY – COUNTY CLERK

PROJECT REVISION STATEMENT
Bremer Family Winery Vineyard
Agricultural Erosion Control Plan #P11-00317-ECPA

I hereby revise Agricultural Erosion Control Plan #P11-00317-ECPA for the Bremer Family Winery Vineyard, to convert to vineyard up to approximately 34.6-acres (approximately 26 net vine acres) of existing chaparral, coast live oak woodland, and annual grassland within a 156.3-acre holding (Assessor's Parcel Nos. 021-400-002, -004, -005, 021-420-027, and 025-370-057 and -058) located at 975 Deer Park Road, St. Helena CA, to include the 4 measures specified below:

Measure BR-1: The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following measures to minimize impacts to Holly-leaf Ceanothus populations and habitat:

a. Revise the proposed vineyard layout of #P11-00317-ECPA prior to County approval to provide a 10 foot buffer from Holy-leaf Ceanothus located adjacent to the project area that are to be retained as part of the project.
b. Revise the proposed wildlife exclusion fencing layout of #P11-00317-ECPA prior to County approval so that it is installed a minimum of 10 feet from Holly-leaf Ceanothus plants/populations to remain.
c. At the applicant's expense and in consultation with a qualified professional, the proposed Re-vegetation plan shall be prepared and submitted to the County for review and approval prior to the approval Erosion Control Plan #P11-00317-ECPA by the County. The Re-Vegetation plan shall be incorporated into #P11-00317-ECPA and shall include the following provisions:
    i. A restoration component containing no less than 0.7-acres of area that has been identified by a qualified professional to be suitable on-site habitat for Holly-leaf Ceanothus and replaces removed plants at a 3:1 ratio. Once the re-vegetation plan has been approved by the County, implementation shall commence in conjunction with development of vineyard as specified under Erosion Control Plan P11-00317-ECPA.
    ii. The areas identified in the plan to be re-vegetated shall be clearly marked in the field with flagging and approved by Planning staff prior to implementation of the Re-vegetation plan.
    iii. Plants shall be obtained from a reputable local California native plant nursery, using locally collected seeds or clipping, or from local ecotypes where available. The re-vegetation plan shall require a minimum 80% survival rate after the first 3-5 years. In the event that more than 20% of the plants should die, additional plants shall be planted and monitored for an additional 3-5 years to ensure long-term survivability at a rate of no less than 80%. Irrigation shall be provided to each individual plant with drip emitter for a minimum of 3 years or until established. The irrigation system should run at regular intervals, and be monitored to ensure each plant is getting sufficient water.
    iv. Following implementation of the re-vegetation plan, a monitoring report shall be provided to the County annually until which time a minimum 80% survival rate has been reported. Monitoring reports shall include the success of planting, number of replacements necessary, photographs, and other information that illustrates the condition and location of any failed plantings.
d. Prior to any earthmoving activities, temporary fencing shall be installed a minimum of 10 feet from the outer boundary of Holly-leaf Ceanothus plants/populations proposed for retention. The precise locations of the protection fencing shall be inspected and approved by the Planning Division prior to the commencement of any earthmoving activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of erosion control plan installation or vineyard installation. All fencing shall be maintained for the duration of vineyard construction.
e. Wildlife exclusion fencing shall be installed a minimum of 10 feet from Holly-leaf Ceanothus plants/populations to remain.
f. In accordance with County Code Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) Holly-leaf Ceanothus plants inadvertently removed that are not within the boundary of the project and/or not identified for removal as part of #P11-00317-ECPA shall be replaced on-site at a ratio of 2:1 at locations approved by the planning director. Replant locations will be supported by recommendations of a qualified professional: any replaced Holly-leaf Ceanothus shall have a 100% survival rate.

Measure BR-2: The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following measures to minimize impacts associated with the loss and disturbance of passerine bird and raptor species consistent with and pursuant to California Department of Fish and Game Code Sections 3503 and 3503.5:

a. For earth-disturbing activities occurring between February 1 and August 31, (which coincides with the grading season of April 1 through October 15 – NCC Section 18.108.070.L, and bird breeding and nesting seasons), a qualified wildlife biologist shall conduct preconstruction surveys for raptor and passerine bird courtship activities and/or their nests within a 300-feet radius of earthmoving activities. The preconstruction survey shall be conducted no more than 14 days prior to vegetation removal and ground disturbing activities are to commence (surveys should be conducted a minimum of 3 separate days during the 14 days prior to disturbance). A copy of the survey will be provided to the County Conservation Division and the DFG prior to commencement of work.
b. In the event that nesting raptors and/or birds are found during preconstruction surveys, the property owner shall consult with DFG and obtain approval for specific nest-protection buffers as appropriate based on species found prior to commencement of ground-breaking activities: generally a minimum 150-foot no-disturbance buffer will be created around all active passerine bird nests and a minimum 300-foot buffer shall be created around all active raptor nests during the breeding and nesting season or until it is determined by a qualified biologist that all young have fledged. All nest protection measures shall apply to off-site active nests that are located within 300 feet of project activities. These buffer zones may be modified in coordination with DFG based on existing conditions at the project site. Buffer zones shall be fenced with temporary construction fencing and remain in place until the end of the breading season or until young have fledged.
c. If a 15 day or greater lapse of project-related work occurs during the breeding season, another bird and raptor pre-construction survey and consultation with DFG will be required before project work can be reinitiated.

Measure BR-3: The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following measures to reduce impacts to special-status bat species:

a. A qualified biologist shall conduct a habitat assessment for potential suitable special-status bat habitat/trees within 14 days of project initiation.
b. If the habitat assessment reveals suitable special-status bat habitat and/or habitat trees, the qualified biologist shall submit an avoidance plan to the County and California Department of Fish and Game (DFG) for approval. The avoidance plan shall identify and evaluate the type of habitat present at the project site and detail habitat and/or habitat tree removal. Bat habitat/tree removal shall occur in two phases conducted over two days under the supervision of a qualified biologist: day one in the afternoon limbs and branches of habitat trees without cavities, crevices and deep bark fissures would be removed by chainsaw (limbs with cavities, crevices and deep bark fishers would be avoided); day two the entire tree can be removed. In the event the bat avoidance measures required by DFG result in a reduction or modification of vineyard block boundaries, the erosion control plan shall be revised by the applicant/engineer and submitted to the County.

Measure BR-4: The owner/applicant shall revise Erosion Control Plan #P11-00317-ECPA prior to approval to include the following measures which establish stream setbacks for the vineyard development that are in compliance with the County Conservation Regulations (Napa County Code Section 18.108.025):

a. To clearly delineate the required stream setbacks along the northern boundary of the existing vineyard blocks located immediately south of the blue line tributary on APN 021-400-002 (adjacent to proposed Vineyard Blocks A and B) in accordance with NCC Section 18.108.025. The revised plans shall show top of bank, percent slope, and required stream setback and shall be designed to include erosion control measures consistent with this plan and result in no net increase in soil loss and runoff as compared to pre-development conditions. Runoff calculations shall be prepared using acceptable modeling tools such as Universal Soil Loss Equation (USLE) and Technical Release 55 (TR-55) demonstrating no net increase in soil loss and runoff in a manner satisfactory to the County.

b. The proposed Re-vegetation plan specified in **Mitigation Measure BR-1.c** shall include a stream setback restoration component to restore areas within required County stream setbacks resulting from existing vineyard development encroaching into the designated stream setbacks as required by **Mitigation Measure BR-4a** along the southern side of the blue line tributary located on APN 021-400-002. The plant pallet of the re-vegetation plan shall include native ground cover, shrubs and a minimum of 25 oak trees that are typically found in this area and are compatible/consistent with the area to be restored: plant selection, procurement, and survival criteria for the stream setback restoration component shall be that specified in **Mitigation Measure BR-1.c**. Once the re-vegetation plan has been approved by the County, implementation shall commence in conjunction with development of vineyard as specified under Erosion Control Plan P11-00317-ECPA.

c. Required stream setbacks shall be clearly marked in the field and approved by Planning staff, as indicated in the Creek Protection Condition above, prior to implementation of the Re-vegetation plan.

Bremer Family Winery and the Nowell's further commit themselves and successors-in-interest to (a) inform any future purchasers of the property of the above commitments; (b) include in all property leases a provision that informs the lessee of these restrictions and binds them to adhere to them, and (c) inform in writing all persons doing work on this property of these limitations.

Bremer Family Winery and the Nowell's understand and explicitly agree that with regards to all CEQA and Permit Streamlining Act (Government Code Sections 63920-63962) deadlines, this revised application will be treated as a new project. The new date on which said application will be considered complete is the date on which an executed copy of this project revision statement is received by the Napa Co Conservation, Development and Planning Department.

Bremer Family Winery
Laura or John Bremer
(Owners)

LAURA BREMER
Printed Name

7/31/2012
Date

Gregory or Maryann Nowell
(Owners)

GREGORY L. NOWELL
Printed Name

7.31.2012
Date

Print | Close Window

Subject: FW: Revised Plan Review - P11-00317-ECPA
From: John Bremer <JBremer@Growest.com>
Date: Fri, Sep 15, 2017 1:38 pm
To: '"fanshen@clearwater-hydrology.com"' <fanshen@clearwater-hydrology.com>
Attach: ProjectRevStmt_Signed_Bremer_P11-00317-ECPA_reduced.pdf

Bill
In regards to setback confirmation this is an email Laura received pre ECP approval, referring Laura to the RCD for any final information we may need.
Please note the 3rd bullet point below. This inspection occurred and confirmed the plan in the field.
Hope this helps.
John

From: Laura Bremer <Laura@BremerFamilyWinery.com>
Sent: Friday, September 15, 2017 1:26 PM
To: 'JOHN BREMER'
Subject: FW: Revised Plan Review - P11-00317-ECPA

From: Barrella, Donald [mailto:Donald.BARRELLA@countyofnapa.org]
Sent: Monday, March 04, 2013 4:40 PM
To: Laura Bremer
Cc: 'Laura Bremer'; Bordona, Brian; Dave Steiner; Drew
Subject: Revised Plan Review - P11-00317-ECPA

Laura,
Following up on my voicemail message regarding the review of the revised erosion control plans the following items will need to be clarified, revised, or provided for us to be in a position to act on your project. Attached for your reference is a copy of the signed Project Revision Statement that further details the items outlined below. RCD is currently reviewing the revised plans, as soon as I have their results/findings I will forward them to you.

- Holly-Leafed Ceanothus: Confirm on Plan Sheet 2 that the plant symbols located east of Block H are Holly-leaf Ceanothus and that the block boundary will provide a minimum 10 foot buffer from the plants (per Mitigation Measure BR-1.a). Also the fencing located there will need to be revised to follow the block boundary (per Mitigation Measure BR-1.b and e). Also, please see below for additional corrections to fencing.

- Re-Vegetation/Restoration: Per Mitigation Measure BR-1.c provide a Re-vegetation/restoration plan that includes the provisions/elements outlined therein to address Holly-leaf Ceanothus impacts. This plan will also need to include provisions/elements associated with creek setback restoration per Mitigation Measure BR-4. Regarding the associated soil loss and run-off

evaluation of this area per Mitigation Measure BR-4.a for this area, this can be addressed by having Drew A. provide a statement that pre and post restoration/re-vegetation conditions would be comparable resulting in no increases in soil loss and runoff (we will have RCD review this component and statement for concurrence). The Re-Vegetation/Restoration plan will need to be provided and approved prior initiation of the Erosion Control Plan.

- Creek Setbacks: On pages 2 and 3 (in particular for the restoration of setback areas of Block A-1 and the vicinity of Blocks K, L/M, and N), after speaking with Brian the best way to address these setbacks is to have RCD and the County in the field mark the top bank, measure percent slope, and flag/mark the appropriate creek setback then have Drew show the appropriate setbacks (as determined in the field) on the plans. This approach should close the loop on this matter, and as I previously mentioned our preference would be to have the correct setbacks shown on the plans. As I mentioned Dave and I are available this Thursday to mark applicable creek setbacks in the field – please let me know if that works for you and/or Drew or if we should figure out another day.

- Water tanks: It appears that the water tank locations comply with required setbacks per NCC Section 18.104.140 (placement of accessory structures) and NCC Chapter 18.112 (Road Setbacks) as applicable. As you are aware should the location(s) of water tank(s) trigger the provisions of NCC Chapter 18.106 (Viewshed Protection Program) that process will need to be completed prior to issuance of building permits necessary to construct the tanks. Let me know if you would like to discuss potential viewshed applicability of the tanks further.

- Fencing: Within the northern portion of the development (plan sheet 2 – Blocks A thought H) proposed fencing locations and notations will need to be revised consistent with the plans within the application package and circulated for environmental review (date stamped January 3, 2012) and as conditioned/mitigated: it is indicated that a vast majority of the fencing in this development area is now existing and crosses over a blue line stream in two locations. Please be reminded that any wildlife exclusion fencing that has been installed since application submittal and is not consistent with the proposed locations may have to be removed.

Please let me know if you are available this Thursday to meet at the site. If you should have any questions or would like to discuss any of these items in greater detail please let Brian or I know.
Regards,

Donald Barrella
Napa County Department of Planning, Building & Environmental Services
Engineering and Conservation Division
1195 Third St. #210
Napa CA 94559
707-253-4417 main
707-299-1338 direct
707-299-4491 fax
donald.barrella@countyofnapa.org
http://www.countyofnapa.org/

*(*effective July 7, 2012, we're merging functions of the Department of Conservation, Development & Planning with Engineering and Environmental Health*)

POST RAIN EVENT INSPECTION REPORT

REPORT DATE	11/2/16
PROJECT	BREMER FAMILY WINERY VINEYARD DEVELOPMENT AREA - BLOCKS K, L/M, & N/O
RAIN EVENT / PRECIPITATION	10/25/16 – 11/1/16 5.01" TOTAL EVENT PRECIPITATION (ST. HELENA 1.1 S, CA US GHCND:US1CANP0007)
REPORTED BY	GREGORY L. NOWELL, ASLA, QSD/QSP

OBSERVATIONS

AREA / FEATURE	OBSERVATION
Erosion Control Seed Germination & % Cover	Block K – All reseeded areas have germinated. Regrowth of existing cover is 6" tall average. Coverage is about 80%. Block L/M - All reseeded areas have germinated. Coverage is close to 100%. Block N/O – All areas have germinated. Growth is 3"-5" tall. Coverage is about 85% No evidence of erosion was observed in any area.
Diversion Ditches	Block L/M – Existing diversion ditches functioned properly. No sediment movement or erosion was observed. Block N – New diversion ditches functioned properly. No sediment movement or erosion was observed. Jute mesh intact in all areas. Erosion control cover is about 50%-75%.
Rock Swales	Wide swale – No transport of soil into the ditch was observed. No sediment observed at catch basins. Jute mesh intact in all areas. Roadside swale – No transport of soil into the ditch was observed. No sediment observed at catch basins. Jute mesh intact in all areas. Erosion control seed germinated and 3"-4" tall. Coverage is about 75%.
Detention Basin	Detention basin is functioning properly. No evidence of water migration through dike was seen.
Fiber Rolls	No evidence of siltation or dislodging of fiber rolls was observed.
Silt Fencing	Silt fencing along west edge of Block K is functioning properly and no sediment transport has occurred. Silt fencing along south edge of Block N is functioning properly and no sediment transport has occurred.

Vineyard Roads	Minor surface erosion on steeper section near base material stockpile and straight section in front of tanks. No observable sediment movement off road. **RECOMMENDATION**: Rake and roll road.
Other Observations	None.

END REPORT

POST RAIN EVENT INSPECTION REPORT

INSPECTION DATE	March 13, 2017
PROJECT	BREMER FAMILY WINERY VINEYARD DEVELOPMENT AREA - BLOCKS K, L/M, & N/O
REPORTED BY	GREGORY L. NOWELL, ASLA, QSD/QSP
RAIN EVENTS / PRECIPITATION	2/7/17-2/10/17 – 8.68” 2/16/17-2/22/17 – 9.32” 3/4/17-3/6/17 – 2.28” 20.28” TOTAL PRECIPITATION (since last report). (STATION: ST. HELENA 4WSW SH4) It is sunny at the time of this inspection.

OBSERVATIONS

AREA / FEATURE	OBSERVATION
General Comment	Even with more than 20” falling in just 4 weeks, the site exhibits no visible effects of the heavy downpours. No erosion or movement of sediment is seen. All erosion control winterization measures are functioning properly.
Erosion Control Seed Germination & % Cover	Erosion control cover 100%, healthy and green – actively growing. 12” to 24” tall in all areas.
Diversion Ditches	Diversion ditches are functioning properly. Jute netting is intact in all swales. All erosion control cover in diversion ditches is 100% cover. No erosion is seen.
Rock Swales	Swales are functioning properly. A small amount of gravels seen in bottom of catch basins. Suggest sediment be removed and disposed of properly.
Detention Basin	Water level is approximately 12 inches below the rim of the overflow pipe. No active inflow. Mild turbidity.
Fiber Rolls	All fiber rolls are intact and functioning properly.
Silt Fencing	All silt fencing and wattles are intact. Owner has installed one additional line of fiber roll at down gradient side/edge of Block K as an extra measure of “insurance” that any gravels

	and fines from the vineyard road that might be dislodged by heavy rains are intercepted before they reach the silt fence.
Vineyard Roads	Owner has continued practice of raking and rolling vineyard road base, which has been an effective preventative measure to greatly reduce the very minor rilling that occurred earlier in the season. No rilling seen on any of the vineyard roads throughout the project site.

Other Observations	No evidence of sloughing or sediment migration into the channel between Blocks K and L/M is seen. Channel was dry at the time of this inspection.
	The new seeding and straw cover in the N-W corner of Block K was effective in preventing erosion in this area despite heavy rains.

END REPORT

Botanical Resources Report
Bremer Family Winery ECP
975 Deer Park Road, St Helena
Napa County, California

Prepared By

KJELDSEN BIOLOGICAL CONSULTING
923 St. Helena Ave.
Santa Rosa, CA 95404

For

Napa Valley Vineyard Engineering, INC.

November, 2011

Figure 5

Botanical Resources Report
Bremer Family Winery ECP
975 Deer Park Road, St Helena
Napa County, California

PROJECT NAME:

Bremer Family Winery
975 Deer Park Road
St. Helena, CA 94574

APN: 021-400-002, 004, 005,021-420-027,
025-370-057 and 025-370-058

PROPERTY OWNER:

Laura Bremer
975 Deer Park Road
St. Helena, CA 94574
(707) 963-1216

EROSION CONTROL PLAN:

Napa Valley Vineyard Engineering, Inc.
Drew L. Aspegren, PE
176 Main Street Suite B
St. Helena, CA 94574
707-963 4927

FIELD WORK & REPORT BY: Kjeldsen Biological Consulting

Chris K. Kjeldsen
923 St. Helena Ave.
Santa Rosa, CA 95404
(707) 544-3091
(707) 575-8030 Fax

PERIOD OF STUDY

June 2006 to June 2007
March to November 2011

Figure 5

Botanical Resources Report

Bremer Family Winery ECP
975 Deer Park Road, St Helena
Napa County, California

TABLE OF CONTENTS

Figure 5

Figure 5

Botanical Resources Report

Bremer Family Winery ECP
975 Deer Park Road, St Helena
Napa County, California

Executive Summary

This study was conducted at the request of Drew L. Aspegren, PE, Napa Valley Vineyard Engineering Inc., and the property owner as part of background studies for Napa County Conservation, Development and Planning Department; Erosion Control Plan permit. The project propose the development of vineyards on the property. The site is located northeast of the city of St. Helena at 975 Deer Park Road. The parcels associated with the project total approximately 156-acres with 32-acres gross of the site proposed for conversion to vineyard. The surrounding land use is rural residential, vineyards, open space, watershed, wildlife/ and forestlands.

The purpose of the study and report is to identify botanical resources that may be impacted by the proposed project. This study follows the Napa County Guidelines Appendix C, Department of Fish and Game Guidelines, and the California Native Plant Society Guidelines. The findings presented are results of prior fieldwork on the property (pre-fire) and spring and summer 2011 fieldwork (post-fire on some of the blocks) conducted by Kjeldsen Biological Consulting.

- The project study sites are on a west-facing ridge that ranges in elevation from 460 to 810 feet. The project is within the St. Helena Quadrangle with drainage into Cannon Creek thence the Napa River;

- California Wildlife Habitat Relationships System, California Department of Fish and Game, California Interagency Wildlife Task Group would classify the habitats on the site as Blue Oak Woodland and Mixed Chaparral. The new Sawyer classification system would classify the project sites as Forest or Woodland Alliances, Semi-natural Herbaceous Grassland Alliances and Shrubland Alliance (Chaparral Scrub);

- Holly-leaved Ceanothus (*Ceanothus purpureus*) was found on the property. The presence consisted of scattered plants (Plate V). The CNDDB (Plate III) records populations on the ridge above the property. Holly-leaved Ceanothus is currently listed by the California Native Plant Society as a List 1B plant = Plants Rare, threatened, or endangered in California and elsewhere. The taxon does not have State or Federal listing or protection but it must be addressed as part of CEQA;

- No other special-status plant species known for the Quadrangle, the surrounding Quadrangles, or the region were found associated with the project;

Figure 5

- An analysis, based on our fieldwork, of each of the target species known from the region and potential species associated with the habitat present is presented and justification for concluding absence defined;

- All plant species observed during our surveys of the property and their relative abundance are included in Appendix A;

- We did not find any listed sensitive plant communities or critical habitat for plants associated with the proposed project;

- The proposed project will remove approximately 856 oaks. The density and quality of oaks varies over the property and is apparently a function of the fire history, topography and soils;

- There is no reason to expect any significant impact to special-status plant species off-site; and

- There is no reason to expect any impact to listed plant communities or critical habitat offsite.

Assessment of Impacts

The proposed project has the potential to impact populations of Holly-leaved Ceanothus (*Ceanothus purpureus*). Approximately 20 individual plants will be removed by the proposed project.

The proposed project will remove approximately 856 oaks.

The proposed development has the potential to create sediment, which could enter drainages on the property.

The incremental loss of chaparral and woodlands is less than significant. Major portions of the habitat will be retained in its natural state as open space, watershed and wildlife habitat.

Recommendations to Reduce Impacts to Less than Significant Level

The construction phase of the project will require best management practices to prevent impacts of dust and erosion from the project. The Erosion Control Plan will reduce the potential for significant silt movement during construction and post construction. Standard vineyard practices upon completion will reduce potential erosion and off site impacts.

All project construction activities must be limited to the project footprint. Best Management Practices including silt and erosion control measures must be implemented to protect off-site movement of sediment and dust during and post construction. Best Management Practices must be implemented throughout the construction period such as retaining ground cover

Figure 5

litter, monitoring for invasive species, providing mulch for bare ground and standard erosion and dust control.

The highest concentration of the Holly-leaved Ceanothus adjacent to the proposed project site have been avoided. Recent fire in the area has cleared overstory and allowed this plant expand on the property. It is very likely that significant populations of this plant occur out side of our survey area. It is recommended that if the 20+/- Holly-leaved Ceanothus (*Ceanothus purpureus*) plants are removed then nursery stock of this species be planted in adjacent chaparral habitat areas at a three to one ratio for plants lost.

The project must comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland communities. Significant portions of the property will be retained in open space, watershed and wildlife habitat. If replacement plantings are necessary it is recommended that young trees from acorns collected on site be established on site for the next generation of oaks.

Figure 5

Botanical Resources Report

Bremer Family Winery ECP
975 Deer Park Road, St Helena
Napa County, California

A PROJECT DESCRIPTION

This study was conducted at the request of Drew L. Aspegren, Napa Valley Vineyard Engineering, Inc., and the property owner. This study and report are provided as background studies necessary for securing permits from Napa County Conservation, Development and Planning Department for the development of vineyards on the property.

The study site is in Napa County, south of the city of Angwin with access from Deer Park Road. The study site is within the St Helena USGS Quadrangle. The surrounding land use consists of rural residential parcels, vineyards, and open space watershed. The study site is within portions of the Napa and Sonoma USGS Quadrangles. The property is an irregularly shaped rectangular parcel with elevations that range from 550 to 800-ft. Plate III provides an aerial photograph of the property.

The project proposes developing approximately 32-acres of vineyard within a 156-acre parcel, 34-acres total disturbed including roads. Plate I provides a site and location map of the property. The attached ECP NVVE map shows the proposed vineyard blocks, which are the focus of our survey.

The findings presented are results of previous work (June to December 2006, February to June 2007) and spring and summer 2011 fieldwork conducted by Kjeldsen Biological Consulting.

A.1 Purpose

The purpose of this report is to determine the presence or potential for special-status plants (target species that are known from the project site, for the Quadrangle, the surrounding Quadrangles or for Napa County and or the region), evaluate the habitat types or plant communities present, provide scoping for the native plants at risk from the proposed project with sufficient data to make informed decisions for assessing potential impacts, and indicate sensitive areas, which can or must be avoided in the conversion of the site; and to provide an analysis of the flora (botanical survey).

A.2 Definitions

Definitions used in this report are attached in Appendix B.

B SURVEY METHODOLOGY

Figure 5

The purpose of the spring floristic survey is to provide a faunal and floristic study of the project site with emphasis on any special-status, plants, unique plant populations and or critical habitat associated with the proposed Erosion Control Plan.

B.1 Project Scoping

The scoping for the project considered seasonal fieldwork, location and type of habitat and or vegetation types present on the property or associated with potential special-status plant species known for the Quadrangles, surrounding Quadrangles the County or the region. Our scoping also considered records in the most recent version of the Department of Fish and Game California Natural Diversity Data Base (DFG CNDDB Rare Find-3) and the California Native Plant Society (CNPS) Electronic Inventory of Rare or Endangered Plants. "Target" special-status species are those listed by the State, the Federal Government or the California Native Plant Society or considered threatened in the region. Our scoping is also a function of our familiarity with the local flora and fauna as well as previous projects on other properties in the area.

For the botanical survey we have utilized the California Department of Fish and Game protocol, (March 6, 2002) as summarized below:

• Botanical surveys are conducted to determine the environmental effects of the proposed project on all rare, threatened, and endangered plants and plant communities (surveys were conducted to include not only those plants "listed" by state and federal agencies but any species that, based on available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

> A species, subspecies, or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is "threatened" when it is likely to become endangered in the foreseeable future in the absence of protection measures, a plant is "rare when, although not presently threatened with extinction, the species, subspecies of variety is found in such small numbers throughout its range that it may be endangered if its environment worsens. and rare natural communities are those communities that are of highly limited distribution.

• It is appropriate to conduct a botanical field survey to determine if or to the extent that, rare, threatened, or endangered plants will be affected by a proposed project when:

> Natural vegetation occurs on the site, it is unknown if rare, threatened, or endangered plants or habitats occur on the site, and the project has the potential for direct or indirect effects on vegetation, or rare plants have historically been identified on the project site, but adequate information for impact assessment is lacking.

Figure 5

• Field surveys conducted in a manner that would locate any rare, threatened, or endangered species that may be present, consistent with conservation ethics, conducted using systematic field techniques, and documented.

The fieldwork for identifying special-status species is based on knowledge and experience in conducting special-status species surveys in the region. The California Native Plant Society (CNPS) Electronic Inventory of Rare or Endangered Vascular plants for the quadrangle and surrounding quadrangle, the Department of Fish and Game Natural Diversity Database (CNDDB) for the Quadrangles and surrounding Quadrangles are presented as an appendix.

Table II presents target special-status species (see also Appendix C).

B.2 Field Survey Methodology

Our study was made by walking transects through and around the project sites. Our fieldwork included a floristic study and focused on locating target organisms or suitable habitat for target organisms or indications that such habitat exists on the site.

Plants Field surveys were conducted recording identifying all species on the site and in the near proximity. Transects through the proposed project sites were made methodically by foot. Transects were established and scrutinized to cover topographic and vegetation variations within the study area. The Intuitive Controlled approach calls for the qualified surveyor to conduct a survey of the area by walking through it and around its perimeters, and closely examining portions where target species are especially likely to occur. The open nature of the site, historic and on going agricultural practices, and small size of the proposed development footprint facilitated our field studies.

The fieldwork for identifying special-status plant species is based on our knowledge and many years of experience in conducting special-status plant species surveys in the region. Plants were identified in the field or reference material was collected, when necessary, for verification using laboratory examination with a binocular microscope and reference materials. Herbarium specimens from plants collected on the project site were made when relevant. Voucher material for selected individuals is in the possession of the authors. All plants observed (living and/or remains from last season's growth) were recorded in field notes.

Typically, blooming examples are required for identification however; it is not the only method for identifying the presence of or excluding the possibility of rare plants. Vegetative morphology and dried flower or fruit morphology, which may persist long after the blooming period, may also be used. Skeletal remains from previous season's growth can also be used for identification. Some species do not flower each year or only flower at maturity and therefore must be identified from vegetative characteristics. Algae, fungi, mosses, lichens, ferns, Lycophyta and Sphenophyta have no flowers and there are representatives from these groups that are now considered to be special-status species, which require non-blooming identification. For some plants unique features such as the aromatic oils present are key indicator. For some trees and shrubs with unique vegetative characteristics flowering is not needed for proper identification. The vegetative evaluation as a

Figure 5

function of field experience can be used to identify species outside of the blooming period to verify or exclude the possibility of special-status plants in a study area.

Habitat is also a key characteristic for consideration of special-status species in a study area. Many special-status species are rare in nature because of their specific and often very narrow habitat or environmental requirements. Their presence is limited by specific environmental conditions such as: hydrology, microclimate, soils, nutrients, interspecific and intraspecific competition, and aspect or exposure. In some situations special-status species particularly annuals may not be present each year and in this case one has to rely on skeletal material from previous years. A site evaluation based on habitat or environmental conditions is therefore a reliable method for including or excluding the possibility of special-status species in an area.

The area surveyed is shown on Plate III.

Previous botanical surveys were conducted on June 6, September 14, December 19, 2006, February 15, March 5, April24, May 15, and June 25, 2007

Table I. Time and Date of Field Work for Spring and Summer 2011

Date	Personnel	Person-hr.	Time	Conditions
March 17, 2011	Chris K. and Daniel T. Kjeldsen	6.0 person-hours	08:00 to 11:00	Foggy, clear cool temperatures, windy.
April 13, 2011	Chris K. and Daniel T. Kjeldsen	6.0 person-hours	10:00 to 13:00	Overcast, no wind, with mild temperatures.
May 10, 2011	Chris K. and Daniel T. Kjeldsen	8.0 person-hours	10:00 to 14:00	Clear, windy with warm temperatures.
June 27, 2011	Chris K. and Daniel T. Kjeldsen	5.0 person-hours	10:00 to 12:30	Clear, no wind, with warm temperatures.
July 12, 2011	Chris K. and Daniel T. Kjeldsen	4.0 person-hours	9:00 to 11:00	Clear with light breezes and mild temperatures.
November 14, 2011	Chris K. and Daniel T. Kjeldsen	2.0 person-hours	11:30 to 12:30	Clear high clouds mild no wind mild temperatures.

B.3 Reference Sites or Herbaria Visited

Populations of Holly-leaved Ceanothus (*Ceanothus purpureus),* Rincon Ridge Ceanothus (*Ceanothus confusus),* Cobb Mountain Lupine (*Lupinus sericatus*), Clara Hunt's Milk-vetch (*Astragalus clarianus*), Napa False Indigo (*Amorpha californica* var. *napensis*), (*Sidalcea malachroides)*, Crystal Springs Lessingia (*Lessingia arachoniodea),* Harlequin Lotus (*Lotus formosissimus),* Pennel's Birds Beak (*Cordylanthus tenuis* ssp. *capillaries),* Dark-mouthed Triteleia (*Triteleia lugens*), Tufted Hairgrass (*Deschampsia cespitosa),* Bakers Manzanita (*Arctostaphylos bakeri*), and the Thin-lobed Horkelia (*Horkelia tenuiloba)* were reviewed during and prior to fieldwork.

Figure 5

B.4 Qualifications of Field Investigators

Chris K. Kjeldsen, Ph.D., Botany, Oregon State University, Corvallis, Oregon. He has over thirty-five years of professional experience in the study of California flora. He was a member of the Sonoma County Planning Commission and Board of Zoning (1972 to 1976). He has over thirty years of experience in managing and conducting environmental projects involving impact assessment and preparation of compliance documents, Biological Assessments, DFG Habitat Assessments, DFG Mitigation projects, COE Mitigation projects and State Parks and Recreation Biological Resource Studies. Experience includes conducting special-status species surveys, jurisdictional wetland delineations, general biological surveys, 404 and 1600 permitting, and consulting on various projects. He taught Plant Taxonomy at Oregon State University (three years) and numerous botanical science and aquatic botany courses (thirty-five years) at Sonoma State University including sections on wetlands and wetland delineation techniques. He has supervised numerous graduate theses, NSF, DOE and local agency grants and served as a university administrator. He has a valid DFG collecting permit.

Daniel T. Kjeldsen, B. S., Natural Resource Management, California Polytechnic State University, San Luis Obispo, California. He spent 1994 to 1996 in the Peace Corps managing natural resources in Honduras, Central America. His work for the Peace Corps in Central America focused on watershed inventory, mapping and the development and implementation of a protection plan. He has over ten years of experience in conducting Biological Assessments, DFG Habitat Assessments, COE wetland delineations, wetland rehabilitation, and development of and implementation of mitigation projects and mitigation monitoring. He has received 3.2 continuing education units MCLE 27 hours in Determining Federal Wetlands Jurisdiction from the University of California Berkeley Extension. A full resume is available upon request.

Figure 5

C BIOLOGICAL SETTING

The study areas are at elevations that range from 460 to 810 feet. The project is within the St. Helena Quadrangle with drainage into Cannon Creek thence the Napa River. The property consists of separate parcels on a west-facing slope. See Plate I for Location and Site Map and Plate III for an aerial photograph of the property.

The property is located within the inner North Coast Range Mountains, a geographic subdivision of the larger California Floristic Province (Hickman, 1993) which is strongly influenced by the Pacific Ocean. The region is in climate Zone 14 "Ocean influenced Northern and Central California" characterized as an inland area with ocean or cold air influence. The climate of the region is characterized by hot, dry summers and cool, wet winters, with precipitation that varies regionally from less than 30 to more than 60 inches per year. This climate regime is referred to as a "Mediterranean Climate." The average annual temperature ranges from 45 to 90 degrees Fahrenheit. The variations of abiotic conditions including geology results in a high level of diversity within relatively short distances.

C.1 Site Description and Botanical Resources Evaluation Area

The survey area is shown on the attached Erosion Control Plan. Our survey focused on the areas proposed for conversion to vineyard and surrounding habitat.

The vegetation of California has been considered to be a mosaic with major changes present from one area to another often with distinct vegetation changes within short distances. The variation in vegetation is a function of topography, geology, climate and biotic factors. It is generally convenient to refer to the vegetation associates on a site as a plant community or alliance. Typically plant communities or vegetation alliances are identified or characterized by the dominant vegetation form or plant species present. There have been numerous community classification schemes proposed by different authors using different systems for the classification of vegetation. A basic premise for the designation of plant communities, associations or alliances is that in nature there are distinct plant populations occupying a site that are stable at any one time (climax community is a biotic association, that in the absence of disturbance maintains a stable assemblage over long periods of time). There is also evidence that vegetation on the site is part of a continuum without well-defined boundaries. There is no agreement as to which system of nomenclature to use for describing plant communities.

The Plant Community on the project sites would be classified by Holland 1986 as "Northern Mixed Evergreen Forest", "Chaparral" and "Ruderal." Best *et al,* 1996 uses Plant Associations and the site would be considered a Pine Forest, Oak Buckeye Forest, Chaparral and Valley and Hill Grassland. The CNPS list of Rare Plants for California associates the rare and endangered species with "Habitat Types." The Habitat Types for the project site would be considered to be Cismontane Woodland, Chaparral, Closed Cone Coniferous Forest and Valley and Foothill Grassland. The aerial photo (plate V) illustrates the site and the photographs that follow further document existing conditions on the property.

Figure 5

California Wildlife Habitat Relationships System, California Department of Fish and Game California Interagency Wildlife Task Group would classify the habitats on the site as Live Oak Woodland and Mixed Chaparral.

Biotic Communities integrate the concept of assemblages of plants and animals in a discrete area of the landscape associated with particular soils climate and topographic conditions. The Plant Community on the parcel would be classified by California Native Plant Society (CNPS) and Department of Fish and Game California Natural Diversity Data Base (CNDDB) as: Cismontane Woodland, Valley and Foothill Grassland, Chaparral and seasonal creek with Riparian Woodland.

The dominant land cover types on the project sites consist of chaparral described below. In general terminology one would refer to the habitat on the property as Riparian, Grassland, Shrubland, and Cismontane Woodland. In the sections below each of habitat types is described and further categorized with the new system of vegetation classification by Sawyer et al (2009).. A Manual of California Vegetation Second Edition classifies the vegetation on the project sites as Grassland Semi-natural Stands with Herbaceous Layer; Shrubland Alliance; and Forest or Woodland Alliance. This classification is the presently preferred system that over time will replace existing classification systems.

Shrubland Alliance Chaparral/Scrub

This vegetation type has been divided by numerous authors into Mixed Chaparral/Scrub, Serpentine Chaparral, and Chamise Chaparral. Chaparral is a vegetation type that is restricted to dry, exposed slopes (usually south facing) and is typical for the ridges and slopes of the interior Coast Range Mountains of the County (Figure 4). Chaparral vegetation consists mainly of shrubs that are woody and with leaves adapted to xeric conditions (Holland and Kiel, 1986). Periodic fires are characteristic of this community. Many of the species stump sprout after fires, which is characteristic of this habitat and this community as, and as a seral stage, is threatened by the absence of a normal fire regime. The principal shrub constituents of Chaparral/Scrub are; chemise (*Adenostoma fasciculatum),* manzanita, *(Arctostaphylos* ssp.), sticky monkey flower *(Mimulus aurantiacus),* yerba-santa (*Eriodicyton californicum*) ceanothus *(Ceanothus* ssp.), scrub oak *(Quercus berberidifolia),* and pitcher sage *(Lepchinia calycina).*

Structure-- Mixed Chaparral (MCH) is a structurally homogeneous brushland type dominated by shrubs with thick, stiff, heavily cutinized evergreen leaves. Shrub height and crown cover vary considerably with age since last burn, precipitation regime (cismontane vs. transmontane), aspect, and soil type (Hanes 1977). At maturity, cismontane Mixed Chaparral typically is a dense, nearly impenetrable thicket with greater than 80 percent absolute shrub cover. Canopy height ranges from 1 to 4 m (3.3 to 13.1 fl), occasionally to 6 m (19.6 fl) (Horton 1960, Cheatham and Haller 1975, Hanes 1977). On poor sites, serpentine soils or transmontane slopes, shrub cover may be only 30 to 60 percent and shrubs may be shorter, 0.5 to 3.0 m (1.6 to 9.8 fl) (Cheatham and Haller 1975, Hanes 1976, 1977). Considerable leaf litter and standing dead material may accumulate in stands that have not burned for several decades.

Composition-- Mixed Chaparral is a floristically rich type that supports approximately 240 species of woody plants (Oruduff 1974). Composition changes between northern and southern California and with precipitation regime, aspect, and soil type. Dominant species in cismontane Mixed

Figure 5

Chaparral include scrub oak, chaparral oak, and several species of ceanothus and manzanita. Individual sites may support pure stands of these shrubs or diverse mixtures of several species. Commonly associated shrubs include chamise, birchleaf mountain mahogany, silk-tassel, toyon, yerba-santa, California buckeye, poison-oak, sumac, California buckthorn, hollyleaf cherry, Montana chaparral-pea, and California fremontia. Some of these species may be locally dominant. Leather oak and interior silktassel are widely distributed on cismontane serpentine soils, and chamise and toyon may be abundant on these soils. Shrubs such as coyote mint, dwarf soaproot, ceanothus and serpentine manzanita are local serpentine endemics (Cheatham and Haller 1975, Thorne 1976, Hanes 1977). Incense-cedar, knobcone pine, and ghost pine frequently are found in Mixed Chaparral on serpentine soils (Thorne 1976).

Adenostoma fasiculatum Shrubland Alliance Chamise Chaparral; (Membership Rules *Adenostoma fasciculatum* >50% relative cover in the shrub canopy: codominance of *A. fasiculatum* with the following species *Arctostaphylos glandulosa* and *Ceanothus cuneatus*). This alliance occurs across cismontane California in a variety of topographic settings. Stands over 60 years old produce little new growth as dead stem biomass accumulates.

Baccharis pilularis Shrubland Alliance Coyote Brush Scrub; *Baccharis pilularis* is Dominant to co-dominant in the shrub canopy (membership rules *Baccharis pilularis* is >50% absolute cover in the shrub layer) (*Baccharis pilularis* is >15 % shrub cover over grassy understory. *Baccharis pilularis* is a shrub that grows to 3 m tall and the stands can be transitory to forest and woodland alliances or persistent for long periods of time. *Baccharis pilularis* seedlings invade grasslands where grazing pressure is decreased or absent

Quercus berberidifolia / Adenostoma fasciculatum Shrubland Alliance Scrub Oak –Chamise Chaparral; (membership rules both *Quercus berberidifolia* and *Adenostoma fasciculatum* have between 30% and *60%* relative cover in the shrub canopy).

In the table that follows the Shrubland alliance is lumped as *Adenostoma fasiculatum* Shrubland Alliance Chamise Chaparral since the *Baccharis pilularis* Shrubland Alliance Coyote Brush Scrub and *Quercus berberidifolia / Adenostoma fasciculatum* Shrubland Alliance Scrub Oak are present but in small units within the *Adenostoma fasiculatum* Shrubland Alliance.

Forest or Woodland Alliance

Arbutus menziesii Forest Alliance Madrone Forest; *Arbutus menziesii* is dominant or co-dominant tree in the canopy. Shrub layer is sparse to intermittent. Herbaceous layer is sparse (membership rules *Arbutus menziesii* >50% relative cover in the tree canopy). *Arbutus menziesii* groves are considered as part of the mixed evergreen forest and in most cases the species is common as a secondary in many forest types.

Pinus sabiniana Woodland Alliance Ghost Pine Woodland; *Pinus sabiniana* is dominant or co-dominant tree in the canopy (membership rules *Pinus sabiniana* >10% absolute cover and dominant in the tree canopy). *Pinus sabiniana* is a drought-tolerant conifer that occupies foothill slopes intermixed with stands of chaparral and it is also a common and important member of stands of *Quercus douglasii*.

Figure 5

Quercus agrifolia Woodland Alliance Coast live Oak Woodland; *Quercus agrifolia* is dominant or co-dominant tree in the canopy (membership rules *Quercus agrifolia* > 50% relative cover of the tree canopy: if *Umbellularia californica* trees are present, then >33% cover in the tree canopy). Herbaceous layer is sparse to intermittent. Herbaceous layer is sparse or grassy. *Quercus agrifolia* is a drought resistant evergreen. Stands of this alliance vary from upland savannas and woodlands to bottomland riparian forests with closed tree canopies

***Quercus* (*agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni*)** Forest Alliance Mixed Oak Forest; *Quercus* (*agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni*) membership rules three or more *Quercus* species present at >30% constancy and they are co-dominant in the tree canopy. Herbaceous layer is sparse or abundant, may be grassy.

Quercus douglasii Woodland Alliance Blue Oak Woodland; *Quercus douglasii* is dominant or co-dominant tree in the canopy (Membership Rules *Quercus douglasii >50%* relative cover in the tree canopy; other hardwoods or conifers may be >30% relative cover in the tree canopy). *Quercus douglasii* is a deciduous, drought and flood tolerant tree that grows to 20 m in height. The canopy is intermittent to continuous or savanna-like. Shrub layer is sparse to intermittent. Herbaceous layer is sparse or grassy, and forbs are present seasonally.

Umbellularia californica Forest Alliance California Bay Forest; *Umbellularia californica* is dominant or co-dominant in the tree or tall shrub canopy (membership rules >30% relative cover of *Umbellularia californica* in the tree canopy, conifers < 30% relative cover in the tree canopy). *Umbellularia californica* alliance consists of trees that are > 25 m and the canopy is intermittent to continuous. The shrub layer is open to intermittent and the herbaceous layer is sparse to abundant. *Umbellularia californica* forms an association termed *Umbellularia californica-Quercus agrifolia / Toxicodendron diversilobum.*

Pinus ponderosa Forest Alliance Ponderosa Pine Forest; *Pinus ponderosa* is the dominant or co-dominant in the tree canopy with *Pseudotsuga menziesii* and *Quercus kelloggii.* Trees >50 m: canopy is open to continuous. Shrub layer is open to continuous with a herbaceous layer that is sparse, abundant or grassy (membership rules *Pinus ponderosa,* the principle canopy species, >10% absolute cover in the tree layer. *Quercus kelloggii,* if present substantially lower cover than *P. ponderosa. Pinus ponderosa >50%* relative cover, hardwoods such as *Q.kelloggii* are low in cover, if present.

Pseudotsuga menziesii Forest Alliance Douglas fir Forest; *Pseudotsuga menziesii* is dominant or co-dominant with hardwoods in the tree canopy (membership rules >50% relative cover in the tree canopy and reproducing successfully, though hardwoods may dominate or co-dominate in the subcanopy and regeneration layer). Trees > 75 m; canopy is intermittent to continuous, and it may be two tiered. Shrubs are infrequent or ommon. Herbaceous layer is sparse or abundant.

The mapped units shown in the table are ***Pinus sabiniana*** Woodland Alliance Ghost Pine Woodland, ***Quercus agrifolia*** Woodland Alliance Coast live Oak Woodland, ***Quercus douglasii*** Woodland Alliance Blue Oak Woodland, and ***Pinus ponderosa*** Forest Alliance Ponderosa Pine Forest. The other alliancess listed above are present as small units in or associated with the the above alliances.

Figure 5

Grassland Semi-Natural Herbaceous Stands with Herbaceous Layer

(These habitat types are present on the property as an understory or on the edges of the above described Alliances)

Semi-Natural Herbaceous Grasslands are a result of introduction of non-native grasses and herbs. Sawyer uses the term "Semi-natural Stands to refer to non-native introduced plants that have become established and coexist with native species. This includes what can be termed weeds, aliens, exotics or invasive plants in agricultural and nonagricultural settings. The Semi-natural Herbaceous Stands present as relatively small scattered stands within openings in the woodland or chaparral alliance. These are minor elements of the project footprint.

Avena ssp. Semi-natural Herbaceous Stand, Wild oats grasslands. The membership rules require *Avena ssp.* to be> 50% relative cover of the herbaceous layer. Semi-natural stands are those dominated by non-native species that have become naturalized primarily as a result of historic agricultural practices and fire suppression or management practices for weed abatement and fire suppression.

Centaurea (solstitialis, melitensis) Semi-Natural Herbaceous Stands Yellow star-thistle fields; (Membership Rules *Centaurea solstitialis* >50% relative cover in the herbaceous layer). *Centaurea solstitialis*, yellow star thistle, has a Cal IPC rank of High and a CDFA rank of C. It is the most serious range weed in the western United States.

Cynosurus echinatus Semi-Natural Herbaceous Stands Annual Dogtail Grasslands; (Membership Rules *Cynosurus echinatus >50%* relative cover with other non-natives in the herbaceous layer. *Cynosurus* echinatus is dominant or co-dominant with other non-natives in the herbaceous layer. Emergent Trees and shrubs may be present. Herbs < 50cm; cover is intermittent to continuous. Native plants associated with *Cynosurus echinatus* stands include *Achaatherum lemmonii, Bromus carinatus, Danthonia californica, Elymus glaucus, Eschoscholzia californica, Hemizonia congesta, Lotus micranthus, Lupinus bicolor* and *Madia* ssp. Non-native plants include *Aira caryophyllea, Avena* ssp., *Bromus hordeaceus, Bromus tectorum Erodium* ssp., *Poa pratensis, Rumex acetosella, Taeniantherum caput-medusae,* and *Taraxacum officinale*.

The area surrounding the proposed vineyard blocks consists of the same alliances discussed above in addition to riparian zones along creeks and drainages that are a variation of the Woodland Alliance.

A complete list of all plants encountered on the project site and immediate vicinity is included in Appendix A.

C.2 Surrounding Botanical Resources

The aerial photograph Plate III illustrates the site and the surrounding environment.

The habitat types surrounding the project property consists of Northern Mixed Evergreen Forest or Woodland Forest Alliance some of which has been converted to vineyard or rural residential parcels

Figure 5

and Chaparral or Chaparral Scrub Alliance. The habitat surrounding the individual blocks is similar to that of the proposed vineyard block except it is on steep slopes that preclude agricultural considerations.

The dominant land cover types in the vicinity of the property consist of oak woodland, grassland, and chaparral/scrub. Oak woodland is the dominant land cover type (33% of the land cover) which includes several different oak species including blue oak (*Quercus douglasii*), coast live oak (*Quercus agrifolia),* interior live oak (*Quercus wislizeni),* valley oak (*Quercus lobata)*, and black oak (*Quercus kelloggii).* Grassland accounts for approximately 11% of the land cover in Napa County.

Figure 1. Over view of typical vegetation and habitat associated with the proposed vineyard. Chamise, Grey Pine, Live Oak Bay, and Doug Fir habitat types are represented.

Figure 5

Figure 2. *Ceanothus purpureus* on the property growing in an area that was burned.

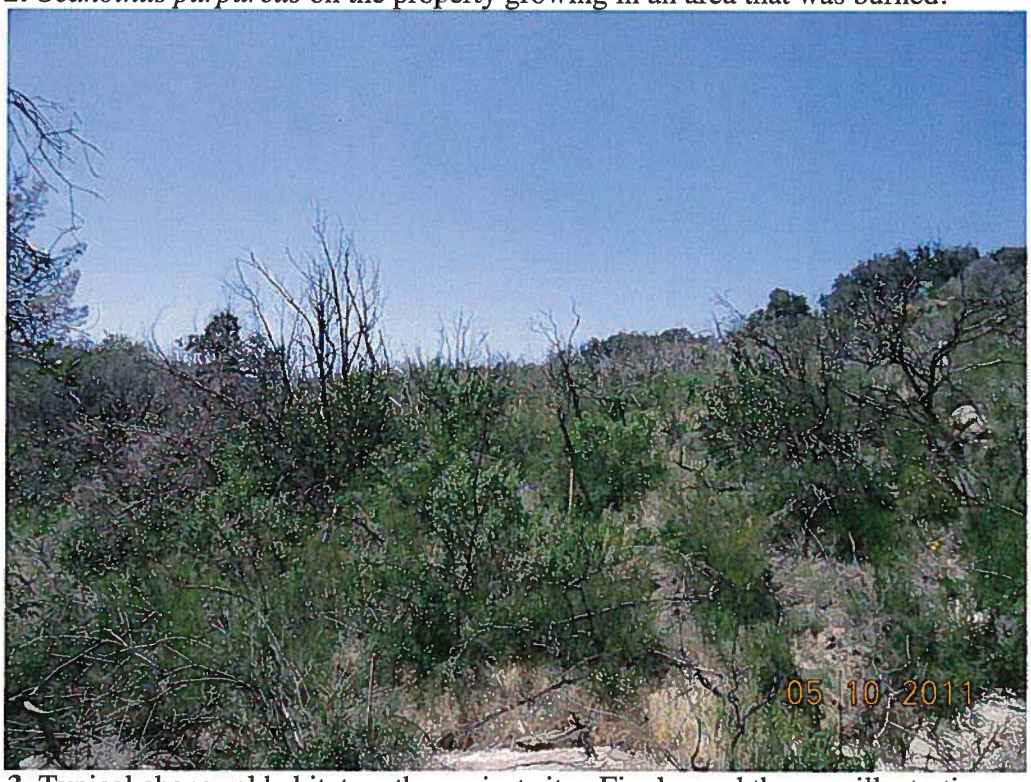


Figure. 3 Typical chaparral habitat on the project site. Fire burned the area illustrating regeneration.

Figure 5

Figure 4. Live Oak Bay Woodlands or Woodland Forest Alliance on the project site.

Figure 5. Grey Pine Oak Woodlands on the project site.

Figure 5

Figure 6. Chamise Chaparral Scrub Alliance and Woodland Forest Alliance on the property.

Figure 7. Chamise Chaparral area prior to Fire photo is from 2006.

Figure 5

D RESULTS AND FINDINGS

The results below provide a summary and analysis of our fieldwork and literature search for the project site. The property consists of separate parcels on a west-facing slope. (see Plate III).

Holly-leaved Ceanothus (*Ceanothus purpureus*) was found in several areas on the property. (See Plate V) The presence consisted of scattered plants. The CNDDB (Plate III) records populations on the ridge above the property. Holly-leaved Ceanothus (*Ceanothus purpureus*) is currently listed by the California Native Plant Society as a List 1B plant = Plants Rare, threatened, or endangered in California and elsewhere. The taxon does not have State or Federal listing or protection but it must be addressed as part of CEQA.

Table II Approximate Acreage of Plant Communities or Alliances on the Property and Approximate Acreage to be Removed by the Project

Plant Community or Vegetation Alliance	**Estimated Acreage on Property (156-acres)**	**Estimated Percent Cover and acreage to be removed (34-acres)**
Chamise *Adenostoma fasiculatum* Shrubland Alliance Chamise Chaparral	68- Acres	25% 17.6- Acres
Live Oak / Bay *Quercus agrifolia* Woodland Alliance Coast live Oak Woodland	53.75- Acres	17% 9.4- Acres
Grey Pine *Pinus sabiniana* Woodland Alliance Ghost Pine Woodland	8- Acres	60% 4.8- Acres
Ponderosa Pine *Pinus ponderosa* Forest Alliance Ponderosa Pine Forest	0.25-Acres	0% 0- Acres
Douglas Fir *Pseudotsuga menziesii* Forest Alliance Douglas fir Forest	3.0 -Acres	0% 0- Acres
Riparian Drainage	8- Acres	0% 0- Acres
Vineyard	5- Acres	NA
Disturbed of Developed Landscape	10- Acres	2.2- Acres
Total	Total 156-Acres	Total 34-Acres

Figure 5

D.1 Potential for Special-status Organisms Known for the Area

Appendix B provides a full list of CNDDB and CNPS plant species known from the quadrangle and surrounding quadrangles.

The Department of Fish and Game Natural Diversity Data Base records the following special-status species within five miles of the project area: *Amorpha californica var. napensis, Astragalus claranus, Brodiaea californica* var. *leptandra, Ceanothus divergens, Ceanothus purpureus, Centromadia parryi ssp parryi, Erigeron angustatus, Hesperolinon bicarpellatum, Hesperolinon serpentinum, Layia septentrionalis, Leptosiphon jepsonii, Lupinus sericatus, Navarretia leucocephala ssp. bakeri, Penstemon newberryi var. sonomensis, Plagiobothrys strictus, Sidalcea hickmanii* ssp. *viridis, Sidalcea oregana* ssp. *hydrophila,* and *Strepthanthus breweri* var. *hesperidis.*

Table III below provides a list of potential "target species" and the results of our field studies. The table includes an analysis / justification for concluding absence as supported by our fieldwork. The taxa included in the Tables are selected based on the California Department of Fish and Game Natural Diversity Data Base Five Mile search records for the area of the project (Plate II) and Appendix B. Species listed in Appendix B are those that are with in the Quadrangle and surrounding Quadrangles.

D.2 Table of Special-status Organisms Known for the Area

Table below provides an analysis of our field results. Species listed in Appendix B that are associated with vernal pools, alkali flats, or the waterways of SF Bay and Delta are not considered as potential for the site and are therefore, not included in the table below. Table II discusses and illustrates the species that are known to be present within five miles of the project site (August 30, 2011).

Table III. Analysis of potential "target" special-status plant species. Columns are arranged alphabetically by scientific name (CNDDB August, 2011)

Common Name	Scientific Name	Habitat Plant is Found In	Flower Period	Present on Project Site	Potential for Project Site Justification for Absence
Napa False Indigo	*Amorpha californica* var. *napensis*	Cismontane Woodland	April-July	No	Common in areas surrounding the project site. Species was not observed.
Clara Hunt's Milk-Vetch	*Astragalus clarianus*	Cismontane Woodland, Valley and Foothill Grassland	March-April	No	Found in open areas not associated with closed canopy.

Figure 5

Common Name	Scientific Name	Habitat Plant is Found In	Flower Period	Present on Project Site	Potential for Project Site Justification for Absence
Narrow-anthered California Brodiaea	*Brodiaea californica* var. *leptandra*	Broadleaved upland forest, chaparral, 110-915 meters	May-July	No	Potential habitat present. Species not observed.
Calistoga Ceanothus	*Ceanothus divergens*	Chaparral serpentinite	Feb.-March	No	Potential habitat present. Species not observed.
Holly-leaved Ceanothus	*Ceanothus purpureus*	Chaparral	Feb. - June	Yes	Species Observed see Plate VI.
Pappose Tarplant	*Centromadia (=Hemizonia) parryi* ssp. *parryi*	Grasslands	May-July	No	Requisite habitat and vegetation associates absent on the site or in the immediate vicinity.
Dwarf Downingia	*Downingia pusilla*	Wetlands	March May	No	Requisite aquatic habitat absent on the site or in the immediate vicinity.
Green's Narrow-leaved Daisy	*Erigeron greenei*	Chaparral, (serpentinite)	May-Sep	No	Absence of edaphic conditions required for presence.
Narrow-leaved Daisy	*Erigeron angustatus*	Chaparral serpentinite	May-Sept.	No	Edaphic habitat not present.
Two Carpellate Western Flax	*Hesperolinon bicarpellatum*	Chaparral Serpentinite	May-July	No	Edaphic habitat not present.
Napa Western Flax	*Hesperolinon serpentinum*	Chaparral Serpentinite	May-July	No	Edaphic habitat not present.
Colusa Layia	*Layia septentironalis*	Cismontane Woodland, Valle and Foothill Grassland, Serpentinite	April-May	No	Edaphic habitat not present.
Jepson's Leptosiphon	**Leptosiphon jepsonii= Linanthus jepsonii*	Chaparral, cismontane woodland usually volcanic	April-May	No	Potential habitat present. Species not observed.
Cobb Mt. Lupine	*Lupinus sericatus*	Chaparral, Cismontane Woodland	March-June	No	Potential habitat present. No evidence of presence.

Figure 5

Common Name	Scientific Name	Habitat Plant is Found In	Flower Period	Present on Project Site	Potential for Project Site Justification for Absence
Jepson's Linanthus	*Linanthus jepsonii*	Chaparral, cismontane woodland usually volcanic.	April-May	No	Potential habitat present. No evidence of presence.
Baker's Navarretia	**Navarretia leucocephala ssp. bakeri*	Cismontane Woodland, Valley and Foothill Grassland, Vernal Pools	May-June	No	Absence of requisite mesic habitat on project site precludes presence.
Sonoma Beardtongue	*Penstemon newberryi* var. *sonomensis*	Chaparral	April-Aug.	No	Potential habitat present. No evidence of presence.
Calistoga Popcorn-flower	*Plagiobothrys strictus*	Valley and Foothill Grassland, Vernal Pools, Alkaline Areas Near Springs	March-June	No	Absence of requisite mesic edaphic habitat on the site or in the immediate vicinity.
Marin Ceckerbloom	*Sidalcea hickmanii ssp viridis*	Chaparral Serpentinite	May-June	No	Edaphic habitat not present.
Marsh Checkerbloom	*Sidalcea oregana ssp. hydrophila*	Meadows, Riparian Forests	July-Aug	No	Potential mesic habitat not present.
Green Jewel-flower	*Streptanthus breweri* var. *hesperidis*	Chaparral, cismontane woodland serpentinite elevation 130-760 meters	May-June	No	Edaphic habitat not present.

Ceanothus purpureus is an evergreen shrub that is a component of the chaparral plant community on upper sections of the property. *Ceanothus purpureus (*Holly-leaved Ceanothus) is a shrub that grows in clumps from a single axis. It is a localized endemic found on chaparral hillsides in Sonoma, Napa and Solano Counties. Our work on other properties in the area shown that *Ceanothus purpureus* is common in this region. *In situ* preservation of populations is regarded by all standards as the best available approach for conserving biological diversity at the species level. The project vineyard blocks have been adjusted to avoid portions of the population on the

Figure 5

property. We estimate that less than 2% of the area proposed for conversion to vineyard contains populations of this plant.

A CNDDB field form has been submitted to the Department of Fish and Game. A copy of this report is attached in Appendix C.

We found no evidence for the presence of any of the other special-status species shown on Plate III or special-status species known from the Quadrangle and surrounding Quadrangles (Appendix B and C) or for the region. Based on our fieldwork we conclude that it is unlikely that any of the species shown in the table above or known for Napa County would occur on the site given the soil types, the lack of any records, the topography, hydrology, and plant associates present.

D.3 Presence of or Potential for Unique, Critical or Sensitive Plant Communities

There was no critical habitat listed for the site by the U.S. Fish and Wildlife Service or any sensitive plant communities or sensitive habitat types found on the project sites. Critical habitat for the region such as vernal pools, cypress forest, serpentinite, marshes and wetlands, bunch grass prairies are not present within or near the project sites.

The native grasses on the property are intermixed with non-native species forming Semi-natural herbaceous alliances. They do not constitute native grasslands. The native species are scattered individuals and do not constitute a native grass grassland.

D.4 Unique or Limited Habitats Present

The flora and fauna present are typical for chaparral and woodlands of the region. We found no evidence that would indicate the proposed project would impact special-status species.

There were no unique listed habitats associated with the proposed vineyard sites.

D.5 Endemic Populations

Holly-leaved Ceanothus (*Ceanothus purpureus*) was found in several areas on the property. (Plate VI). The presence consisted of scattered plants. Holly-leaved Ceanothus is currently listed by the California Native Plant Society as a List 1B plant = Plants Rare, threatened, or endangered in California and elsewhere. The taxon does not have State or Federal listing or protection.

Figure 5

E ASSESSMENTS OF BOTANICAL IMPACTS

The sections below address potential botanical impacts of the project.

E.1 Distribution of Special-status Species Related to Proposed Activities

A map from the CNDDB for the records of special-status species in the proximity of the project is shown on Plate II.

The only special-status plant that was encountered is the Holly-leaved Ceanothus (*Ceanothus purpureus)*. The populations are mapped and illustrated on Plate VI. Usually this species is found in large populations where it is a major element of the chaparral community. Vineyard blocks have been adjusted to avoid impacting areas of high density. Portions of the population are within proposed vineyard blocks. Planting in suitable areas of the property can mitigate loss of this plant.

E.2 Effects of the Project on Special-status Species

Other than the Holly-leaved Ceanothus (*Ceanothus purpureus*) referenced above no special-status species were found on the project sites.

The proposed project sites are unlikely to impact any other special-status plants known for the region. The property and project site conditions are such that there is no reason to expect any significant impacts to special-status plants on-site or off-site provided standard construction practices are utilized and the erosion control plan is implemented.

E.3 Potential Impacts to Botanical Resources

The highest concentration or populations of the Holly-leaved Ceanothus (*Ceanothus purpureus*) adjacent to the proposed project site have been avoided. Recent fire in the area has cleared overstory and allowed this plant expand on the property. It is very likely that significant populations of this plant occur outside of our survey area.

The proposed project will remove approximately 856 oaks. The project must comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland communities. Significant portions of the property will be retained as open space, watershed and wildlife habitat. If replacement plantings are necessary it is recommended that young trees from acorns collected on site be established on site for the next generation of oaks.

Figure 5

F. RECOMMENDED MITIGATION MEASURES

Standard best management practices as per the Erosion Control Plan and Napa County requirements must be implemented to protect offsite movement of sediment and dust during and post construction.

All project construction activities must be limited to the project footprint. Best Management Practices including silt and erosion control measures must be implemented to protect off-site movement of sediment and dust during and post construction. Best Management Practices must be implemented throughout the construction period such as retaining ground cover litter, monitoring for invasive species, providing mulch for bare ground and standard erosion and dust control.

It is recommended that if the 20+/- Holly-leaved Ceanothus (*Ceanothus purpureus*) plants are removed then nursery stock of this species be planted in adjacent chaparral habitat areas at a three to one ratio for plants lost.

The project must comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland communities. Significant portions of the property will be retained in open space, watershed and wildlife habitat. If replacement plantings are necessary it is recommended that young trees from acorns collected on site be established on site for the next generation of oaks.

Figure 5

G. SUMMARY

The study focused on determining the existence of or potential for the presence of any special-status plants (species that are listed by the State or Federal Government, California Native Plant Society, or Napa County as rare, threatened or endangered) within the footprint of the project.

Holly-leaved Ceanothus (*Ceanothus purpureus*) was found in several areas on the property. The presence consisted of scattered plants (Plate VI). The CNDDB (Plate III) records populations on the ridge above the property. Holly-leaved Ceanothus (*Ceanothus purpureus*) is currently listed by the California Native Plant Society as a List 1B plant = Plants Rare, threatened, or endangered in California and elsewhere. The taxon does not have State or Federal listing or protection but it must be addressed as part of CEQA.

The highest concentration or populations of the Holly-leaved Ceanothus (*Ceanothus purpureus*) adjacent to the proposed project site have been avoided.

No other special-status species known for the Quadrangle, surrounding Quadrangles or the region were identified on the project site nor did the project sites contain vegetation associates, habitat or edaphic conditions which would support special-status species.

No significant cumulative impacts to plant populations are expected by the proposed project. The loss of habitat on the project site is less than significant.

It is concluded that further seasonal botanical studies are unwarranted.

Figure 5

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Figure 5

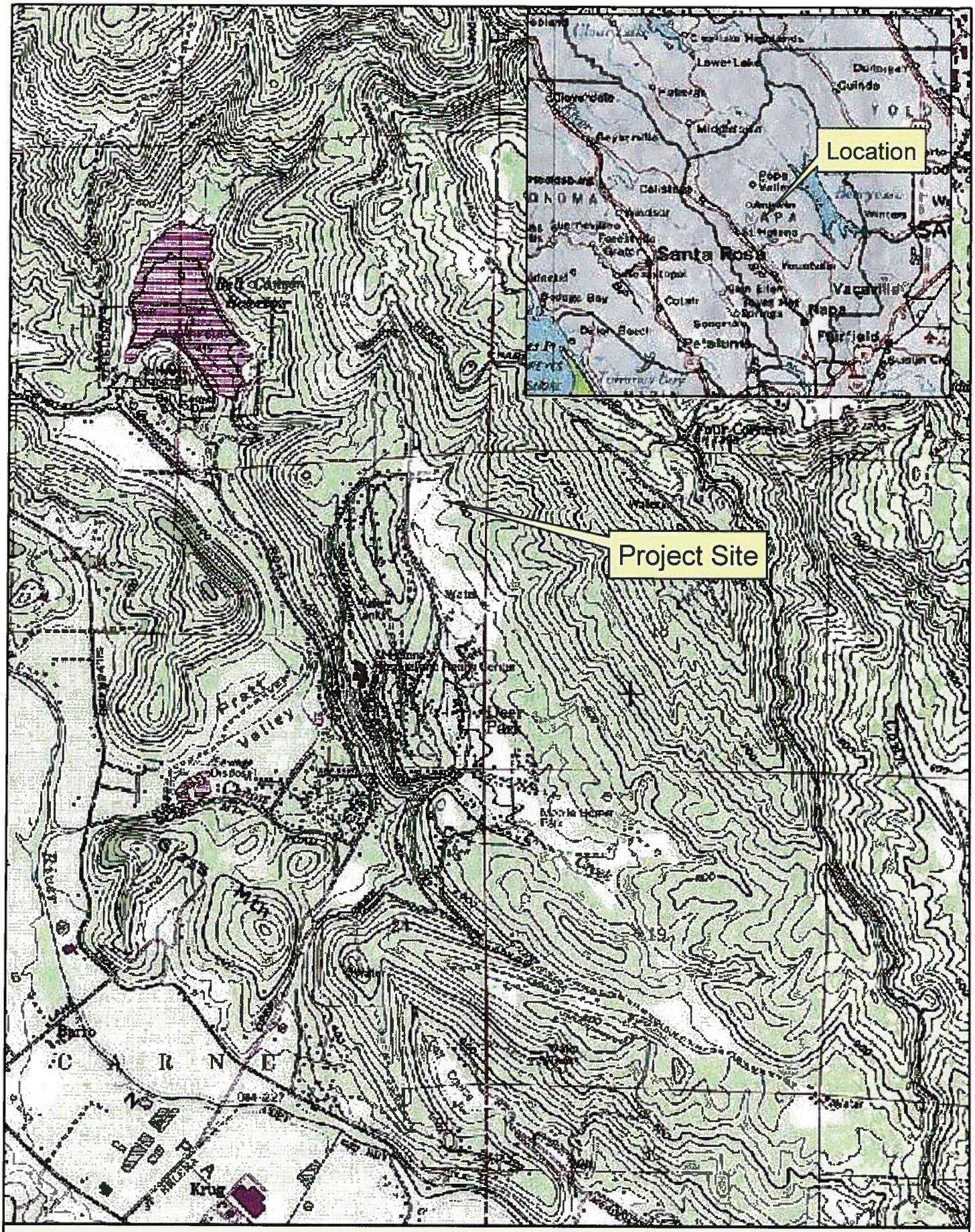

Plate I. Site / Location Map Saint Helena Quadrangle ±

Figure 5

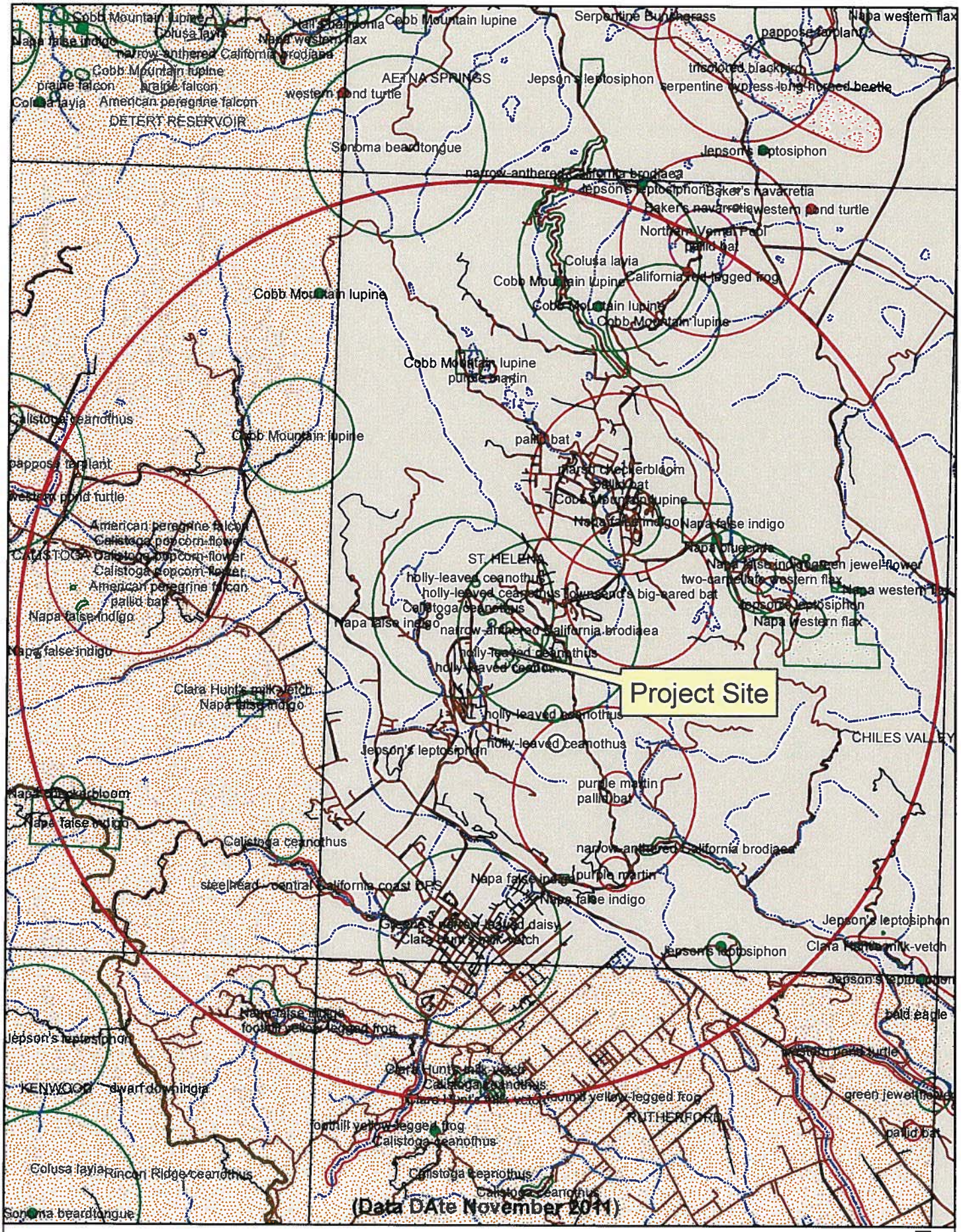
Project Site
(Data DAte November 2011)
Plate II DFG CNDDB 5-Mile Search
0
1
2
4 Miles

Figure 5

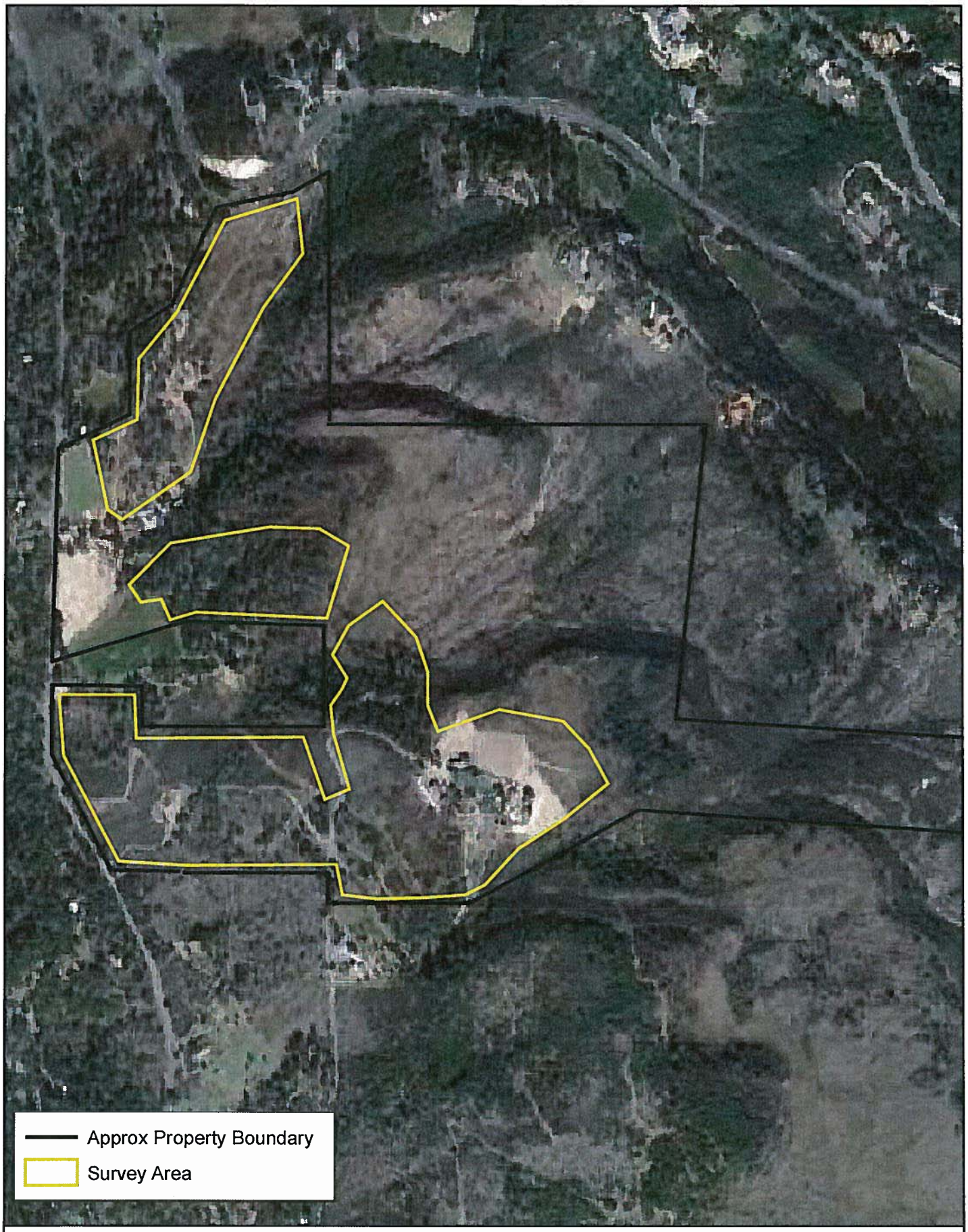

Plate III. Aerial Photo / Survey Area

Figure 5

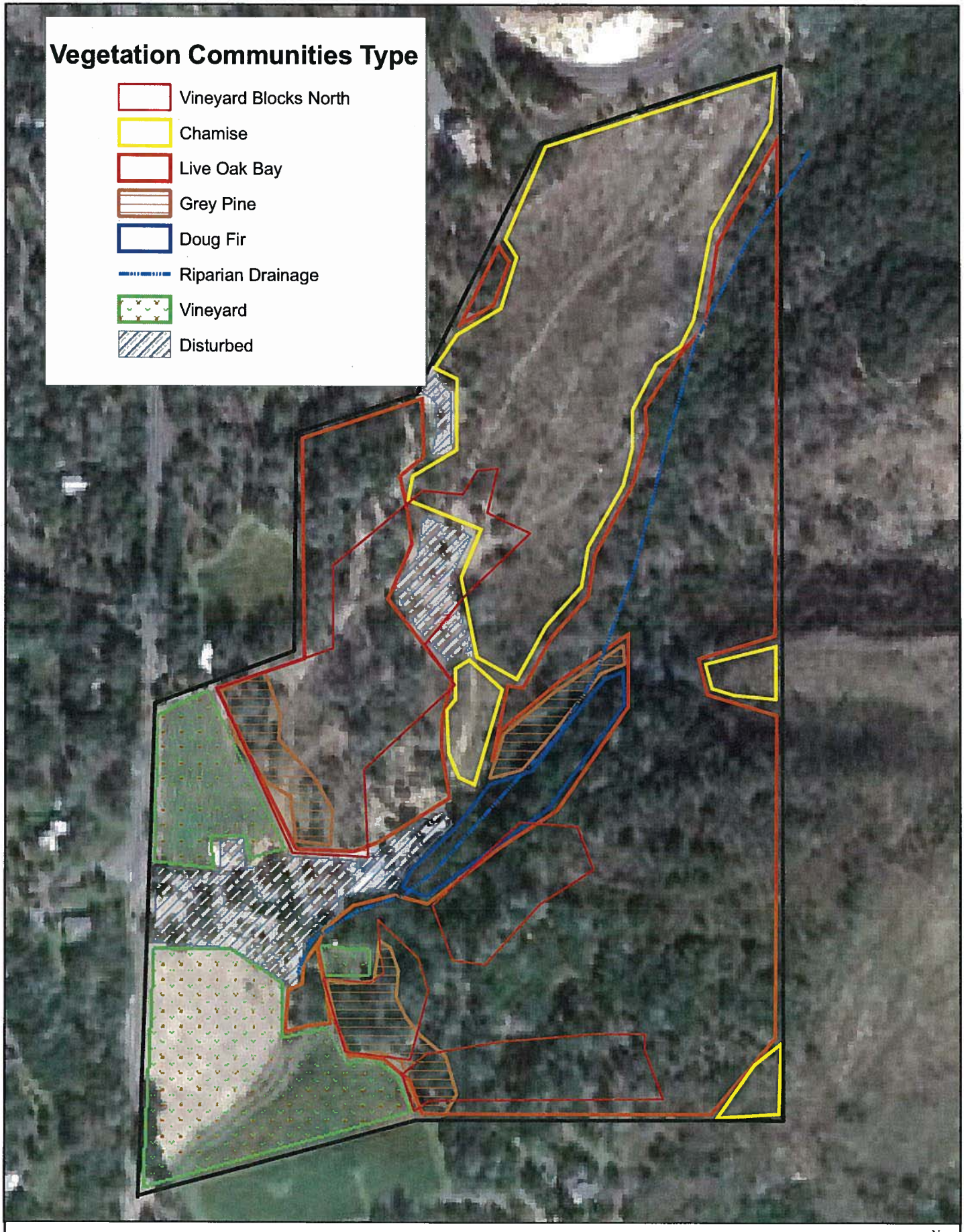

Plate IV. Vegetation Map - North

Figure 5

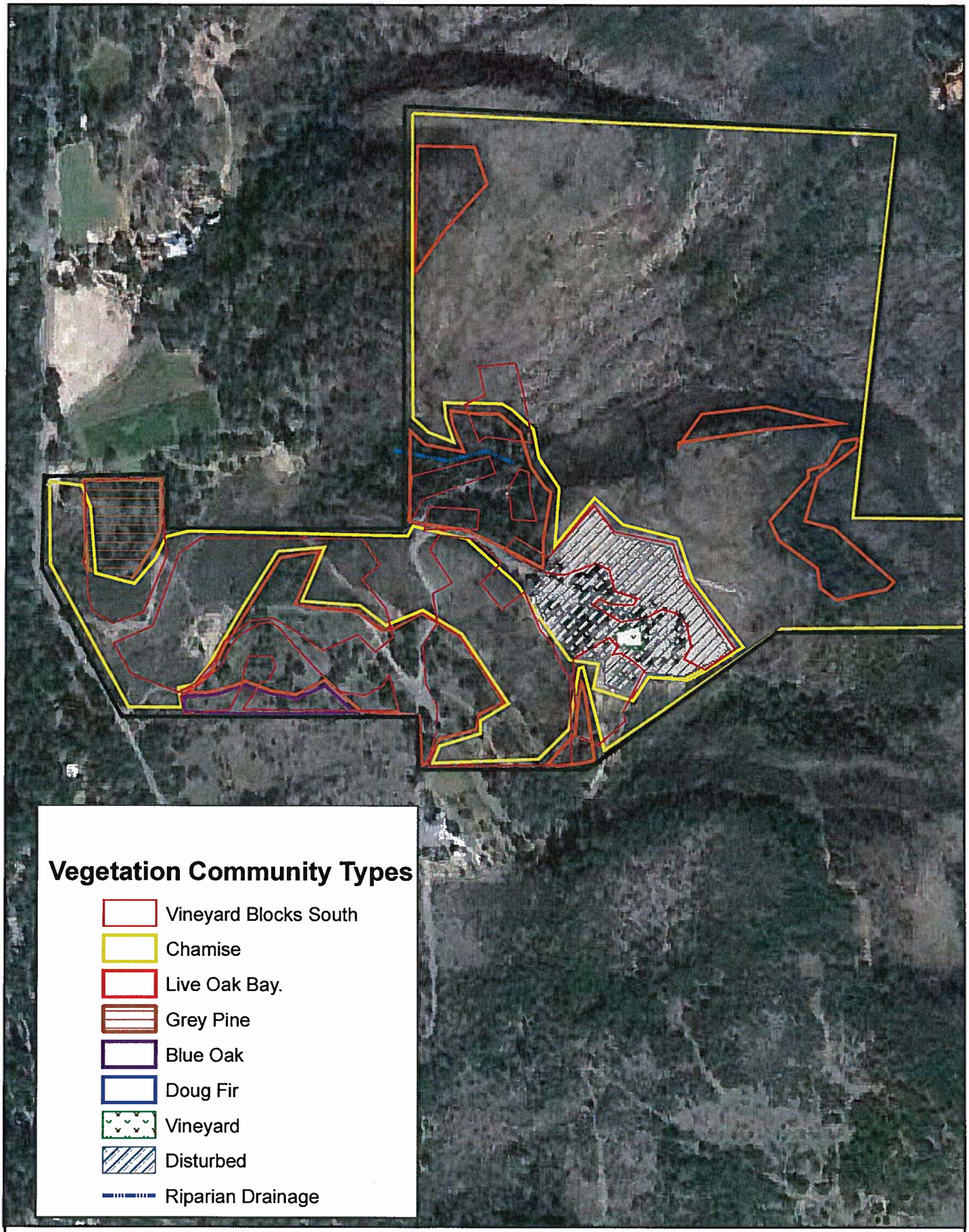

Plate IV. Vegetation Map - South

Figure 5

Sent via electronic mail: No hard copy to follow

November 1, 2017
CIWQS Place ID 829621

Clearwater Hydrology
2974 Adeline Street
Berkeley, CA 94703
Attn.: William Vandivere, Principal
Email: fanshen@clearwater-hydrology.com

Subject: Comments on Technical Assessment Report, Provision #1 of Cleanup and Abatement Order No. R2-2017-0025, Bremer Family Winery Vineyard, Napa County

Dear Mr. Vandivere:

We are sending you this letter as the designated representative for your clients, John and Laura Bremer. Thank you for submitting the *Technical Assessment Report in Response to SF Bay Regional Water Quality Control Board Cease and Abatement Order No. R2-2017-0025 Re: Construction Impacts to an Unnamed Ephemeral Creek and Habitat at the Bremer Family Winery Vineyard Blocks K-EE, 881 Deer Park Road, Napa County, CA"* (Technical Report).

Cleanup and Abatement Order No. R2-2017-0025 (CAO) Provision 1 requires the submittal of a technical report providing a description of recent unauthorized construction activities at the Bremer Family Winery Vineyard (Site) and an assessment of impacts to an unnamed creek and associated riparian habitat. Based on our review, the Technical Report addresses the Provision 1 requirements with the exception of the following:

Extent of Waters of the State

Provision 1 requires a jurisdictional delineation of the extent of federal and State waters at the Site prior to and following the constructed Project. This information is particularly important because it will inform the Corrective Action Workplan required by CAO Provision 2. The Corrective Action Pan must include a proposal for corrective actions that will (1) remove, from waters of the State, sediment, rock, and other earthen materials placed without authorization, (2) restore the Creek and associated riparian habitat, and (3) establish an appropriately protective buffer area around the creek and riparian habitat. As such, we will require restoration of the Creek to pre-project conditions including the riparian habitat consisting of the chaparral plant community formerly adjacent to the Creek along with an additional buffer area large enough to protect Creek functions.

The Technical Report estimates fill placed within the ordinary high water mark and thus jurisdictional waters of the United States. However, it does not define the extent of fill placed within waters of the State. The Technical Report also estimates the fill placed within the 100-year pre-disturbance flood levels and states that "[t]he State could assert additional jurisdiction over filled portions of the floodplain, depending on how riparian vegetation and habitat is defined." We do not define riparian vegetation by the type of plant species present, but rather by the water quality enhancement and functions it provides to waters of the State (i.e., by its relationship to beneficial uses). Water quality functions provided by riparian vegetation include shading, erosion control and streambank stabilization, filtration and purification of pollutants, nutrient cycling, soil infiltration and groundwater recharge, wildlife habitat, and habitat connectivity.

Therefore, the Technical Report should be revised to delineate the extent of fill placed into waters of the State including the chaparral vegetation that previously existed, which provided water quality functions to the Creek. Based on this information, we anticipate that the Corrective Action Workplan to be submitted no later than November 6, 2017, will include a proposal for corrective actions designed to restore the Creek to pre-project conditions, which will include the chaparral community formerly adjacent to the Creek, and an appropriately protective buffer area.

If you have any questions, please contact Agnes Farres of my staff at (510) 622-2401 or by email to agnes.farres@waterboards.ca.gov.

Sincerely,

for Bruce H. Wolfe
Executive Officer

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