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County of Napa
Planning, Building and Environmental Services Department
Engineering and Conservation Division

Attn: Kelli Cahill, Project Planner
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Email: kelli.cahill@countyofnapa.org

***Via hand delivery and email***

**Re: Walt Ranch Development Project Draft EIR**

Dear Ms. Cahill,

On behalf of Circle Oaks Homes Association and Circle Oaks County Water District, thank you for the opportunity to comment on the Draft EIR (DEIR) prepared for the Walt Ranch Development Project (Project) proposed by the Walt-Brambletree Corporation. Substantive concerns regarding the DEIR's review of the Project's environmental impacts has prompted the need to solicit expert testimony regarding the data and analyses used in the DEIR.

The following experts prepared detailed comments on the DEIR that are concurrently being submitted to you: Matt Hagemann, P.G., C.Hg. QSD, QSP, SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment; Greg Kamman,PG, CHG, Principal Hydrologist, Kamman Hydrology & Engineering, Inc.; and Eric A. Yee, Principal Consultant, Charles M. Salter Assoc. (Attached Exhibit A, Hagemann report with curriculum vitae; Exhibit B, Eric A. Yee report.)

These experts have documented numerous errors, omissions and inadequacies in the data and analyses conducted for the Project. I have thoroughly reviewed the DEIR and the expert reports. Based upon my review of the DEIR and the export reports, it is my opinion the inadequacies in the DEIR render the review inadequate to provide full disclosure of the environmental consequences of the Project as required by CEQA. Therefore, aside from responding to our comments, we respectfully request the County require the DEIR be revised and re-circulated to address the omissions and inaccuracies enumerated in the reports submitted by the named experts.

**Importance of the EIR**

CEQA achieves its purpose of long-term protection of the environment by functioning as "an environmental full disclosure statute, and the EIR is the method . . . [of] disclosure . . ." (*Rural Landowners Association v. City Council* (1983) 143 Cal.App.3d 1013, 1020.) An EIR should not just generate paper, but should act as "an environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return." (*County of lnyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.) The EIR provides analysis to allow decision makers to make intelligent judgments. (Guideline §15151 " . . . the preparation of an EIR is the key to environmental protection under CEQA, . . ." (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 82; Pub. Res. Code § 21151.)

An EIR need not be perfect, but must represent an adequate, complete, and good faith effort at full disclosure of environmental impacts. (Guideline §15151; *Berkeley Keep Jets over the Bay Committee v. Board of Port Commissioners of the City of Oakland* (2001) 91 Cal.App.4th 1344.)

An EIR's analysis of environmental impacts must be sufficient to provide lead agencies with information that will enable them to make a decision that "intelligently takes account of environmental consequences." (*San Francisco Ecology Center v. City and County of San Francisco* (1975) 48 Cal.App.3d 584; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692.) An EIR's information will enable agencies to make a decision that "intelligently takes account of environmental consequences." (*Ibid.*)

The purpose of an EIR is to provide public agencies and the public with "detailed information about the effect a project is likely to have on the environment, to list ways significant effects might be minimized and to indicate alternatives to the project." (Pub. Res. Code §§ 21061, 21100.) An EIR should emphasize significant impacts, mitigation measures, and alternatives.

Here, experts have thoroughly explained the DEIR's numerous deficiencies and omissions of relevant data and information and the faults in its analyses, such that the DEIR fails to fairly disclose impacts to air quality, biological resources, geology and soils, hydrology and water quality, noise, health and safety, and cumulative impacts. Nor does the DEIR propose adequate mitigation or alternatives to the Project to substantially lessen these impacts.

**The Project includes the following features**

- Earthmoving and grading activities on slopes greater than five percent associated with tree and brush removal, blasting and ripping, rock removal, soil cultivation, installation and maintenance of drainage, and irrigation systems;
- The installation and maintenance of new vineyards and harvesting operations;
- A total of 507 acres are proposed to be clearcut resulting in the loss of 28,600 trees

and installation of 356 acres of vineyard;
- The Project will use 69 million gallons of water annually;
- Development of 21 miles of roads for year-round access to the property. Access roads between vineyard blocks would be constructed in select locations within the 507 gross acres, resulting in the construction or realignment of approximately 5.6 miles of new roads;
- Construction of a bridge over Milliken Creek;
- Installation and maintenance of rocked low-water crossings at existing low-water crossings including Capell Creek;
- Installation of surface drainage pipelines to collect surface runoff at low points throughout the project site and transport it to protected outlets;
- Installation of perforated subsurface drainage pipelines to reduce saturated conditions in the root zone and improve slope stability;
- Installation of cutoff collars on all solid pipelines with slopes greater than five percent;
- Installation of standard drop inlets, infield drop inlets, and concrete drop inlets;
- Construction of outsloped infield level spreaders, pipe level spreaders, rock levelspreaders, rock energy dissipaters, rock sediment basins, diversion ditches, infield diversions, and rock checks as detailed in Appendix A;
- Construction of sediment basins in proposed Blocks 5A, 9A and 9B;
- Construction of overflow structures in proposed Blocks 1 and 16C to receive flows from the subsurface drainage system;
- Repair of existing headcutting in proposed Block 52;
- Construction of rolling dips within the existing roadway;
- Utilization of rock for construction of erosion control features such as rock energy dissipaters, rock sediment basins, and for rock-filled avenues. Two depressions in proposed Blocks 31 and 37 are proposed for rock disposal and storage, and the remaining rock would be stockpiled within the proposed clearing limits;
- Installation of up to three new wells (approximate locations shown in Figure 4.6-2);
- Construction of four offstream reservoirs that would store groundwater to be used for vineyard irrigation and frost protection;
- Installation of water distribution pipelines;
- Installation of fuel storage tanks;
- Installation of deer fencing;
- Seeding of all disturbed areas with a permanent no-till cover crop;
- Installation of permanent erosion control measures, maintenance of the erosion control measures so they function as intended, and maintenance of the measures throughout the rainy season (September 15 through April 1 for Milliken Reservoir watershed and October 1 through April 1 for Capell Creek watershed); and Installation of temporary erosion control measures (e.g. straw wattles, waterbars, and other measures identified in the ECP).

**Project Impacts**

The DEIR identified Project impacts in the areas of air quality, biological resources, cultural resources, geology and soils, hydrology and water quality, transportation and traffic, hazardous materials, and noise but claimed every impact would be reduced to less-than-significant levels with the implementation of the mitigation measures outlined in Section 4.0.

**Matt Hagemann's Report**
**Water Supply**
## Impacts on Groundwater are Inadequately Evaluated and Mitigated

***Uncertain Project Impacts to Aquifer*** **(Hagemann p. 1-3)**
Expert, Matt Hagemann, P.G., C.Hg. SWAPE, noted the amount of groundwater withdrawal needed to meet the Project's demands will have, according to the DEIR, uncertain impacts on the Sonoma Volcanics aquifer that will supply 100% of the water needs.

The proximate wells that could be impacted by the Project's demand on the aquifer include: the Gale Well, which is located less than 1,000 feet south of the property boundary and approximately 3,500 feet southwest of the nearest well on the Walt Ranch property (WR-5), four wells on the Circle S Ranch to the west; the closest Circle S well is approximately 4,000 feet northwest of the closest Walt Ranch well (WR-5). (Hagemann p. 2.)

The DEIR mentions there "may be" adjacent wells on the Circle Oaks County Water District (COCWD) but fails to incorporate any data or analysis concerning COCWD's demand or the potential impacts to the residents served by the COCWD should the Project's massive water demand drawdown the aquifer and affects the wells served by the COCWD. (DEIR p. 4.6-18.)

1. Given the DEIR's assessment that the size of the aquifer is uncertain shouldn't the DEIR assume there are potential impacts associated with an overdraft or draw down of the aquifer and propose adequate mitigation to ensure the Circle Oaks residents have sufficient water?

According to expert Ron Tamarask, Director COCWD, the Circle Oaks Water District is the sole water supplier for approximately 500 people in the community of Circle Oaks. COCWD has a responsibility and legal obligation to the residents who have depended upon this water source for 50 years. The yearly water demand for the COCWD was 70.71 acre-feet in 2012 and 59.92 acre-feet in 2013. The residents and families of COCWD rely exclusively upon one vertical well and one spring water source supplied by several horizontal bores for drinking water and fire suppression.

2. Given the Circle Oaks residents' dependence on well water, shouldn't the potential impacts of the Project on the COCWD wells and water quality be given a more in depth review and discussion in the DEIR?

3. Shouldn't the number of proximate water users be discussed in the DEIR?

4. Shouldn't the yearly water demand amounts for the COCWD be included in the hydrology and water analysis conducted in the DEIR?

According to Ron Tamarask, in appendix D, the pumping study did not include any assessment of the impact or recovery rates on nearby wells of the COCWD, including one well that is only 2,000 feet from the Project's proposed well # 4.

5. Given the DEIR's uncertainty about the Project's impacts on the aquifer and the Circle Oaks residents' dependence on well water, shouldn't the DEIR include an analysis of the recovery rates of nearby wells in the COCWD?

6. What is the combined peak usage of the four wells on the Project site combined with the four Circle S Ranch wells when drawing in tandem during the summer months?

7. With 300 acres of new vineyards, what is the potential for increase in particulates, chemicals and pesticides into the aquifer and existing COCWD wells?

8. If the groundwater is drawn down, would boron or other contaminants increase in nearby wells to unacceptable levels?

Ron Tamarask stated the COCWD water tanks are located on steep slopes below proposed oak woodland clear cuts. COCWD water delivery and sewage pipes lie underneath Circle Oaks Drive. These face potential disruption from prolonged traffic by heavy vehicles and by land slippage exacerbated by the massive vegetation changes proposed by this project.

9. What effect may the Project have on COCWD infrastructure?

Due to the uncertainty about the degree and the extent of drawdown, Matt Hagemann proposed additional mitigation that should be included in a revised and re-circulated DEIR to include (Hagemann at p. 3):

- A prohibition on new groundwater wells. The DEIR states that pumping for the Project can be met through use of the three existing wells. New wells are proposed only "to spread out groundwater production over the property in order to reduce the reliance on any one well" (DEIR p. 4.6-20). New wells should be prohibited because of the potential for an increase in pumping from the aquifer.

- Provisions for additional water-level monitoring in the aquifers underlying the Project. The monitoring that is proposed in Mitigation Measure 4.6-4 is for water levels, flow rates, and pumped volumes in the three existing onsite wells. No provisions are made in the DEIR for monitoring in offsite wells. Mitigation measures should be added to a revised DEIR to include the drilling and completion of "sentry wells" at the property boundary that would be placed in proximity to the offsite wells at the Circle S Ranch and the COCWD wells. These sentry wells should be monitored, along with the other proposed monitoring in Mitigation Measure 4.6-4, and the data should be submitted to the County (and to the adjacent well owners) for evaluation. If water levels were to drop below an agreed-upon trigger level, pumping in the Project wells would have to be restricted or abated.
- A trigger level should be established in a Memorandum of Understanding between the Project applicant and the County. A binding agreement such as this, where a drop in water levels would trigger a reduction or a cessation of groundwater pumping, was part on an EIR that was approved for the Cadiz Water Project in San Bernardino County. For the Cadiz water project, a Groundwater Management, Monitoring, and Mitigation Plan was prepared that provided third-party well owners an opportunity to participate in a monitoring program that triggers corrective action (e.g., provision of replacement water) if static groundwater levels in their wells or in springs drop due to Project operations. As in the Cadiz agreement, compliance with this Management Plan shall be overseen and enforced by the County under the MOU.
- The DEIR should be revised to include a Groundwater Management, Monitoring, and Mitigation Plan that would provide for monitoring of static water levels in the Sonoma Volcanics Aquifer in three newly constructed sentry wells and in wells that are operated by adjacent land owners, including the Circle S Ranch and the COCWD wells. The trigger level should be agreed upon, and memorialized in the MOU, in consultation with stakeholders to include the Circle S Ranch and the Circle Oaks community.

10. Aren't these mitigation measures a reasonable protection against the Project's potential impacts?

**Aquifer Impacts from Drought Scenarios Inadequately Considered (Hagemann p. 3-4.)**

Expert, Matt Hagemann stated impacts from Project groundwater pumping in combination with a prolonged drought were inadequately evaluated. The DEIR includes a superficial treatment of the impacts of drought, in combination with Project pumping. (DEIR p. 4.6-49). The groundwater analysis in Appendix D looked only at proposed groundwater pumping in the context of both the long-term average annual

precipitation and the average drought year. California now faces one of the most severe droughts on record. No one can predict when the current drought will end and impacts of groundwater supplies across the state have been dramatic.

The DEIR should be revised to include a severe drought scenario, not just an average drought, with extended periods of below average rainfall. The severe drought scenario should include model predictions to cumulative impacts on groundwater wells on adjacent properties.

11. What are the potential impacts of the Project when considered under a severe drought scenario?

Additionally, a revised DEIR should include scenarios for average rainfall that would use the estimate of 35 inches as estimated by the Project consultant only as the high end of the range (p. 4.6-1). An average of 24.78 inches – as presented in Appendix D to the DEIR for the Napa State Hospital, the nearest rain gauge to the project – should be used in estimating annual rainfall for input into groundwater models.

12. What are the ramifications of using the 24.78-inch average instead of the 35-inch figure?

Under a "worst case scenario" the DEIR (Appendix D) makes no estimates of water demand from the adjacent wells under the operation of the Circle Oaks County Water District (COCWD). Appendix D to the DIER only includes, in its "worst case," pumping from the four wells (CS-1, CS-2, CS-3, and CS-4) on the Circle S Ranch to the west - the closest Circle S well (CS-2) is over 4,000 feet northwest of the closest Walt Ranch well (WR-5).

13. What is the worst-case-scenario estimate of water demand when the COCWD wells are included in the analysis?

The cumulative impacts in the DEIR analysis for pumping of the aquifer under the Project fails to include consideration of: (1) a severe drought scenario; (2) a rainfall scenario that uses the Napa State Hospital data for the annual average; and (3) pumping from the all wells in the nearby vicinity. A revised DEIR should be prepared to model, for cumulative impacts, pumping from the COCWD wells, in combination with groundwater recharge under an average rainfall year (consistent with the Napa State Hospital rain gage) and during a severe drought, for true worst-case scenarios.

**Need for Water During Construction not Considered (Hagemann p. 5.)**
Expert, Matt Hagemann discussed the water that will be required for construction of the project.

A revised DEIR should be prepared to identify the source of the water to be used for dust suppression during project construction.

14. What is the source of the water used for dust suppression?

If the source to be used is groundwater, the DEIR should add the groundwater demand from construction to the demand from Project operation for vineyard cultivation and frost protection.

15. What is the groundwater demand when including the amount needed for dust suppression?

This total demand should be used in a revised groundwater model, to be included in a revised DEIR, to more accurately predict aquifer impacts from the Project.

**Estimates of Groundwater Use are Inconsistent with Other Vineyard Projects (Hagemann p. 5-6.)**

Expert, Matt Hagemann stated groundwater will be required for operation of the Project. The DEIR estimates a maximum annual demand of 173.5 acre feet (af) to be required for vineyard cultivation and 40 af per year frost protection for a total water use of 213.5 af per year. The DEIR estimates vineyard water demand at a rate of 68 gallons per vine per year (p. 4.6-17). Hageman stated this estimate appears unusually low, when compared to other estimates of demand made in CEQA documents for other Napa Valley vineyard projects. For example, the estimate used for the Upper Range Vineyard Project - Rodgers Property was 2 to 5 gallons per week, which calculates to 104 gallons per vine per year to over 260 gallons per vine per year, well in excess of the estimate made in the Project DEIR. In fact, a report prepared by the Project's consultant for a Napa vineyard project estimates water demand per vine to be 6 gallons per week over an 18 week irrigation season for a total annual water demand of 108 gallons per vine per year. If the upper end of the estimate used in other Napa vineyard projects is used (260 gallons per vine per year), estimated water needs for irrigation would increase by nearly a factor of 4, from the estimate made in the DEIR of 173.5 acre feet per year to 663 acre feet per year. Even if the estimate made by the Project's own consultant for the other Napa vineyard is used (104 gallons per vine per year), water demand for cultivation would be increased by a factor of 1.6, from the estimate made in the DEIR of 173.5 acre feet per year to 276 acre feet per year.

16. Why doesn't the Project's per vine water demand amount, which was prepared by the same consultant, comport with the figures used in the Rodger's property?

A revised DEIR should be prepared to substantiate irrigation water demand estimates on a per-vine basis. Use of a higher, more conservative estimate is recommended to account for higher water demands during periods of extended drought, like the drought that all of California currently faces. Use of a higher per-vine water demand value should be used in a revised groundwater model, to be included in a revised DEIR, to predict impacts to the underlying Sonoma Volcanics Aquifer, including drawdown on neighboring wells.

**Water Quality (Hagemann p. 6.)**

Expert, Matt Hagemann stated surface water quality in the vicinity of the Project is already impaired and the Project's construction and operation may further impair water quality.

The Napa River is identified as impaired by nutrients, pathogens, and sediment loading according to Section 303(d) of the Clean Water Act.The San Francisco Bay Regional Water Quality Control Board (RWQCB) has released a technical report that proposes a total maximum daily load (TMDL) for the Napa River that calls for substantial 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.

The Capell Creek watershed on the project site is tributary to Lake Berryessa, which is part of the Putah Creek watershed. Putah Creek and Lake Berryessa are listed by the Central Valley RWQCB as contaminated for mercury and boron, according to Section 303(d) of the CWA. (DEIR, p. 4.6-8.)

**Construction Impacts are not Adequately Identified or Mitigated (Hagemann p. 6-8.)**

Expert, Matt Hagemann stated project construction will involve crushing, blasting, ripping, grading and excavation. All of these earth-disturbing activities will loosen surficial soils and lead to an increased potential for erosion of those materials. To address the increased erosion potential, an Erosion Control Plan has been prepared and included as Appendix A to the DEIR. Mitigation measures intended to reduce erosion and sedimentation are included in the DEIR as Mitigation Measures 4.4-1 to 4.4-3. However, none of these measures adequately address sediment that will be generated during construction and that may be subject to erosion via stormwater runoff.

Stormwater runoff from the project site would be eventually transported to Napa River which is listed as sediment impaired under Section 303(d) of the Clean Water Act (CWA). To address sediment generated during construction, project greater than one acre in size are subject to provisions of the California Construction General Permit (Permit), effective July 2010. Among other provisions, the permit requires:

> Detailed best management practices (BMPs) that must at a minimum be implemented;
>
> Monitoring and reporting for pH and turbidity in storm water discharges to determine whether action levels have been exceeded; and
>
> A stormwater pollution prevention plan (SWPPP) and a rain event action plan (REAP).

The DEIR fails to fully acknowledge the applicability of the Permit. (DEIR p. 4.6-22). Claiming the Permit does not apply to the Project because it is "agricultural in nature" is incorrect. The Permit states that projects not covered are those which are "Disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation." Since this project involves road construction and blasting operations, the conclusion that the Permit does not apply is incorrect.

A revised DEIR should be prepared to affirm the applicability of the Permit to Project construction and to include mitigation measures that would incorporate Permit requirements. Such mitigation measures are not part of the Erosion Control Plan and would include:

- Preparation of a SWPPP for inclusion in a revised DEIR
- Identification of BMPs that would be effective in reducing sediment loading to the Napa River, consistent with the TMDL, to include provisions for use of the following during construction
    - Placement of fiber rolls, straw wattles and silt fences on slopes that have been disturbed;
    - Hydroseeding;
    - Provisions for covering soil and rock stockpiles;
    - Vehicle maintenance and fueling safeguards;
    - Post-construction revegetation; and
    - Use of track out prevention measures (rumble strips).

These measures, and others, should be included in the SWPPP to be attached as an appendix to the revised DEIR.

The mitigation measures included in the SWPPP should be specially evaluated for their effectiveness in addressing the impairments noted in the watersheds that will be affected by the project, including sediment in the Napa River, and mercury and boron in Putah Creek and Lake Berryessa.

17. How effective would these mitigations be in addressing the noted impairments to watersheds, sediment in the Napa River, and mercury and boron in Putah Creek and Lake Berryessa?

The potential for the rock crushing and blasting operations to act as a source for mercury and boron loading, for example, should be evaluated. By crushing and blasting rock, the surface area of the rock will be increased, thereby potentially creating a greater potential for the mercury and boron to leach from the rock material when contacted by rainfall and stormwater.

18. What is the impact of increased leaching of mercury and boron?

19. What mitigation would need to be proposed to address this impact?

**Operational Impacts to Water Quality are not Adequately Identified or Mitigated (Hagemann p. 8.)**

Expert, Matt Hagemann stated the potential for stormwater runoff to contribute pesticides, nutrients and trace metals (boron and mercury) during operation of the Project has not been adequately considered or mitigated.

The DEIR states that the Project would utilize the following fertilizers: nitrogen, phosphorus, potassium, micro-nutrients, and compost. Napa River is identified as impaired by nutrients, yet the DEIR makes no specific provisions to protect the Napa River from further impairment from nutrients generated from Project operation other than to say that use of Mitigation Measure 4.2-4 (crop management, integrated pest management, proposed setbacks) will effectively filter sediments, agricultural chemicals, and nutrients to a less-than-significant level. No substantiation of this claim is made in the DEIR.

20. What is the basis for concluding mitigation measure 4.2-4 will effectively filter sediments, agricultural chemicals and nutrients?

A revised DEIR should acknowledge that Best Management Practices (BMP) should be evaluated for effectiveness in light of the sediment and nutrient impairment of the Napa River and to provide substantiating data to show that the proposed BMPs will be effective.

A revised DEIR is also necessary to address the potential for the generation of dissolved mercury and boron that would result from Project blasting and rock crushing. Because the rock that underlies the Project contains these metals, the crushing and blasting activities will increase the surface area of the rock, potentially leading to increased loading to Putah Creek and Lake Berryessa, both of which are impaired for mercury and boron.

**Greg Kamman's Report**
**Hydrology**
Expert, Greg Kamman, PG, CHG, Principal Hydrologist, Kamman Hydrology & Engineering, Inc., stated that based upon his review of the DEIR, the appendices, and proposed mitigation measures, it is his professional opinion that the project has the potential to impact significant adverse impacts to vicinity groundwater supply, surface water flow and quality, and biological (vegetation and wildlife) in the Napa River and Capell Creek watersheds. (Kamman p. 1.) The rationale for his expert opinion is provided in his complete report.

**Walt Ranch Project is Located in the MST Groundwater Deficient Basin (Kamman p. 3-8.)**

The project does not acknowledge it lies in an important groundwater recharge area for the Milliken-Sarco-Tulucay groundwater basin (MST) and has not analyzed, let alone acknowledged, the project impact of groundwater withdrawals on the groundwater supply of the MST basin.

The DEIR claims there is no hydraulic connection between the Walt Ranch project site and the MST "Study Area"/groundwater storage area. However, Kamann provided evidence to show that the 1977 and 2003 USGS studies provide conclusive information that that the project area lies in an important recharge area to the MST groundwater basin and a part of the Walt Ranch project site is hydraulically connected to the lower MST groundwater storage area. Further, based on Johnson's work in 1977, groundwater inflow from the Howell Mountain uplands provides around 39% (2,100 AF/yr) of average annual recharge to the Lower "Study Area" aquifer storage unit regulated by County Codes. Thus, any withdrawals from the Sonoma Volcanics within the Walt Project site will directly reduce the groundwater inflow and supply to the MST basin.

Based on conclusions in the RCS hydrogeology report, the DEIR states that the Project lies outside of the Milliken-Sarco-Tulucay (MST) groundwater basin, however based on Kamman's review of available geology maps and USGS reports, the southwest 1/3rd of the project property clearly falls within the upper recharge area of the MST basin. Of the Walt Ranch project area, 512-acres fall within the Milliken Creek watershed and MST groundwater basin and the remaining 1791-acreas fall within the Capell Creek watershed, which drains to Lake Berryessa. The project proposes to install 299-acres of vineyard in the Milliken Creek watershed and 208-acres of vineyard in the Capell Creek watershed – total water demand for the project is 213.5-AF. All proposed project groundwater wells are located in the MST basin. The WAA indicates that MST groundwater withdrawals are limited to 0.3-acre-feet (AF) per year per acre of property in the MST. Based on this policy, the project is only entitled to 154-AF. By claiming to be outside of the MST, the project avoids complying with the County's MST groundwater use thresholds.

21. If the reduced entitlement of 154 acre-feet were applied to the Project would a smaller project Alternative need to be considered?

In Kamman's opinion, the County has incorrectly drawn the boundary for the MST basin. To fully satisfy the intent of the fair share policy in the MST, the County needs to consider and incorporate the entire hydrologic basin, not just a portion that happens to be where water is stored and over-pumped. The County's resource management policy in the MST is tied to an arbitrary socioeconomic basin boundary, not a scientifically based, watershed scale boundary.

22. How would the analyses in the DEIR differ if the entire hydrologic basin was utilized in the analyses?

The project proposes to use MST basin water to irrigate out-of-basin vineyard in the Capell Creek watershed. Based on Kamman's review, it is his opinion that it is unclear if out-of-basin transfers of MST water are acceptable/permissible per current County regulations and "fair use" policy. The bedrock and soil underlying the 2/3rds of the project area within the Capell Creek watershed does not yield significant quantities of water to wells.

23. If the Project's allocation of water was found to be unacceptable pursuant to the fair use policy how would that alter the analyses in the DEIR?

24. If the Project's allocation of water was found to be unacceptable pursuant to the fair use policy would a smaller project Alternative need to be considered?

**Project Estimate of Available Groundwater Storage is Unsubstantiated (Kamman p. 8-9.)**

Project studies assume all the Sonoma Volcanics (SVs) underlying the site can hold water. This is not the case, as only specific units (most notably tuffaceous layers) within the SVs provide sufficient storage and permeability to provide water to wells. Information in the RCS hydrogeology report (2014) indicates that only selected horizons of the study wells are screened. This suggests to Kamman that the well driller identified and selected specific water-bearing horizons, which were preferentially screened in order to draw water. He presumed the remaining lithologies encountered that were not screened are poor water-bearing materials within the Sonoma Volcanics. Therefore, understanding the thickness and extent of different rock types and their potential water bearing capacity under the site would help inform available groundwater supply.

25. How would utilization of this information lead to a better estimate of the available groundwater supply?

The RCS hydrogeology report does not provide a detailed description or information regarding the specific rock types that make up the Sonoma Volcanics that lie beneath the Walt Ranch project site. The report's geologic map only illustrates the different Sonoma Volcanic units at the ground surface.

Typically, Kamman stated, he relies on driller's boring logs and cross-sectional profiles of geologic conditions to better understand the subsurface hydrogeology of a site. This information is lacking in the RCS hydrogeology report and DEIR. Thus, in order to gain a more complete understanding of the underlying geology/hydrogeology conditions at the site and fully review/evaluate RCS's hydrogeology study, it would be necessary to obtain and review the drillers' boring logs for the wells reference above.

26. Can the drillers' boring logs be provided?

It's also important to point out that the Hydrogeology study contains considerable presentation and discussion of aquifer tests and data analysis methods (e.g., theoretical drawdown calculations/modeling, theoretical cumulative impacts of pumping, calculation of aquifer parameters) but results do not reflect reality. Calculated values of aquifer transmissivity and storage coefficients by various models are discarded (although similar in magnitude) and inexplicably replaced with empirically derived values. Tables (2A and 2B; cited in text on page 27) don't exist in the report and cited values for hydraulic parameters in text don't agree with values in existing tables.

27. Why don't these figures agree?

Simulated drawdown at adjacent wells do not reflect actual conditions. Underlying assumptions of software and analytical solutions do not apply to heterogeneous and

anisotropic conditions such as volcanic bedrock aquifers. In short, a lot of time and effort was spent on analyses that provide results that aren't realistic. This indicates the inadequacy of the solutions in providing realistic insight into the potential impacts of groundwater pumping.

**Misleading Conclusion Regarding Available Groundwater Storage (Kamman p. 9.)**

RCS provides what they refer to as a "conservative" estimate of total groundwater storage that is very large. The magnitude of this storage is used as rationalize any potential impacts of overdraft associated with annual groundwater withdrawals that exceed average annual recharge. However the useable groundwater storage capacity is typically considerably less. Of all the water in the storage spaces which can be pumped, not all will be removed due to the dispersed aquifer area and limited pumping radius of influence. The current well spacing, presence of fault segregated aquifers, and non-uniform distribution of groundwater in the Sonoma Volcanics make it difficult, if not impossible, to dewater the saturated material. In a Johnsons 1977 study of groundwater conditions in the MST he estimated that only 10% of the Sonoma Volcanic groundwater storage capacity is useable (accessible) storage. Thus, assuming a 2% specific yield and 10% useable storage capacity of the estimated 4301 AF of total storage, yields only 430 AF of groundwater storage beneath the project site – a value much closer to the 213 AF/yr project groundwater demands.

28. How would the analyses in the DEIR change if only 10% of the Sonoma Volcanic groundwater storage capacity is useable storage?

**Project Overestimates Groundwater Recharge – No Assessment of Cumulative Impacts (Kamman p. 9-10.)**

The RCS hydrogeology report (pages 48-49) presents estimates of deep groundwater recharge assuming 7- to 9-percent of annual rainfall goes to deep percolation. These estimates yield average annual recharge rates of 2.59- to 3.15-inches/yr and volumes of 161- to 207-AF/yr, assuming an average annual precipitation total of 35 inches. The 7% of annual rainfall deep groundwater recharge value is based on RCS staff professional experience, while the 9% recharge estimate comes from the 1977 USGS report for the entire MST Creeks drainage basin. The problem with applying the 9% recharge rate to the Walt Ranch project site is that it reflects a watershed-wide average, incorporating the high stream and volcanic tuff infiltration rates in the lower elevations of the eastern hills with much lower infiltration rates representative of the higher elevation volcanic terrain, including a portion of the Walt Ranch Project site. The 1977 and 2003 USGS studies indicate that of the total 5,400 AF of average annual recharge to the MST, 3,050 AF/yr is supplied by stream flow infiltration along the eastern margin of 15-square MST storage area, 2,100 AF/yr comes as subsurface inflow from the 27-square mile Howell Mountain block (higher elevation volcanic terrain), and 250 AF/yr is direct infiltration of precipitation to the 15 square mile lower MST storage area on the valley floor. Assuming the Howell Mountain block covers 27 square miles in area (Johnson, 1977, suggests this area may be up to 33 square miles) and the 2,100 AF/yr of groundwater inflow from the block reflects the annual deep groundwater recharge rate, the annual deep groundwater recharge rate for the higher elevation volcanic terrain, including the Walt Ranch project site is only 1.46 in/yr (4% of average annual precipitation). Applying this recharge rate to the project area covered with Sonoma Volcanics (790-acres) yields an average annual deep groundwater volume of 96

AF/yr, a value less than half (45%) of the estimated maximum annual project groundwater demand. Clearly the project has the potential to lead to localized groundwater overdraft, especially if the groundwater storage volume discussed above is less than estimated.

29. If the Project overdrafts the local groundwater, how will this effect local wells, including the wells located in the COCWD?

**Insufficient Site Specific and Cumulative Impact Assessments of Groundwater Withdrawals (Kamman p. 10.)**

Regardless of which deep groundwater recharge rate is applied, all rates presented in the DEIR and above indicate groundwater withdrawals will exceed groundwater recharge. Under Impact 4.6-4, the DEIR states that increased groundwater pumping would not impact groundwater supplies in the project region and pumping would be a less than significant impact, even knowing that pumping rates exceed deep groundwater recharge rates. The justification that this will not be a significant impact is that there is more than enough existing storage in the underlying aquifer to absorb the imbalance. However, as discussed above, there has not been adequate or accurate quantification of existing groundwater storage in the bedrock aquifer underlying the site. Therefore, no conclusions on potential impacts are substantiated.

There is clear admission that the DEIR has not done a regional impact analysis on groundwater supply due to heterogeneous nature of geology (DEIR pg. 4.6-47). The DEIR also claims it is infeasible to predict long-term impacts associated with groundwater extractions (pg. 4.6-49). The lack of analysis or inability to complete an impact assessment does not constitute the conclusion of "no potential impact." The impact should be considered potentially significant until demonstrated otherwise.

As explained above, proposed project groundwater withdrawals will reduce deep groundwater recharge to the main valley-bottom MST aquifer storage area. The RCS hydrogeology study does not provide any assessment of project impacts of groundwater resources in the water deficient MST basin.

**Invalid Mitigation Measure Associated with Potential Impacts from Groundwater Pumping (Kamman p. 10.)**

Groundwater monitoring is listed as Mitigation Measure 4.6-4 in the DEIR. From a scientific perspective, monitoring in itself is not a mitigation. Monitoring is used as a way to identify triggers that define an impact (e.g., lower groundwater levels). Specific triggers that identify an impact and the resulting management changes implemented to mitigate the impact are the "Mitigation Measure". These triggers and corresponding management/operational changes have not been developed/defined in the DEIR. Therefore, it is Kamann's opinion that a Mitigation Measure does not exist for the potential impact(s) associated with groundwater pumping.

30. What mitigation is proposed to correct this defect?

**Incomplete Hydrology Assessments of Potential Impacts to Ecosystem and Water Supply (Kamman p. 11.)**

The DEIR does not provide adequate assessment on the potential project-induced changes in the volume and timing of water supplies to wetlands, riparian corridors and the associated biological habitats. Nor does the DEIR provide an assessment on how changes in land-use, vegetative cover and installation of drainage systems affect groundwater recharge rates.

31. How do changes in land-use, vegetative cover and installation of drainage systems affect groundwater recharge rates?

Hydrologic analyses supporting the DEIR are somewhat compartmentalized – there is no comprehensive monthly or seasonal water budget to fully quantify runoff or groundwater recharge throughout the year.

32. What is the comprehensive monthly or seasonal water budget that would fully quantify runoff or groundwater recharge throughout the year?

The seasonal distribution and duration of surface water flow rates are an integral variable in the support of existing wetland and riparian vegetation and wildlife. There is no hydrologic evaluation on how the project elements will impact the volume and timing of water movement in and through the site and associated ecological habitats.

33. What is the hydrologic evaluation for how the project elements will impact the volume and timing of water movement in and through the site and associated ecological habitats?

Of particular emphasis at the Walt Ranch site are groundwater dependant wetlands mapped by WRA (2007), including: 0.42 acres of freshwater seeps; 1.49 acres of seasonal volcanic seeps; small portions of perennial flow in Milliken Creek; and a number of intermittent streams. Project elements that affect site hydrology include: changes in land use; changes in vegetation types; tree clearing; grading and filling that changes site topography; rock filling; facility construction; and installation of a variety of surface water and groundwater drainage systems. Any one of these project elements can have a profound effect on the timing and volume of surface water and shallow groundwater movement through the site. A standard analysis to evaluate project impacts on hydrology is the development of a comprehensive and integrated water budget.

34. What is the comprehensive and integrated Project water budget?

Important water budget variables for the Walt Ranch project include: rainfall, runoff, evapotranspiration, open water evaporation, soil moisture storage, infiltration, surface water storage, groundwater recharge, groundwater flow, and groundwater storage. A comparison of existing and project condition water budgets should be used to address project changes to site ecosystems such as: seasonal volumes, rates and duration of water supply to on- and off-site riparian and wetlands and associated wildlife; shallow groundwater supply to local wetlands that rely on groundwater, including freshwater seeps, seasonal volcanic seeps and

perennial/intermittent creek channels; and deeper groundwater recharge that supplies creek flow that supports aquatic habitats in the lower elevations of the MST basin, including know seeps and intermittent creeks at the adjacent Circle S property as well as flow in lower Milliken Creek, even potentially downstream of the reservoir. This project analysis is warranted given the presence of California red-legged frog, Foothill yellow-legged frog, and Western pond turtle at the site, which depend on the preservation of suitable water supply to creeks, wetlands and riparian corridors on site, as well as potential off-site impacts to salmonids in Milliken Creek.

35. What are the changes to the site ecosystems for seasonal volumes, rates and duration of water supply to on- and off-site riparian and wetlands and associated wildlife; shallow groundwater supply to local wetlands that rely on groundwater, including freshwater seeps, seasonal volcanic seeps and perennial/intermittent creek channels; and deeper groundwater recharge that supplies creek flow that supports aquatic habitats in the lower elevations of the MST basin, including know seeps and intermittent creeks at the adjacent Circle S property as well as flow in lower Milliken Creek, even potentially downstream of the reservoir?

**Inaccurate Analysis of Long-Term Changes in Surface Water Runoff (Kamman p. 11-12.)**

The project contends that development activities will reduce runoff rates from vineyard areas. One way the project contends to achieve this goal is by ripping soil in targeted areas to increase infiltration rates and reduce runoff rates. While this is likely a short-term result of soil-ripping, in Kamman's professional experience, the increased infiltration rate associated with ripping is short-lived, and soil will recompact over a relatively short period (single years), resulting in soil with infiltration rates similar (or lower) than pre-project conditions. Thus, the reduced runoff associated with the project will be temporary. RiverSmith Engineering's hydrology report (2013) has only analyzed storm runoff rates for this short-term condition, not the long-term return to pre-project soil properties. A return to pre-project runoff rates will significantly increase erosion potential at the site and in downstream receiving waters.

36. How would the analyses in the DEIR need to be changed if the infiltration rate was decreased through soil re-compaction?

The project proposes a number of surface drains, subdrains and utility corridors that will intentionally and unintentionally concentrate and accelerate runoff off and through proposed vineyard blocks. A primary runoff treatment strategy recommended in the RiverSmith Engineering hydrology study is to "detain water" onsite as a means to reduce peak flows. However, this is contrary to intent of the project drainage plan, which will effectively concentrate and accelerated storm water runoff. The hydrology storm runoff analysis does not incorporate these drainage elements into the storm water runoff calculations, where applicable. Both the likely reduction in infiltration capacity of ripped soil areas and project drainage elements will lead to significant increases in the estimated runoff rates and downstream impacts, both on- and off-site. Thus, the potential future impacts from changes in storm water runoff have not been fully evaluated and presented in the DEIR.

37. How would the hydrology storm runoff analysis change if it incorporated these drainage elements into the storm water runoff calculations, where applicable?

**Presentation of Cumulative Erosion Potential Impacts Obscure Potential On-Site Impacts (Kamman p. 12.)**

The project sedimentation and erosion potential evaluation for the site was completed by PPI and Napa RCD utilizing the Universal Soil Loss Equation (USLE) to determine changes in annual erosion rates between existing and project conditions. The analysis appears to only evaluate changes in erosion rates within individual vineyard blocks.

The DEIR conclusions regarding project-induced changes in erosion potential is based on summing vineyard block subtotals within the Milliken and Capell Creek watersheds and presenting the total (net) change for each watershed (Milliken and Capell). The net results indicate that there are 44- and 13-percent reductions in potential soil loss from the Milliken and Capell Creek watersheds, respectively. However, this type of lumping of results masks localized impacts, which when considered alone, could be considered a significant impact.

38. How would the analyses change if this type of lumping was not utilized?

A more thorough review of changes in soil loss results indicates localized increases in erosion potential from multiple vineyard blocks that contribute drainage and sediment to onsite Corps designated waters and wetlands. These creek, riparian and wetland areas host potentially sensitive biological resources, which would be potentially adversely impacted by increases in water and sediment runoff. Localized "hot spots" of anticipated increased sediment loading include: a) Corp wetlands receiving runoff from blocks 16B1, 16B2 and 16C1; b) Corp waters receiving drainage from blocks 17A-17C; c) Corp waters receiving runoff from blocks 34A3, 34C, and 49; d) Corp waters receiving drainage from blocks 36A and 36B; e) Corp wetlands receiving drainage from blocks 37D and 37E; f) Corp waters receiving drainage from blocks 38 and 53; g) Corp waters and wetlands receiving drainage from blocks 19A4, 19B, and 18A1-18A4; h) Corp waters receiving drainage from blocks 31A and 31B; and i) Corp waters receiving drainage from blocks 29, 29A1, 29A2, and 29B2.

Review of project erosion control plans indicate that proposed erosion control treatments in these "hot spots" include one or more of the following: straw wattle; overflow structures; rock energy dissipators; and rock check dams. Apart from straw wattle and check dams, these types of erosion control measures are intended to treat potential localized erosion at drainage outfalls – they are not designed to capture and retain sediment carried in runoff. No sediment basins are proposed at these locations. The potential for these types of erosion control elements to function properly over the long-term is mixed. Straw wattle is a temporary control measure and will degrade over time. This appears to be the only erosion control measure at many vineyard blocks and their ability to provide long-term mitigation is highly limited. The other erosion control measures will require constant long-term maintenance to function and provide the necessary protection to the downstream waters and wetlands and associated habitats. In addition, during very wet winters, any of these erosion control measures can be overwhelmed, buried and cease to function. Given that these erosion control measures can't provide long-term mitigation for increased sediment delivery to receiving waters, localized increases in

erosion potential are unmitigated adverse impacts to on-site habitat to sensitive species aquatic habitat.

39. What further mitigations need to be proposed to address this?

**Suitability of Project Runoff Estimates and Erosion Control Measures (Kamman p. 13-14.)**

The runoff energy dissipation measures proposed in association with vineyard block drainage structures are designed to armor or dissipate flows at the outfalls in order to eliminate or reduce erosion potential. However, many of the erosion control elements are located on steep slopes and water draining through them can become re-concentrated a short distance down-slope. It's important to restate that the RiverSmith Engineering storm runoff calculations did not take into account the drainage systems proposed in the vineyard blocks. Based on Kamman's review of vineyard drainage plans, these systems will collect and accelerate runoff through the vineyards, leading to higher project flow rates than those predicted in the RiverSmith Engineering hydrology study. These increased flows won't be detained by the proposed project erosion control structures, especially on steep slopes. This will lead to increased erosion potential in downslope receiving waters and wetlands. This may also adversely impact wildlife habitat.

40. What further mitigation needs to be proposed to address this?

The suitability of the pipe level spreader erosion control measure deserves further mention here. Based on review of standard pipe level spread design criteria, this erosion control measure seems poorly suited to the project site. In 2002, Caltrans completed an evaluation on the effectiveness of level spreaders.

Based on the Caltrans design criteria, level spreaders are designed to be installed on very flat slopes and discharge onto similarly flat, vegetated slopes. Review of project erosion control plans indicate pipe level spreaders occupy relatively steep slopes, exceeding design criteria. Thus, these erosion control measures will not fully mitigate potential project impacts.

41. What further mitigations need to be proposed to address this?

**Project Potential to Active Dormant Landslides (Kamman p. 14.)**

Contrary to the statement contained in the Gilpin report, there are a number of vineyard block drainage outfalls directed above or onto mapped landslides, including vineyard blocks: 4E; 4H; 4I; 5A3; 19A; 31A; 31B; 36A; 36B; 62A; and 62B. Undoubtedly, the drainage discharge will increase the local infiltration and soil water content of the receiving landslide areas over existing levels. Based on the Gilpin text cited in Kamman's report, it is assumed that this may increase the potential to activate landslides – an increased potential adverse impact not acknowledged in the DEIR.

42. Considering this information, what are the impacts associated with landslides on the Project site?

43. What would be the offsite impacts associated with such landslides?

**Invalid Analysis of On-Site and Cumulative Impacts (Kamman p. 14-15.)**

From Kamman's perspective, the DEIR failed at completing hydrologic and erosion assessments that evaluate potential impacts on surface water supply, groundwater supply, erosion and sediment transport to the on-site or surrounding environment. Runoff and erosion potential analyses were completed in a compartmentalized fashion, without regard to findings and potential impacts from their mutual effect and recommendations. Specific deficiencies of these analyses include the following.

- Erosion control measures designed to reduce sedimentation lead to increased magnitude of stormwater runoff;
- Stormwater runoff estimates did not consider the vineyard drainage systems proposed as erosion control measures, which will lead to high magnitude flows and increased erosion potential to downstream drainages;
- No comprehensive water budget of the project site was developed to look at project-induced changes to the way surface and groundwater move through and interact with the site and each other;
- The erosion potential assessment only addressed vineyard blocks, not the intervening or downstream receiving creeks and wetlands;
- Potential changes in surface and groundwater supply to wetlands, riparian corridors and associated habitats, both on-site and off-site were not evaluated;
- Regardless of whether Walt Ranch lies within the formal MST designated area, the site provides groundwater recharge to the basin. The DEIR does not evaluate how long-term withdrawals from the project site, combined with all recent and planned vineyards and developments in the basin will affect the groundwater deficient MST basin.

Without having properly quantifying the stormwater and sediment volumes moving through and off-site, the project has not fully evaluated potential impacts to the associated environments. As such, no cumulative impact assessments are possible. Without completing these assessments, the DEIR has not demonstrated that the project will not impart impacts to flooding, erosion, wetland/riparian water supply and habitats, and other sensitive aquatic habitats.

**Eric A. Yee's Report**
**Noise Impacts**
Expert, Eric A. Yee, Principal Consultant, Charles M. Salter Associates, prepared a report commenting on the DEIR's noise and vibration analysis. He concluded the noise analysis lacks evidence to support the conclusion of "less than significant" impact for the following reasons. (Yee p. 1.)

**1. The report does not accurately represent the existing noise levels**
Page 4.8-6 – *"Due to the rural nature of the property, the ambient noise level is estimated to be 57 dBA, Leq along State Route 121, in the vicinity of the project site (Napa County 2008)."*

The DEIR does not include actual noise measurements around the project site. Based on four days of noise measurements, daytime noise levels in Circle Oaks residential community can range from 32 dBA to 53 dBA. At the quietest daytime hour, the measured noise level is more than four times quieter than the DEIR estimates. Spot measurements along State Route 121 indicate that actual noise levels can be significantly less than the DEIR estimate. Over a 15-minute period, Yee measured a 15-minute Leq of 48 dBA at 30 feet from the centerline of the road. This noise is about half as loud as the DEIR estimate.

44. Since the actual existing noise levels are four times less than reported in the DEIR, will the Project's noise levels be expected to create a greater impact than stated in the DEIR?

45. Why did the DEIR use noise estimates instead of performing actual noise measurements on the Project site?

46. Aren't actual noise measurements a better indication of actual noise levels than theoretical estimates?

**2. The report does not adequately address all of the significance criteria established by CEQA, specifically the fourth bullet point:**

Page 4.8-9 – *"Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project."*

The DEIR does not compare projected construction noise (including truck traffic) to existing ambient noise levels. "Impact 4.8-1: Construction" discusses construction noise only in terms of absolute levels stating that so long as construction noise does not exceed 75 dBA at the nearest noise-sensitive receiver, this noise is a less than significant impact.

On Page 4.8-4, *"a change in ambient sound of 5 dBA can begin to create concern and that a change in sound of 7 to 10 dBA typically elicits extreme concern and/or anger."*
The projected 74 dBA is 40 decibels louder than the measured ambient. Each 10 decibel increase is a perceived doubling of loudness. A 40-decibel increase would 16 times louder than the background noise level in Circle Oaks.

47. Doesn't this reflect a significant impact that requires mitigation?

Page 4.8-10 – *"Traffic volumes related to the Proposed Project were compared to existing traffic volumes. Caltrans noise guidelines were used to determine traffic noise level increase along Hwy-121 attributable to the Proposed Project (Caltrans 2009). The existing noise levels were added to the increased noise attributed to the Proposed Project and was compared to applicable significance thresholds."*

The DEIR incorrectly compares project generated noise to the highway noise. The majority of residences affected by construction traffic are significantly shielded from

highway noise and are exposed to much lower background noise levels. Construction generated traffic should be compared with traffic on local streets (i.e. Circle Oaks Drive).

48. What is the noise impact if noise due to construction related traffic is compared to existing noise levels on local streets?

In addition, the project proposes to route construction vehicles on Circle Oaks Drive, the main roadway serving the Circle Oaks residential community. The DEIR does not compare construction traffic noise with regular residential traffic noise. During Yee's measurements, they observed that a standard sedan generated 60 dBA at 20 feet and that the once a week garbage truck generated 90 dBA at 20 feet due to the upgrade. Using the garbage truck as a model noise, Yee projected that 14 truck trips (7 trucks in and out of the project site) could increase the background noise level by 10 decibels. This 10-decibel increase is a perceived doubling of loudness. Restated from Page 4.8-4, a change in sound of 7 to 10 dBA typically elicits extreme concern and/or anger.

49. Doesn't this reflect a significant impact that requires mitigation?

**3. The report overestimates the noise reduction provided by noise barriers.**

Page 4.8-12 – *"Sound walls, which reduce noise by a minimum of 15 dBA, Leq, would reduce construction noises from 89 dBA, Leq, to 74 dBA, Leq, which is below the County's standard."* This section concludes by stating that a noise barrier will reduce noise a minimum of 15 decibels to 74 dBA at the nearest residence. In our experience, the most a noise barrier can practically reduce noise is 15 decibels. A noise barrier is more likely to provide 6 to 8 decibels of shielding depending on the height of the source noise in relation to the height of the receiver and the height and location of the barrier. To better understand attenuation provided by a barrier, we present the following data based on calculations and our 40 years of experience:

A barrier that breaks line of sight between the source noise and receiver reduces the noise five decibels. Each additional foot of height reduces noise one decibel more. Therefore to achieve a 15-decibel noise reduction, the barrier would need to be 10 feet taller than the highest source noise (most likely diesel exhaust stacks from construction equipment, which can be over 10 feet tall).

50. Using the more conservative estimate of 6-8 decibels of shielding, isn't the Project's noise levels in violation of the County Standard?

51. Shouldn't the DEIR use the lower shielding rate to ensure actual Project impacts are acknowledged?

**4. The report does not establish a minimum safe distance for blasting.**
Page 4.8-5 – *"Structural damage can occur when PPV values are 0.5 inches per second or greater."*
Page 4.8-5 – *"blasting would have a PPV of 3.980 inches/second at 75 feet and 17.24 inches/second at 30 feet."*

Page 4.8-6 – *"The nearest sensitive noise receptor is a residence 30 feet south of the property."*
Page 4.8-11 – *"Excessive groundborne vibrations are defined as those that exceed 0.1 PPV experienced at the nearest residence (Caltrans, 2004)."*

Caltrans has determined that blasting outside of a 775-foot radius would limit a receptor exposure to less than 0.1 PPV. The DEIR does not state exactly how close blasting may occur to the residences.

52. How close will blasting occur to residences?

Hypothetically, the DEIR states that if blasting occurs at 30 feet, it exceeds the significance thresholds and proposes the Mitigation Measures 4.8-2. However, the DEIR does not mention that structural damage to residences may occur at a PPV of 2.0 inches per second nor does it list a minimum safe distance from the blast.

53. Considering this information, what is the minimum safe distance from the blast?

**Alternatives Considered in the DEIR**
The DEIR considered two substantive alternatives, aside from the No Project Alternative, the Reduced Intensity Alternative and the Multiple Resource Protection Alternative.

**Reduced Intensity Alternative**
The DEIR states the following reasons for including the Reduced Intensity Alternative in the alternatives analysis.

> Napa County General Plan and ordinances require, if feasible, (1) avoiding the removal or disturbance of sensitive natural plant communities that contain special status plant species or provide critical habitat to special-status animal species, (2) preserving wildlife movement corridors, and (3) avoiding impacts to springs, streams, seeps and wetlands. The Reduced Intensity Alternative has been considered in the event the Applicant cannot provide substantial evidence of the infeasibility of avoiding such impacts.
>
> Under the Reduced Intensity Alternative, the majority of sensitive natural plant communities, wildlife corridors, springs, streams, seeps, and wetlands would be avoided. As a result, less vineyard acreage would be developed than is proposed under #P11-00205-ECPA. The objectives of the Reduced Intensity Alternative are to further reduce impacts beyond the mitigated project as described in Section 6.1 Cumulative Impacts and depicted on Figure 6-1.
>
> Modifications to the vineyard blocks under the Reduced Intensity Alternative are depicted in Figure 5-1. In addition, proposed deer fencing is shown on Figure 5-1 to illustrate potential increased wildlife movement corridors that would be retained under the Reduced Intensity Alternative. In all, avoiding the areas described above in addition to the areas removed through mitigation would

> result in an additional reduction of approximately 100 gross acres of developed area under the Reduced Intensity Alternative.
>
> Under the Reduced Intensity Alternative, vineyard areas have been removed for additional protection of biological resources. As shown in Table 5-1, specimen trees, habitat types, and sensitive plants were all chosen for additional protection under the

The DEIR acknowledged that implementation of the Reduced Intensity Alternative would result in fewer impacts to biological resources. The DEIR concluded that when comparing the alternatives, the Reduced Intensity Alternative is the most environmentally superior alternative; it would have lesser impacts to biological resources, as additional habitats would be protected on the property.

However, the analysis fails to provide sufficient data to enable the comparison of, for instance, the Project's water demand, GHG emissions, sedimentation, or runoff, to that of the Alternative. The chart provided in Table 5-3 (DEIR p. 5-13) merely notes whether the impacts would be considered greater, lesser or similar to the Project. No data or analysis is provided, for instance, to quantify the amount of water that would be used in the Reduced Intensity Alternative, therefore it is impossible to adjudge whether the alternative would result in a reduction in water demand compared to that of the Project. Considering the comments made by experts Kamman and Hagemann regarding the impacts of the Project to water supply, adjacent well drawdown, sedimentation, and runoff this analysis is of critical concern.

54. What is the water demand for this Alternative?

55. What are the GHG emissions for this Alternative?

56. Isn't the percentage of runoff lessened with this Alternative? By how much?

57. Considering the reduction in the acreage under cultivation with this alternative, wouldn't this Alternative result in less sedimentation than the Project?

58. Considering the reduction in the acreage under cultivation with this alternative, wouldn't this Alternative result in less exposure to the environment from pesticides and herbicides?

**Multiple Resource Protection Alternative**
The DEIR noted the following reasons for including the Multiple Resource Protection Alternative in the alternatives analysis.

> Under the Multiple Resource Protection Alternative, less vineyard acreage would be developed than is proposed under the Project. The objectives of the Multiple Resource Protection Alternative are to further reduce impacts beyond the mitigated project as described in Section 6.1 Cumulative Impacts and depicted on

> Figure 6-1. This Alternative specifically looks at avoiding areas where two or more resources overlap and can be avoided to provide the most environmental benefits per acre of vineyard removed.
>
> To this end, the County reviewed the biological maps of the property and focused on areas, particularly in the Milliken Reservoir watershed, that have higher densities and varieties of sensitive plant species. Throughout the property, avoidance areas were chosen where one or more biological resources overlapped. As shown in Figure 5-2 and explained in Table 5-2, specimen trees, habitat types, and sensitive plants were all chosen for additional protection under the Multiple Resource Protection Alternative.
>
> The Multiple Resource Protection Alternative would further reduce impacts beyond the mitigated project to native grasses, sensitive biotic communities including oak woodlands, holly-leaved ceanothus plants, narrow-anthered brodiaea plants, special status plant habitat, western pond turtle upland habitat, and would preserve additional trees onsite. The alternative would result in a total reduction of approximately 82 gross acres of developed area, from approximately 507 acres to approximately 425 acres.

The DEIR acknowledged that the Multiple Resource Protection Alternative would result in fewer impacts to biological resources as compared to those of the mitigated Project because it has a smaller footprint and specifically avoids overlapping biological resources.

However, as noted above, the analysis fails to provide sufficient data to enable the comparison of, for instance, the Project's water demand, GHG emissions, sedimentation, or runoff to that of the Alternative. The chart provided in Table 5-3 (DEIR p. 5-13) merely notes whether the impacts would be considered greater lesser or similar to the Project. No data or analysis is provided, for instance, to quantify the amount of water that would be used in the Reduced Intensity Alternative, therefore it is impossible to adjudge whether the alternative would result in a reduction in water demand compared to that of the Project. Considering the comments made by experts Kamman and Hagemann regarding the impacts of the Project to water supply, adjacent well drawdown, sedimentation, and runoff, this analysis is of critical concern.

59. What is the water demand for this Alternative?

60. What are the GHG emissions for this Alternative?

61. Isn't the percentage of runoff lessened with this Alternative? By how much?

62. Considering the reduction in the acreage under cultivation with this alternative, wouldn't this Alternative result in less sedimentation than the Project?

63. Considering the reduction in the acreage under cultivation with this

alternative, wouldn't this Alternative result in less exposure to the environment from pesticides and herbicides?

According to CEQA, an EIR must include sufficient information about each alternative "to allow meaningful evaluation, analysis and comparison with the proposed project." (Guideline §15126.6(d). Each alternative "must be described in sufficient detail to permit comparison with the proposed project. The key issue is whether the selection and discussion of alternatives fosters informed decision-making and informed public participation." (*Laurel Heights Improvement Association v. UC Regents* (Laurel Heights I) (1988) 47 Cal.3d 376, 404.)

Here, the DEIR provides a scant summary of impacts, devoid of actual data, for use in comparing the environmental effects of the Alternatives with the Project. The DEIR fails to provide sufficient descriptive detail to permit a meaningful evaluation of the Alternatives.

**Growth Inducing Impacts**
There is a project in Geyserville on Wilson Road that is planned for development along similar lines to the current Project. It is referred to as the Hall Project and it is being offered as mini-Mc Mansion vineyard sites. The DEIR did not analyze the potential development of the Project's parcels into individual vineyard sites, similar to the Hall Project.

64. Isn't it foreseeable that the Project could be developed into individual vineyard sites?

65. Wouldn't the impacts of individual vineyard sites be greater than the proposed Project with regard to each of the impacts identified in the DEIR as potentially significant?

66. If the parcels were developed into individual vineyard sites, wouldn't the Project induce the growth of this development?

**Impacts to Roads**
Resident, David Heitzman, 49-year Circle Oaks Architectural Committee person, stated he had reviewed the Geotechnical and Soils Reports that the County requires for each new home building permit. Circle Oaks geology mostly consists of an ancient cretaceous shale landslide that occurred 10,000 years ago. (DEIR figure 4.4-3.) Undisturbed shale makes a poor road base and shale from a landslide worsens the effect. Circle Oaks Drive is in a shale formation. This is further complicated by subsurface water that is large enough in quantity to overflow into the sewer pipes in the road bed and it has been a problem for area sewer ponds to handle this extra volume. Circle Oaks Drive has some very significant fractures and cracks that extend several feet into the sub grade and also has obvious subsidence in these same areas. An adequate Geotechnical and Soils Engineering evaluation should be made before allowing heavy equipment to use it. According to a GAO study, Excessive Truck Weight: "An Expensive Burden We Can No Longer Afford" road damage from one 18-wheeler is

equivalent to 9600 cars. And increasing the weight another 10,000lbs increases road impact an additional 43%. The impact of additional weight is exponential. Therefore, the impact of heavy equipment on Circle Oaks drive is a potentially significant impact that must be considered in a revised and re-circulated DEIR in order to prevent unnecessary health and safety impacts.

67. Considering this information, and the information provided by Greg Kamman, sited above regarding the potential for landslides, what mitigation measures could be proposed to address the impacts to roads due to the transport of heavy equipment on Circle Oaks Drive?

Thank you for the opportunity to comment on the DEIR prepared for this Project.

Sincerely,

Rachel Mansfield-Howlett

Rachel Mansfield-Howlett