### VENGE VINEYARDS

#### 10/19/09

Mr Sheldon Sapoznik County of Napa Department of Environmental Health 1195 Third St. Room 101 Napa, CA 94559

RE: Use Permit Application, Proposed Venge Vineyards Winery, APN 020-350-038 Proposed Protocol for mitigating the potential effects of adjacent leach field on Cave Construction

Dear Mr. Sapoznik:

On behalf of John Shook, Mike Muelrath and I, we appreciate the opportunity to meet with you and Kim Withrow last week to review the latest outcome regarding the septic –wine cave issues.

We understand Napa EH concerns regarding the possibility that the construction of the wine cave may in some way introduce leachate water to surface sources without treatment.

While we are considerably more optimistic that leachate will "Not" be encountered either during or post-construction, we are providing our action plan for your review and hopeful acceptance. We are willing to incorporate alterations and improvements you may have.

As a follow-up, we are providing the information you requested as a means to mitigate the potential impact of the adjacent property owner's leach field on cave construction.

#### **Background:**

- 1. A use permit application to construct both a winery and cave was submitted in December 2008. In response to your request for additional information on March 4<sup>th</sup>, 2009, additional information was requested.
- 2. On June 25<sup>th</sup> John Shook, Mike Muelrath of Applied Civil and I met with Kim Withrow and Sheldon Sapoznik to review the revised septic information. At this time your department encouraged us to discuss the with the adjacent property owner, Mr. Geeslin, about the upgrading or relocating his septic system.

#### **Background - continued**

- 3. The additional requested information was submitted in early July.
- 4. During due diligence in reviewing the surrounding leach fields earlier this year, only Mr. Geeslin's leach field lies within the 1,500' uphill radius.

- 5. The proposed cave is approximately 155' from the adjacent neighbor, Mr. Geeslin's, leach field. The leach field is non-standard and has been upgraded under a repair permit approximately 10 years ago.
- 6. Mr. Geeslin's residential leach field is currently working properly as best as we can observe. There is no evidence of hillside drainage concentrations either on the Geeslin or Venge properties.
- 7. There is no sign of leachate or exposed water on the Venge property. There is an exposed cut approximately 12-14' high directly behind the existing residence. This cut is dry and is similar material in which the cave will be excavated.
- 8. The use permit process has continued during the last 4 months at our request. We were hopeful that the neighbor would have been more cooperative.
- 9. From June to early October, I, Kirk Venge communicated by e-mail and phone and our team worked tirelessly, meeting with Mr. Geeslin's representative, contractors and subcontractors to discuss options for:
  - a. Installing a new engineered domestic waste treatment system.
  - b. Relocating the existing field to more suitable soils that meet current standards.
  - c. Improving the existing field in its current location, to meet county standards.
  - d. Relocating the entire domestic waste field from Mr. Geeslin's property to Venge Vineyards property. This would have required complex easement language and modifications to each grant deed.

**\*\*** During all the options, it was agreed that Venge Vineyards would pay for the cost of the improvement and any restoration that may have been necessary.

#### **Background - continued**

- 10. We investigated the possibility of relocating the cave to an adjacent hillside. This option was quickly seen as being very costly for investigation and would add significant delays to the existing use permit application. There is not another suitable location for constructing a barrel storage cave on the Venge property.
- 11. In early October, Mr. Geeslin informed us that he was not interested in being part of the solution regarding the leach field impact on cave construction. He also indicated he would not allow his property to be "encumbered in any way" to mandate any leach field improvements now or in the future.

#### <u>Effect of Time</u>

While we assembled the mitigation protocol, we realized that an important aspect of the process is time. In the future, neighbors, attitudes, market conditions and assessments can change. What is discussed today may change tomorrow based on a viewpoint of a given set of parameters. At some point in the future, The Geeslin leach field may fail on its own, hastening them to make the improvement unilaterally of the cave construction approval.

To deny an opportunity to construct a wine cave based on the premise of widespread leach field failure and mass contamination is most probably unrealistic.

However, we understand that due diligence and creation of an action plan to respond to this situation is valuable for everyone to understand the risk.

#### <u>Risk</u>

Venge Vineyards accepts all of the risk for proceeding with cave construction knowing that a leach field lies approximately 155' from the nearest portion of the cave. Venge Vineyards understands the risk, the monitoring and the mitigation requirements in order to continue to use the wine cave. Napa County is held harmless.

#### **Proposed Mitigation Steps**

We recommend that mitigation and monitoring be vested within the use permit itself. There have been questions regarding how testing and reporting would be enforced. There is no stronger enforcement leverage than make use a use permit as the vehicle for which special circumstances can be addressed. It is understood that non-compliance would result in use permit forfeiture.

#### **Prior to Cave Construction**

In Napa County, a grading permit is required for cave spoils. Prior to issuing a grading permit for the cave spoils, which is a precursor for cave excavation, (4) monitoring wells will be installed and sampled. (2) Wells will be 2' deeper than the cave finished floor with the top 20' containing a casing to eliminate the effects of surface water will be installed. (2) Shallow wells, 10' deep will be installed. The wells will be installed on the Venge property.

Prior to cave construction, Venge Vineyards will sample the wells for for e-coli contamination, have the water tested by a state certified laboratory, and report its findings to Napa EH. If test results are negative, the cave can proceed. If positive, cave construction will not be possible.

- 2. A permit for constructing the domestic leach field must be issued prior to cave construction. The domestic waste field will be permitted and constructed to handle as much flow as space allows. This will provide additional treatment capacity as a contingency.
- 3. Increase the cave setback from the property line from 2' to 5'.

#### **During Cave Construction**

1. If, during cave excavation, any subterranean water is encountered, it will be tested. As a precaution, water will be captured and hard piped to an exterior junction box. This water will be tested for e-coli and results submitted to Napa EH.

Should the water indicate contamination, it will be collected and disposed of in the domestic waste field. Knowing the location of the contamination during construction allows the best opportunity to install the necessary methods to capture and measure the flow quantity for disposal. If the flows exceed the domestic treatment system capacity, additional lines may be installed in the vineyard.

Should contaminated flow rates be greater than the domestic field is designed for, additional storage capacity will be placed on site (Baker Tanks). The contaminated water would be off-hauled and disposed of at a treatment plant.

At this point, cave construction could continue knowing that the contaminated water must be treated; the cave construction could be suspended, or cancelled.

- 2. The cave would be made accessible to Napa EH staff for inspection.
- 3. The cave will be waterproofed and isolated from outside water sources. This process will result in the entire cave interior from being isolated form outside water sources. Technology has created a significant amount of alternatives for isolating water flows from the interior of tunnels. These products are manufactured by Grace, Colbond, MFN, etc...These products can also be used to isolate the drain rock and concrete floor from exterior water influences.
- 4. As part of the process waste, cave plumbing building permit application, leachate piping will also be included. This piping will be subject to inspection and sign-off by Napa building inspectors and EH. This design is to be determined, but would satisfy all the potential flow routing outcomes.

#### **Post Construction Monitoring – negative results**

This process continues until the adjacent domestic waste system is replaced or relocated and presumes that tests for contamination are negative year after year

- 1. Water monitoring wells will continue to be monitored.
- 2. In addition, we will monitor effluent coming from the subsurface drain, process waste piping and the designated leachate hard piping.

#### **Post Construction Action Plan – Positive Results**

In the event a positive contamination sample is taken, a second and possibly a 3<sup>rd sample</sup>, may be taken to confirm the contamination.

- 1. Contamination in the surface monitoring wells only Possible Solutions:
  - a. Drill a 12-18" diameter sump shaft to collect and discharge flows to the Venge domestic waste field.
  - b. Revisit upgrading or replacing the Geeslin's current leach field.
- 2. Contamination in the deep monitoring wells only

Possible Solutions:

- a. Drill a 12-18" diameter sump shaft to collect and discharge flows to the Venge domestic waste field.
- b. Revisit upgrading or replacing the Geeslin's current leach field.
- 3. Simultaneous contamination in the shallow and deep monitoring wells near the property line.
  - a. Drill a 12-18" diameter sump shaft to collect and discharge flows to the Venge domestic waste field.
  - b. Revisit upgrading or replacing the Geeslin's current leach field.
- 4. Contamination in the process waste, subsurface drain piping, or dedicated leachate lines without evidence of contamination in the shallow or deep monitoring wells.
  - Divert the contaminated water to the Venge domestic leach field. Calculate the additional leach field lines necessary to handle the flow volume from the pipes. In the event flow capacity exceeds the field's capacity, the following can be done:
    - i. Excess flow will be stored onsite for processing later
    - ii. Excess flow can be off-hauled in tank trucks
    - iii. A technology may be developed that may allow water with e-coli to be treated satisfactory for surface discharge.
  - b. Revisit upgrading or replacing the Geeslin's current leach field.

We continue to be confident we will be able to resolve the issue of leach field proximity to the cave through a proactive process listed here and by continuing to address the concerns of Napa County.

Our continued objective is to construct the wine cave in lieu of a barrel storage building.

Venge vineyards and our design team realizes there are no absolutes in life. My design and construction team has made every effort to honestly review and disclose all the risks for the cave construction project with me. Just as Napa County must evaluate this project on a "worst case" basis on the speculation that contamination may occur, we believe there is just as much or more of a chance that contamination will not be encountered during construction and may never become an issue. We would ask not to be denied the opportunity to pursue cave construction that ultimately contributes to all our efforts to be "Great Stewards of the Napa Valley."

#### Best Regards

In the event you have any questions or need additional information, please feel free to contact us.

Kirk Venge Owner cc: Kirk Venge, Owner Mike Muelrath, Applied Civil Matt Hollis, Architect

#### **The Shook Group** Premium Construction Services Wine Caves - Underground - Retaining Wall Structures - Heavy Civil Ca Lic # 930412

7/9/09

Ms. Christine Secheli County of Napa Department of Environmental Health 1195 Third St. Room 101 Napa, CA 94559

RE: Use Permit Application, Proposed Venge Vineyards Winery, APN 020-350-038 Revised 1500' radius /septic impact on future cave excavation

Dear Ms. Secheli:

On June 25<sup>th</sup> Kirk Venge, Mike Muelrath of Applied Civil and myself met with Kim Withrow and Sheldon Sapoznik to review the attached revised septic information.

We had a productive discussion. The domestic septic field on the adjoining parcel (APN 020-340-029) is approximately 155' from the proposed wine cave. There was general consensus that no one can guarantee that the domestic leach field on the adjacent property will never create a problem if the barrel storage cave is constructed on the Venge property.

Considering this, Kirk Venge has attempted to contact the neighbor to discuss possible options to resolve the status of the domestic leach field. We are moving as quickly as possible to discuss all reasonable solutions to the issue.

While we make every reasonable attempt to resolve the leach field issue, we are requesting that the use permit review process be allowed to continue. We would also like to request that the Department of Environmental Health complete its review of the use permit application and if possible, allow approval of the use permit subject to a provision that mandates the resolution of the leach field issue prior to constructing the wine cave and requires the approval of cave retaining wall permits prior to beginning construction of the wine cave. We feel this is a reasonable approach that allows the process to continue forward.

We are confident we will be able to resolve the issue of leach field proximity to the cave in the near future.

In response to your request for additional information on March 4<sup>th</sup>, 2009, I have prepared the additional information and exhibits for your departments review.

In the event you have any questions or need additional information, please feel free to contact me.

Best Regards John Shook President

cc: Kirk Venge, Owner Mike Muelrath, Applied Civil Matt Hollis, Architect

#### Contents

- 1. Revised topographic map showing 1500' radius, leach field locations and APN's
- 2. A-A cross section showing distance from Venge cave to nearest leach field
- 3. Environmental Health Dept. File information

#### <u>Summary</u>

The proposed excavated cave floor elevation varies between 387' and 390'. The tunnels are planned to be 10' to 16' tall, which will result in a ceiling elevation that varies between 397' and 406'.

There are 5 subject parcels within 1500' of the primary property where the wine cave is going to be excavated that contain leach fields worth noting. The remaining parcels and leach fields are not relevant since they:

- 1. Are below the anticipated cave finished floor elevation.
- 2. Are separated from the proposed Venge wine cave by an elevation less than the excavated cave floor elevation.

The leach field serving the future Venge winery and cave will be located near elevation 377' which is substantially lower than the proposed cave.

Only (1) leach field present on APN 020-340-029 is located at a higher elevation that the proposed cave. The approximate top of ground where the leach field is located is at elev 455'. The leach field is approximately 155' through the hillside to the wine cave. See A-A cross-section for details. Please refer to the topo map that shows the leach field is close to the northeast edge of the hill's plateau. It is most likely the domestic leachate follows the slope at this location.

The hillside where the wine cave will be located is isolated from the (4) remaining leach fields, Frediani, Venge, Araujo, Clark by topographical.

Based on my review there are no additional leach fields or septic systems within a 1500' radius directly up hill that would have a direct conduit to the hillside where the proposed cave is to be located.

The knoll in which the proposed cave will be located has the following general characteristics:

- There is no evidence of artesian water or springs on the hillside or Venge property.
- The knoll has massive geology of volcanic origin and is classified as a volcanic ash tuff
- The top 2-10' of the knoll is generally weathered and becomes more massive with depth.
- The knoll is isolated and disconnected from other surrounding hillsides

We have relied on the baseline work of Applied Civil to provide the detailed site plan and detailed information regarding the areas in which the cave is to be located. I have provided numerous supporting documents to substantiate my review relative cave location to the domestic septic system on the adjacent property.

This evaluation is based on readily available information from GIS and Napa County files. A survey to precisely locate all leach fields on adjacent private property involving owner permission and additional surveying was not performed.

#### Discussion of adjacent leach fields

#### APN 020-340-029 - Geeslin

This parcel's leach field is 155' to the northwest and is located at a base elevation that is approximately 450'. There is a residence and guest house on the parcel that use the leach field. It has a substandard system that is currently at issue. The project team feels that the leach field does not pose a substantial risk for leachate to travel and penetrate the proposed wine cave. However, we are unable to provide a "guarantee" that it will never happen.

#### APN 020-350-001 - Frediani

This parcel's leach field is to the west and is located at a base elevation that varies between 350' and 355'. This is a residential parcel that contains a leach field. Since the base elevation of this parcel is primarily below the prominent cave elevations, this leach field does not pose a potential impact to the cave. In addition, the property is sloped so that primary drainage flows toward the Silverado Trail and not toward the cave or winery site. The leach field is approximately 600' from the cave.

#### APN 020-350-037 - Clark

This parcel's leach field is to the southeast and is located at a base elevation that varies between 690' to 695'. This is a residential parcel and the leach field serves the residence. Although this parcel is situated at an elevation above a portion of the cave-finished floor, the topography is such that the primary direction of surface and leachate run-off is via a ravine on the south side of the property that discharges near the Silverado Trail. This leach field is isolated from the future cave and winery site since the valley floor occurs at a base elevation of approximately 375'

#### <u>APN 020-340-021 - Araujo</u>

This parcel's 3 leach fields are to the north-northeast and located at a base elevation that varies between 375' and 385'. This parcel has a winery and several outbuildings. The leachate for this parcel most likely follows a path towards Pickett Rd. The leach fields are approximately 600' from the cave site on the opposite side of the knoll.



LOT LINE ADJUSTMENT LANDS OF LANDS OF LANDS OF AND OF THE LANDS OF JEANNE I. FREDIANI 20-350-001

NAPA COUNTY, CALIFORNIA JANUARY 1999 ~PREPARED BY~

## MICHAEL W. BROOKS & ASSOCIATES, INC.











EXISTING CONFIGURATION SHEET 2 OF 3



ASSESSOR'S PARCEL NOS.: 20-340-12 & 20-350-36 ZONING: AG PRESERVE & AW EXISTING USE: AGRICULTURAL & RESIDENTIAL WATER SOURCE: ONSITE INDIVIDUAL WATER SYSTEM (WELL) SEWAGE DISPOSAL: ONSITE SEPTIC SYSTEM CONTOUR INTERVAL: 40' INTERPOLATED FROM USGS QUAD SHEET "CALISTOGA"

SHEET 1 OF 2



NAPA COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT REQUEST FOR SITE EVALUATION INSPECTION

| ENVIRONMENTAL HEALTH DEPT. USE ONLY   | 6  |  |  |  |  |
|---|--|--|--|--|--|
| FEE:  | PARCEL NUMBER: 20- 340-29                      |  |  |  |  |
| DATE:   | JOB ADDRESS: 2121 Picket Rd.                   |  |  |  |  |
| RECEIPT:  | OWNER:   |  |  |  |  |
| BY:   | TEST CONDUCTED BY: Jim Clifton                 |  |  |  |  |
|   |  |  |  |  |  |
| TYPE OF TEST: FIELD ANALYSIS  | PERCOLATION TEST                               |  |  |  |  |
| To be run on Man 212 at WICan   | pm To be run onfromam/pm topm                  |  |  |  |  |
| PURPOSE OF TEST: HOUSE: 450   | INERY:OTHER:                                   |  |  |  |  |
| PROJECTED WASTEWATER FLOWS:   | g 2 bedroom + new I bedroom queitliese: 450 pd |  |  |  |  |
| **************************************  |  |  |  |  |  |
| Pre-soak checked? yes no  | Length of pre-soak:                            |  |  |  |  |
| Checked by:   | Date:  |  |  |  |  |
| Rate at time of inspection:   | Stabilized perc rate:                          |  |  |  |  |
| Gravel and Pipe Used? yes no If so, take the perc rate x .6 =in/hr                |  |  |  |  |  |
| ***************************************   |  |  |  |  |  |
| STANDARD SYSTEM   |  |  |  |  |  |
| Acceptable soil to:/ Ass  | Igned perc range: 1-3 / 3-6 / 6-12             |  |  |  |  |
| Depth of trenches: 25 5hallow / Rock under pipe: 12" / Cover over rock: 12"       |  |  |  |  |  |
| Lineal feet of leachline required: 450 total / Plot plan received: OK See plot of |  |  |  |  |  |
| Slope: <5% / Surface drainage problems:   |  |  |  |  |  |
| Additional information: Klocloser than existing to cut/embankment                 |  |  |  |  |  |
| Propose to voluntarily replace existing 200' (Same as hole dug 10-23-             |  |  |  |  |  |
| SPECIAL DESIGN SYSTEM DUE TO THE FOLL   | DWING - Size constraints:                      |  |  |  |  |
| Perc rate too slow:/Perc rate too fast:/Steep slope:                              |  |  |  |  |  |
| Insufficient soil depth:/High seasonal groundwater:                               |  |  |  |  |  |
| Acceptable soil for special design:/Other problems:                               |  |  |  |  |  |
| E.H. Specialist Reggy P. C  | Can Date 2-23-99                               |  |  |  |  |



| F<br>R<br>BY   | 143.02<br>0429<br>+ 20055   |   |   |   | A.P. #<br>JOB #<br>ISSUE DATE<br>EXPIRATION DATE   | 46 261<br>2-1:21:24<br>2-30-44<br>3-30-61   |
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I, THE UNDERSIGNED, AGREE TO COMPLY WITH ALL CONDITIONS OF THIS PERMIT AND ALL OTHER APPLICABLE CODE REQUIREMENTS. FURTHERMORE, I UNDERSTAND THAT THE OFFICE OF ENVIRONMENTAL MANAGEMENT IN NO WAY GUARANTEES INDEFINITE TROUBLE-FREE OPERATION OF THIS SYSTEM, AND THAT FUTURE REPAIR MAY BE NECESSARY.

OWNER OR AUTHORIZED AGENT



| FEE50 DATE 4-30-84 A.P. NO. 20-   | 120-1                           |
|---|---------------------------------|
| RECEIPT NO. 13929 DIVISION OF ENVIRONMENTAL HEALTH<br>APPLICATION & PERMIT TO CONSTRUCT A SEWAGE SYSTEM<br>BY CONCLUME  |                                 |
| NAME UPPER VALLEY DISPOSAL ADDRESS Gilverudo Tra, /<br>(Owner) (Site Address)   | /                               |
| NAME Seff MAILING ADDRESS POB 382, St<br>(Contractor)   | L. Helcina                      |
| TYPE OF (X) INDIVIDUAL (X) NEW CONSTRUCTION () REPAIR () ADD () ALTERA<br>WORK () SPECIAL DESIGN () PRIVATE SEWAGE DISPOSAL S   | ITIONS<br>System                |
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| County road setback go feet from center line. () Bldg. Dept. Form Rec   | eived                           |
| <ul> <li>WORKER'S COMPENSATION COVERAGE: (Check one of the following)         <ol> <li>A certificate of current Worker's Compensation Insurance on file with this office.</li> <li>A certificate of current Worker's Compensation Insurance is being filed with this applicati.</li> <li>I certify that in the performance of the work for which this permit is issued I shall not eany person in any manner without complying with the Worker's Compensation laws in California</li> </ol> </li> <li>Applicant agrees that:</li> </ul>   | 25.<br>75 <sup>°</sup> 03<br>2. |
| <ol> <li>Sanitarian will be notified a minimum of 24 hours prior to requiring inspection(s).</li> <li>Sanitarian and engineer's inspection, when indicated, will be obtained prior to movering the stite at all times.</li> <li>Any deviation from approved plan and specifications without prior approval of this office will cause for stopping work until the changes are fully justified and approved.</li> <li>Prior to authorizing occupancy of any building with an engineered designed system a signed sta approved plan must be submitted to the Public Health Officer.</li> <li>This permit is subject to revocation if found to be in nonconformace with Napa County Come of the standards.</li> <li>Before this office allows occupancy of a dwelling, an approved water source has to meet the quart standards.</li> </ol> | antity                          |
| IT IS UNDERSTOOD THAT THE ISSUANCE OF A PERMIT IN NO WAY INDICATES THAT A GUARANTEE OF PERFECT AND<br>INDEPINITE OPERATION OF THIS SYSTEM IS MADE BY THE COUNTY OF NAPA PUBLIC HEALTH DEPARTMENT AND THAN<br>OWNER IS REQUIRED TO MAKE ANY REPAIRS NECESSARY TO CONFINE SEWAGE AS REQUIRED BY COUNTY CODE.<br>I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE ABOVE IS CORRECT AND AGAI<br>COMPLY WITH ALL COUNTY ORDINANCES AND STATE LAWS REGULATING CONSTRUCTION OF SEWAGE DISPOSAL SYSTEM<br>THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK AUTHORIZED IS NOT COMMENCED WITHIN 1 YEAR.<br>Owner or Authorized Agent   | T TRE<br>55 TO<br>5.            |
| Specifications:       (X) Septic Tank Concrete Type       8/0       Size (Gallons)         (X) Drainline:       100       Total Length       3.1       Trench Depth       12'         () Sewer Line:       Type       Approximate Length       Depth         () Sump Pump:       Tank Size       Alarm Type         () See Special Design Plans Approved       Designer   | r Tile                          |
| (_) See Private Sewer System Plans Approved Designer<br>(_) Other   |                                 |
| EH 174 Issuing Sanitarian R. O. E. H.   |                                 |
| Difice-white: Contractor-vollow. Owner nink   |                                 |



11-4-77





RECEIVED

John C. Shook 1237 St. Francis Rd. Santa Rosa, CA 95409

DEC 0 4 2008

NAPA CO. CONSERVATION DEVELOPMENT & PLANNING DEPT.

12/4/08

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Ms. Teri Price County of Napa Department of Environmental Health 1195 Third St. Room 101 Napa, CA 94559

RE: Use Permit Application, Proposed Venge Vineyards Winery, APN 020-350-038 1500' radius /septic impact on future cave excavation

Dear Ms. Price:

As part of the Venge Vineyards Use permit application, Kirk Venge asked me to prepare relevant exhibits and render an opinion regarding the location of the nearest domestic leach fields and their potential impact on the proposed cave. His request was based on my 6+ years of excavating, supporting, waterproofing and completing wine caves in Napa and Sonoma Counties.

In the event you have any questions or need additional information, please feel free to contact me.

During the last 6 months I have performed a general reconnaissance of the area surrounding the proposed cave site.

The knoll in which the proposed cave will be located has the following general characteristics:

- The only leach field is present on APN 020-340-031
- The knoll has massive geology of volcanic origin and is classified as a volcanic ash tuff
- The top 2-10' of the knoll is generally very weathered and becomes more massive with depth.
- There are no leach fields on APN 020-340-030
- The knoll is isolated and disconnected from other surrounding hillsides
- Based on my review there are no additional leach field or septic systems withon a 1500' radius directly up hill that would have a direct conduit to the hillside where the proposed cave is to be located.

#### 12/4/08

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RE: Use Permit Application, Proposed Venge Vineyards Winery, APN 020-350-038 1500' radius /septic impact on future cave excavation

#### Page 2.

We have relied on the excellent work of Applied Civil and Albion Surveys to provide detailed information regarding the areas in which the cave is to be located. I have provided exhibits 1 and 2. These 2 plates show the site plan and relative cave location to the domestic septic system on the adjacent property.

Based on readily available information from GIS and Napa County files, I estimate that the leach field is located at approximate elevation 710 and 715' and is also approximately 200' from the property line. A precise survey involving owner permission and additional surveying was not performed.

Based on the graphical resolution provided in Exhibit 3., the leachate from the domestic system on APN 020-340-031 would need to travel nearly horizontal approximately 200-210', only falling 5-10' through massive volcanic ash tuff to reach the proposed barrel storage tunnel.

#### Conclusion

Performing this investigation and evaluation is a tremendously valuable study for the owner. It allows the opportunity to determine if a potential issue may exist regarding the impact of potential leachate infiltration into a future barrel storage cave.

Based on the presence of the volcanic ash tuff, the distance between the proposed barrel storage tunnel and the estimated invert of the adjacent domestic waste field, it is highly unlikely.

A more likely scenario is that the leachate will take a preferred path down slope and follow its established drainage path.

On several prior occasions I have performed this type of evaluation for prior planning and environmental health submittals.









![](_page_29_Picture_0.jpeg)

## Department of Environmental Management

## MEMORANDUM

DATE: January 2004

TO: All interested parties (applicants, engineers, property owners)

#### FROM: Department of Environmental Management

SUBJECT: Procedures regarding septic system setback to cave structures

Because existing laws do not regulate the setback of septic systems to cave structures, this memo shall be implemented by the Department of Environmental Management. The purpose of establishing this procedure is to ensure that appropriate health and safety considerations have been made with respect to the location of cave structures and septic systems. In developing this procedure, the potential impact of cave drains on existing septic systems was considered as well as the potential impact of the septic system on a cave.

Caves may not be utilized commercially (winery, etc) in Napa County without the issuance of a Use Permit. If for private use, cave structures only require a building permit for the cave portal, electrical and mechanical components. Caves may, however, be constructed without any local approval which may lead to caves which are improperly sited. We are in the process of working with the State on the issuance of approvals for drilling caves, and are hopeful that they will work with us on investigating septic system locations prior to issuance of approval to drill. Until this is resolved, we will use this policy when reviewing building referrals for private cave projects, proposed septic systems and/or commenting on proposed Use Permits with caves.

# A. When a proposal is submitted to use an existing or proposed cave and a septic system either exists or is proposed within 50 feet DOWNHILL from the proposed or existing cave:

- 1. The septic system must be at least 10 feet downhill from every part of the proposed cave structure
- 2. A drainage plan must be provided showing that the cave drains will not impact the septic area (existing or proposed). This plan must account for all internal and external cave drains and sub-drains. The plan must ensure that no additional water will be passed via surface or subsurface flow past the septic system area.
- 3. If drainage plans are not available and the above determination cannot be made, a french drain with a plastic liner on the downhill side must be installed a minimum of 10 feet uphill from the septic system area to a depth equivalent to three feet below existing or proposed trench bottom, but no shallower than 6 feet.

**NOTE:** If a property line exists within 50 feet downhill of the cave structure, and no information exists on file relative to septic systems on that property, the applicant must either install a french drain below the cave structure or provide a written statement from the property owner of the downhill property confirming no septic system exists within 50' of the caves.

B. When a proposal is submitted to use an existing or proposed cave and <u>all</u> UPHILL property lines are greater than 1500 feet from the proposed or existing cave:

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- 1. A scaled site plan showing <u>all</u> existing septic systems within 1500 feet uphill must be submitted for review
- 2. Full scaled drawings of the cave structure must be submitted showing all cave tunnels
- 3. If adequate information exists on file relative to the septic systems located UPHILL from the cave, and this department can verify the septic system is sited and designed properly, a 100-foot set back must be maintained from the closest cave tunnel.
- 4. If adequate soil or design information is <u>not</u> available relative to the septic systems located UPHILL from the cave, a site evaluation must be conducted and an inspection report and plot plan of the septic system(s) uphill must be submitted for review. If it is determined that the system is properly sited and designed, a 100 foot setback must be maintained to the closest cave tunnel.
- 5. If this department cannot verify that the septic system is designed and sited properly and/or if the cave already exists less than 100 feet to any uphill septic system, regardless of design, an improvement must be made to the septic system in the form of a pre-treatment unit.

# C. When a proposal is submitted to use an existing or proposed cave and a property line exists UPHILL closer than 1500 feet from the proposed or existing cave:

- 1. Full scaled drawings showing <u>all</u> existing or proposed cave tunnels must be submitted.
- 2. A scaled site plan showing all existing or proposed septic systems on the <u>applicant's</u> property must be submitted. Follow same procedures as in B (3-5) above.
- 3. Septic systems located within 1500 feet UPHILL on <u>adjoining</u> properties must also be considered. If the neighbors are cooperative, the applicant can submit a letter from the uphill property owners on the location of the septic systems on their properties and show such locations on a scaled site plan. The applicant must then provide the same information and make the same improvements as required per B (3-5) above. If the neighbors are uncooperative, and this department is unable to make a determination (based on information on file) that the septic system is sited and designed properly, we will recommend denial on the use of the cave (if existing) or require that the cave be moved to greater than 1500' from the UPHILL property line (if proposed).

#### 40 Hornisher, Trish

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| From:   | Withrow, Kim                        |  |
|---|-------------------------------------|--|
| Sent:   | Wednesday, October 14, 2009 4:56 PM |  |
| То:   | Hornisher, Trish                    |  |
| Subject:  | cave setback guideline              |  |
| Attachments: Cave Setback Memo January 2004.doc |                                     |  |

Trish,

I have attached the memo regarding cave setbacks for your information. It went into effect in 2004 not 2005.

Kim Withrow, R.E.H.S. Senior Environmental Health Specialist

Napa County Department of Environmental Management 1195 Third Street, Suite 101 Napa, CA 94559 (707)253-4471 Fax: (707)299-4439