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Wastewater Analysis

AXR Napa Valley Winery Permit No. P22-00417-UP, P26-00045-VAR, & P26-00044-VIEW
Planning Commission Hearing – June 3, 2026

WASTEWATER FEASIBILITY STUDY

AXR Napa Valley

3199 St. Helena Highway

St. Helena, California, 94574

APN 022-080-025

SUMMIT

CIVIL STRUCTURAL WATER|WASTEWATER ELECTRICAL PLANNING

Project No. 2021183
Revised April 2024

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LIST OF ENCLOSURES

PROJECT OVERVIEW

AXR Napa Valley, located at 3199 St. Helena Highway in St. Helena, CA (APN 022-080-025), is applying for a use permit modification to the approved UP #P08-00099 to revise the entitled number of employees, daily visitors, marketing events, and wine production at the facility. The purpose of this Wastewater Feasibility Study (WWFS) is to evaluate the capacity of the existing sanitary sewage (SS) and proposed process wastewater (PW) treatment and disposal systems to meet the anticipated future facility demands.

An overall site plan for the winery is provided in Enclosure A. Details of the proposed use permit modification are summarized below:

- Increase wine production from 20,000 to 35,000 gallons of wine per year
- Increase visitation from 20/day and 90/week to 60/day and 420/week
- Increase employees from 2 full-time (FTE) and 2 part-time (PTE) to 12 FTE and 5 PTE
- Revise marketing events to include:
  - 3 events/year with 150 guests/event
  - 4 events/year with 75 guests/event
  - 2 events/month (24 events/year) with 25 guests/event

This WWFS evaluates the wastewater treatment and disposal systems associated with the winery, one 1-bedroom cottage (Cottage #7) and one 2-bedroom cottage (Cottage #8). There is an additional 2-bedroom cottage (Cottage #4) on site that is currently served and will continue to be served by a dedicated septic disposal system. Portable toilets will be brought in during 75- and 150-person marketing events. The impact of the Cottage #4 and 75- and 150-person events on the wastewater system are not evaluated in this WWFS.

SANITARY SEWAGE (SS) TREATMENT AND DISPOSAL SYSTEM

OVERVIEW OF EXISTING SS SYSTEM

Based on plans on file with Napa County, SS from the winery is collected in a 1,200-gallon septic tank separately from winery PW. PW is collected in two 1,500-gallon settling tanks. SS and PW currently combine in a 1,500-gallon pump tank prior to being pumped to an existing conventional leachfield for disposal. The leachfield receives 420 gallons per day (GPD) of SS and 1,000 GPD of PW, for a total combined flow of 1,420 GPD. The existing wastewater treatment and disposal system at the site was approved via permit E08-00140. Refer to Enclosure B for the plans of the existing PW and SS treatment systems.

SS CHARACTERISTICS

SS will consist primarily of wastewater generated from restrooms and tasting room facilities. There is no change anticipated to the composition of the SS generated at the winery. Typical characteristics of raw SS are summarized in Table 1.

Table 1: Typical SS composition.

Characteristic	Units	Raw Wastewater Range (Note 1)
Biochemical Oxygen Demand (BOD-5)	mg/L	133 - 400
Oil and Grease	mg/L	51 - 153
Total Suspended Solids (TSS)	mg/L	130 - 389
Volatile Suspended Solids	mg/L	101 - 304
Total Dissolved Solids (TDS)	mg/L	374 – 1,121
Nitrogen	mg/L	23 - 69
Nitrate	mg/L	0
Phosphorous	mg/L	3.7 - 11
Chlorides	mg/L	39 - 118
Sulfate	mg/L	24 - 72
Notes:		
1. From Metcalf & Eddy, "Wastewater Engineering, Fifth Edition", 2014.		

SS DESIGN FLOWS

Existing System – SS Flow Rates

The existing SS system was designed for a flow rate of 420 GPD. The basis of this calculation is shown in the permit calculations provided in Enclosure B and is summarized in Table 2.

Table 2: Sizing basis for existing SS system.

Source	Number (persons/day)	SS Generation (gal/person)	Total Daily SS Generation(gal/day)
Full-time employees	2	15	30
Part-time employees	2	15	30
Visitors	20	3	60
Event Guests (Note 1)	20	15	300
Total	**—**	**—**	**420**
Notes:			
1. SS generation rate based on 10 gal/person and 5 gal/meal.			

Existing System – PW Flow Rates

In the existing system, SS and PW are combined prior to disposal in the conventional leachfield. The existing PW treatment system is sized for a capacity of 1,000 GPD. The system was sized by applying the Napa County peak day formula and utilizing the approved wine production value of 20,000 gallons/year as shown below:

[Annual Production (Gal) x 1.5] / 30 = [20,000 gallons x 1.5] / 30 = 1,000 GPD

Proposed SS Flow Rates

The scenario with maximum SS generation has been evaluated to assess the impact of the proposed employee and marketing plan changes associated with the use permit modification. The anticipated SS flow estimates are summarized in Table 3 below.

Table 3: Anticipated SS flows during a 25-guest event on a weekend day.

Source	Number (persons/day)	SS Generation (gal/person)	Total Daily SS Generation (gal/day)
Full-Time Employees (Note 1)	12	15	180
Part-Time Employees (Notes 1, 2)	5	15	75
Visitation - Tasting (Notes 1, 3)	60	3	180
Visitation - Event (Note 1, 4)	25	15	375
Residential (Note 5)	3	150	450
Total	**-**	**-**	**1,260**

Notes:

1. Design flow rate from Napa County Onsite Wastewater Treatment Systems (OWTS) Technical Standards.
2. Assumed that all PTEs are working on weekends.
3. Assumes full meals are not served to tasting visitors. Prepackaged foods such as cookies and crackers may be available to tasting visitors.
4. Assumes events are catered with full meals, with all food preparation occurring offsite.
5. Residential SS generation rate is based on one 2-bedroom cottage (Cottage #8) and one 1-bedroom cottage (Cottage #7) onsite.

ASSESSMENT OF EXISTING SS TREATMENT AND DISPOSAL SYSTEM CAPACITY

AXR plans to segregate the PW and SS treatment systems in the future as part of this Use Permit Modification. PW will no longer be sent to the existing wastewater treatment system. The increased SS flow is proposed to continue to be treated and disposed of via the existing septic/settling tanks and leachfield system.

The existing treatment system includes two 1,500-gallon settling tanks that are currently utilized for PW in addition to one 1,200-gallon septic tank that is currently utilized for SS. In the current system, combined PW and SS flow into a 1,500-gallon pump tank. The current system provides a total septic/settling tank volume of 5,700 gallons, or 4.5 days of retention time at peak flow rate on a day with a 25-guest event. The existing tanks also satisfy the volume requirements of the Uniform Plumbing Code:

Required Volume (gal) = 1,125 + 0.75 x (Daily Wastewater Flow) = 1,125 + 0.75 x (1,260 GPD) = 2,070 gal

The existing septic tanks are anticipated to provide sufficient capacity for the anticipated SS flows and no additional volume is anticipated to be required. The plumbing will need to be reconfigured in some areas so that SS flows into the tanks that are currently functioning as PW settling tanks.

The existing disposal system includes 1,080 linear feet of conventional leach lines. There are nine 70-foot long lines and nine 50-foot long lines. The trenches are 36” deep, with 18” rock under pipe, and have an effective surface area of 4 square feet (sf)/linear foot (LF).

The soils evaluation on file at the County is provided in Enclosure C. The soils evaluation indicates an acceptable soil depth of 72”; therefore, the installed system provides the necessary 36” of acceptable soil below the bottom of the trench. Depending on the test pit, the soils evaluation reports a combination of silt loam with moderate to strong blocky structure and silty clay loam with moderate to strong blocky structure. An average hydraulic loading rate of 0.33 gal/sf/day was used in the system design calculations. The existing

leachfield is evaluated to have a disposal capacity of 1,425 GPD. The calculation is shown below:

Existing System Capacity = (Total Dispersal Line Length) x (Effective Surface Area) x (Soil Application Rate)

= (1,080 LF) x (4 sf/LF) x (0.33 gal/sf/day) = 1,425 GPD.

The leachfield is anticipated to provide sufficient capacity for disposal of the anticipated SS flows.

PROCESS WASTEWATER (PW) TREATMENT AND DISPOSAL SYSTEM

OVERVIEW OF EXISTING PW SYSTEM

Based on information on file with Napa County (see Enclosure B), PW from the winery is collected in two 1,500-gallon settling tanks separately from the winery SS. SS and PW currently combine in a 1,500-gallon pump tank prior to being pumped to a conventional leachfield for disposal. The existing PW settling tanks are proposed to be used for SS and a new PW treatment system will be installed.

PW CHARACTERISTICS

PW consists primarily of wastewater collected at floor drains and trenches within the winery, receiving, crush, tank, and wash down areas. Typical winery wastewater characteristics are summarized in Table 4.

Table 4: Typical winery PW characteristics.

Characteristic	Units	Crushing Season Range	Non-crushing Season Range
pH	--	2.5 - 9.5	3.5 - 11.0
Dissolved Oxygen	mg/L	0.5 - 8.5	1.0 - 10.0
BOD-5	mg/L	500 – 12,000	300 – 3,500
COD	mg/L	800 – 15,000	500 – 6,000
Grease	mg/L	5 - 30	5 - 50
Settleable Solids	mg/L	25 - 100	2 - 100
Nonfilterable Residue	mg/L	40 - 800	10 - 400
Volatile Suspended Solids	mg/L	150 - 700	80 - 350
Total Dissolved Solids	mg/L	80 – 2,900	80 – 2,900
Nitrogen	mg/L	1 - 40	1 - 40
Nitrate	mg/L	0.5 - 4.8	-
Phosphorous	mg/L	1 - 10	1 - 40
Sodium	mg/L	35 - 200	35 - 200
Alkalinity ($CaCO_3$)	mg/L	40 - 730	10 - 730
Chloride	mg/L	3 - 250	3 - 250
Sulfate	mg/L	10 - 75	20 - 75

PW DESIGN FLOWS

Proposed PW Flow Rates

PW flows are anticipated to increase due to the proposed increase in production from 20,000 to 35,000 gallons of wine per year. Based on typical flow data from wineries of similar size and characteristics, projected flows are calculated as follows:

Table 5: PW design flows.

Parameter	Value	Units
Annual Volume of PW		
Annual Wine Production	35,000	gal wine / year
PW Generation Rate (Note 1)	6.0	gal PW / gal wine
Annual PW Flow	210,000	gal PW / year
Daily Flow Rate Calculations		
Average Daily Flow (Note 2)	575	gal PW / day
Napa County Peak Day Flow (Note 3)	1,167	gal PW / day
Average Harvest Design Flow Calculations		
Percentage of Annual PW Flow in September (Note 1)	16.4%	
Total PW Flow During September	34,440	gal PW
Average Daily Flow during September	1,148	gal PW / day
Notes:		
1. Based on historical data in wineries of similar size.		
2. Calculated based on total annual flow averaged across 365 days of operation.		
3. Calculated based on 45-day harvest per guidelines in the Napa County OWTS Technical Standards.		

The Napa County Peak Day Flow is the more conservative approach at 1,167 GPD; therefore **1,200 GPD** will be used for sizing of the future PW treatment system.

ASSESSMENT OF PROPOSED PW TREATMENT AND DISPOSAL SYSTEM CAPACITY

To accommodate a proposed annual production of 35,000 gallons of wine, a new PW treatment system is proposed to be installed. The system will include a new gravity collection system with screens on floor drains for solids removal in any new production areas, a PW pump station (if needed to transfer PW from the collection system to the treatment system), and treatment and disposal through one of the following alternatives:

1. Treatment through a new package treatment system and disposal via a new subsurface drip disposal system.
2. Treatment through a new package treatment system, storage of treated PW, and reuse for vineyard irrigation.
3. Hold-and-haul

The new PW treatment system will be designed and installed in accordance with all necessary Napa County Planning, Building and Environmental Services (PBES) and Regional Water Quality Control Board (RWQCB) criteria and permits. It will also comply with the requirements of the State Water Resources Control Board General Waste Discharge Requirements for Winery Process Water ("General Order").

Components of the proposed PW treatment system are described in greater detail in the following paragraphs.

Gravity Collection

Any new production areas that will generate PW will include a new gravity collection system designed to provide low maintenance and no infiltration or exfiltration. Piping materials will be compatible with PW and satisfy Uniform Plumbing Code and local requirements. Screening will be provided by screened baskets and strainers installed on the trench drains and floor drains within the winery.

PW Pump Station (if necessary)

If PW is unable to flow to the new package treatment system via gravity, a pump station will transfer screened PW to the new package treatment system.

Treatment and Disposal

AXR plans to evaluate several potential options for treatment and disposal of PW. The options being considered are described in greater detail below. Additional design detail for the selected PW treatment system will be available after a treatment system has been selected.

The first two options described in this section are proposed to utilize some type of PW package treatment system. The specific type will be selected in the future. For this WWFS, Summit Engineering has allocated 900 square feet of space for the PW package treatment system. This is based on information we have received from vendors on recent projects involving PW package treatment systems with a similar capacity to what is anticipated to be required for AXR. Estimated footprints for the various treatment and disposal options identified in the following sections are illustrated on the site plan provided in Enclosure D.

Option 1: New Package Treatment System with Disposal via New Subsurface Disposal System (SDS)

With this approach, the package treatment system would be selected from one of the alternatives described above. The treatment system would be designed to achieve the SDS effluent quality required in the General Order (total nitrogen < 10 mg/L, BOD < 300 mg/L, and TSS < 330 mg/L).

Treated effluent would be disposed of in a new SDS. An onsite soils evaluation would be performed in the proposed location of the SDS to determine an appropriate system if the limits of the SDS are proposed outside of the effective radius of the 2004 test pits. The specific size and layout of the system would be defined at that time. For the purpose of this WWFS, it is assumed that the disposal system would be subsurface drip.

To demonstrate feasibility of this approach, Summit Engineering has assumed that the SDS disposal area will be located near the existing leachfield and that the SDS disposal area will have similar soil characteristics to what is reported in the 2004 soils evaluation. If Option 1 is selected, depending on the extent of the proposed SDS area these assumptions may need to be verified via another onsite soil evaluation.

The results of the 2004 soils evaluation indicate mainly soils that would be categorized as Type III Silt-Clay

Loam per Table 10 of the OWTS Manual. The design hydraulic loading rate for this type of soil is 0.4 gal/sf/day. For a peak PW flow rate of 1,200 GPD, the subsurface disposal field would require approximately 3,000 SF of subsurface drip area. The site would also need to identify 200% reserve area (6,000 SF). The locations of the proposed treatment system, primary disposal area, and reserve disposal area are shown in Enclosure D.

Option 2: New Package Treatment System with Vineyard Irrigation Reuse

With this approach, the package treatment system would be selected from one of the alternatives described under Option 1. The treatment system would be designed to achieve the levels required in the General Order (cycle average BOD loading < 100 lb/acre/day and nitrogen application rates below the crop agronomic uptake rate).

Treated PW would then be stored in an effluent storage tank sized to provide 10 – 15 days of storage during the rainy season. This tank would provide storage for treated PW during rain events when irrigation with treated PW is prohibited. Preliminary sizing of the treated effluent storage tank is provided in Enclosure E. The locations of the proposed treatment system and effluent storage tank are shown in Enclosure D.

For this WWFS, it has been assumed that one acre of vineyard will be available for irrigation with treated PW. If this option is selected, the exact irrigation area would be defined in greater detail in future design documents. A water balance illustrating the relationship between vineyard irrigation demand and PW generation is provided in Enclosure E.

Option 3: Hold and Haul

AXR may choose to utilize PW storage tanks and off-hauling to a facility such as East Bay Municipal Utility District (EBMUD) as the disposal option. During crush, the expected peak PW flow is 1,200 GPD. The County's hold and haul guidelines require the holding tank to be sized to store seven days of peak PW flow. A storage tank with a minimum volume of 8,400 is proposed for storage and off-hauling of PW. The location of the proposed hold-and-haul tank is shown in Enclosure D. The hold and haul system would be designed in accordance with Napa County requirements.

SOLID WASTES

Solid wastes from the winery primarily include pomace, seeds, and stems. The estimated quantities of these wastes (at peak capacity) are as follows:

$$Peak\ annual\ production = 35{,}000\ gal\ wine \times \frac{1\ ton}{165\ gal} = 212\ tons$$

$$Ultimate\ Annual\ Total = 35\% \times 212\ tons = 74.2\ tons$$

Based on a unit weight of 38 pounds per cubic foot, the annual volume of solids wastes would be:

$$74.2\ tons \times \frac{2{,}000\ lb}{1\ ton} = 148{,}000\ lb$$

$$148{,}000\ \text{lbs} \times \frac{1\ ft^3}{38\ lb} \times \frac{1\ yd^3}{27\ ft^3} = 145\ yd^3$$

These organic solids will be hauled to an off-site composting location or composted and land applied to the existing vineyard at site.

OTHER CONSIDERATIONS

ODOR CONTROL

There should be no noxious odors from a properly designed and operated wastewater treatment system.

GROUNDWATER CONTAMINATION

Disposal of wastewater effluent (either PW or SS) will not occur within 100 feet of any existing or proposed wells.

PROTECTION

Exposed wastewater treatment facilities should be posted with appropriate warning signs. The treatment areas will be protected to restrict access and potential damage to the system.

ENCLOSURE A

0 30 60
GRAPHIC SCALE IN FEET

OWNER:
AXR NAPA VALLEY
3199 SAINT HELENA HIGHWAY NORTH
SAINT HELENA, CA 94574

APPLICANT:
SUMMIT ENGINEERING, INC.
575 W. COLLEGE AVENUE, SUITE 201
SANTA ROSA, CA 95401

APN 022-080-026
APN 022-100-008
APN 022-080-025
APN 022-080-013
APN 022-070-032

(E) SEPTIC TANK, SEE NOTE 7
62.5' FROM TOP OF BANK
(E) HISTORIC WALL, TYP
(E) SEPTIC SYSTEM, SEE NOTE 7
5' SETBACK FROM SEPTIC SYSTEM
(E) GRAVEL PARKING STALLS
(E) COTTAGE #4
R2
R3
(E) PARKING STALLS
(E) FH
(E) ABANDONED WELL DESTROYED UNDER PERMIT E07-00318
(E) WINERY
LIMITS OF NEW GRAVEL WIDENING TO MEET NAPA COUNTY ROAD & STREET STANDARDS, TYP
SAINT HELENA HIGHWAY
40.0' DECELERATION LANE
R20.0' (SEE NOTE 1)
R50.0'
(E) ABANDONED WELL SEE NOTE 9
(E) ROAD CENTERLINE
(E) PARKING STALLS TO BE REMOVED
EMERGENCY ACCESS SIGN, SEE NOTE 10
(E) RESIDENCE TO BE CONVERTED TO WINERY OFFICES
(E) GREASE INTERCEPTOR
(E) PUMP TANK
(E) ADA PARKING
(E) SEPTIC TANK, SEE NOTE 6
(E) ABANDONED SEPTIC SYSTEM
(E) COTTAGE #7
(E) BARN
65' CREEK SETBACK
AB2004 OUTDOOR TASTING AREA
FDC ON ASR
(E) ABANDONED SEPTIC SYSTEM
(E) VINEYARD, TYP
APPROXIMATE LOCATION OF 2004 SOIL TEST PIT, TYP OF 4
ASPHALT ACCESS ROAD
20.0' PROPERTY LINE SETBACK
28.0' ROAD SETBACK
(E) 14.2', SEE NOTE 5
MAIN WINERY SS TANKS, SEE NOTE 8
(E) PARKING STALL
AB2004 OUTDOOR TASTING AREA
FH (SEE NOTE 4)
(E) ABANDONED SEPTIC SYSTEM
5.0' SETBACK
20.0' + 2.0' SHLDR
APPROXIMATE (E) LEACHFIELD, SEE NOTE 8
50-FT EFFECTIVE TEST PIT RADIUS, TYP OF 4
APPROXIMATE PROPERTY LINE
90.0' SETBACK (SEE NOTE 3)
HIRSCH CREEK
(E) EMPLOYEE PARKING STALLS
(E) WATER TREATMENT SHED
(E) WATER STORAGE TANKS
PROPOSED FIRE PUMP HOUSE
FDC
CV
PIV
(E) COTTAGE #8
PROPOSED ACCESS ROAD, TYP
NAPA COUNTY FIRE TRUCK TURNAROUND, TYP
PROPOSED CAVE, SAD
PORTAL #1
PORTAL #2
PORTAL #3
CAVE PORTAL, TYP OF 3 (SEE NOTE 2)
(SEE NOTE 2)
(E) VINEYARD, TYP
(E) FIRE WATER TANKS TO BE REPLACED WITH 10,500 GAL CONCRETE TANKS (5 TOTAL)
(E) 100' WELL SETBACK
R100.0'
(E) WELL, APPROXIMATE LOCATION BASED ON INFORMATION IN NAPA COUNTY ONLINE ELECTRONIC DATABASE
NAPA COUNTY FIRE TRUCK TURNAROUND, TYP
(E) IRRIGATION TANKS
PROPOSED HOLD AND HAUL TANK SEE NOTE 11
PROPOSED PW TREATMENT SYSTEM, SEE NOTE 11
TP1
TP2
TP3
TP4
342.5'
85.6'
102.5'
96.1'
SEE SHEET UP2

NOTES:
1. ENTRANCE GEOMETRY COMPLIES WITH APPLICABLE REQUIREMENTS FROM THE NAPA COUNTY ROAD & STREET STANDARDS AND CALTRANS DESIGN REQUIREMENTS.
2. REFER TO ARCHITECT AND LANDSCAPE ARCHITECT DRAWINGS FOR PROPOSED LANDSCAPING AT CAVE PORTALS.
3. REFER TO LANDSCAPE ARCHITECT DRAWINGS FOR PROPOSED LANDSCAPING ALONG HIGHWAY 29.
4. FIRE HYDRANT TO BE COMPLIANT WITH CALIFORNIA FIRE CODE SECTION 507, APPENDIX B, AND APPENDIX C.
5. ROAD IS PROPOSED FOR FIRE EMERGENCY ACCESS ONLY. △3
6. THE EXISTING WINERY KITCHEN IS THE ONLY SOURCE OF WASTEWATER THAT IS CONNECTED TO THIS TANK. WASTEWATER FROM THE TANK IS PUMPED INTERMITTENTLY AND HAULED OFFSITE FOR DISPOSAL. THERE IS NO CONNECTION TO A LEACHFIELD FROM THIS TANK.
7. SEPTIC SYSTEM ONLY SERVES COTTAGE #4.
8. SS FROM COTTAGE #7, COTTAGE #8, BARN AND WINERY ALL FLOW TO MAIN SS TANKS AND TO MAIN LEACHFIELD FOR DISPOSAL.
9. WELL DEMOLITION PERMIT TO BE OBTAINED THROUGH NAPA COUNTY FOR DESTRUCTION OF THIS WELL
10. SIGNAGE WILL BE PROVIDED TO INDICATE ONLY EMERGENCY VEHICLES ARE PERMITTED BEYOND THIS POINT. THE ROADWAY WILL BE CLEARLY DELINEATED AS FIRE ACCESS ONLY. THE DETAILS OF FIRE ACCESS SIGNAGE AND DELINEATION WILL BE COORDINATED WITH NAPA COUNTY DURING SUBSEQUENT PHASES OF DESIGN.
11. WINERY PROPOSES TO INSTALL EITHER A PW HOLD-AND-HAUL TANK OR AN ONSITE PW TREATMENT SYSTEM. REFER TO WASTEWATER FEASIBILITY STUDY FOR ADDITIONAL DETAILS. △3

PARKING TABLE

NUMBER	TYPE
17	STANDARD WINERY SPACES
3	(E) STANDARD RESIDENTIAL SPACES
1	VAN ACCESSIBLE SPACE
21	**TOTAL SPACES**

ABBREVIATIONS:

AC	ASPHALT CONCRETE	FH	FIRE HYDRANT
AD	AREA DRAIN	GB	GRADE BREAK
APN	ASSESSOR'S PARCEL NUMBER	LIDF	LOW IMPACT DEVELOPMENT FACILITY
ASR	AUTOMATIC SPRINKLER RISER	LL	LOWER LEVEL
BASMAA	BAY AREA STORMWATER MANAGEMENT AGENCIES ASSOCIATION	PD	PLANTER DRAIN
		PIP	PROTECT IN PLACE
BFE	BASE FLOOD ELEVATION	PIV	POST INDICATOR VALVE
BLDG	BUILDING	PW	PROCESS WASTE
℄	CENTERLINE	SAD	SEE ARCHITECTURAL DRAWINGS
CONC	CONCRETE	SB	SETBACK
CV	CONTROL VALVE	SD	STORM DRAIN
DI	DRAIN INLET	SS	SANITARY SEWAGE
DMA	DRAINAGE MANAGEMENT AREA	SRA	SELF RETAINING AREA
DS	DOWNSPOUT	STD	STANDARD
DG	DECOMPOSED GRANITE	TD	TRENCH DRAIN
(E)	EXISTING	TI	TRAFFIC INDEX
FDC	FIRE DEPARTMENT CONNECTION	TYP	TYPICAL
FF	FINISH FLOOR	UL	UPPER LEVEL

SUMMIT
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AXR NAPA VALLEY
3199 ST HELENA HIGHWAY NORTH
SAINT HELENA, CA 94574
APN 022-080-025

USE PERMIT MODIFICATION

OVERALL SITE PLAN

2022-12-13	USE PERMIT APPLICATION
2023-04-13	USE PERMIT RESUBMITTAL
2023-12-11	USE PERMIT RESUBMITTAL
△3 2024-03-19	USE PERMIT RESUBMITTAL

DATE: 2024-03-19
JOB NO: 2021183
SCALE: AS SHOWN
DRAWN: JH
CHECKED: TCS

SHEET UP1 1OF 5

ENCLOSURE B

Environmental

Cover Sheet

APN	022 - 080 - 025 - 000
Permit #	E08-00140
Program	SD
DocType	Pmt
Street #	3199
Street Name	St Helena Hwy
Year	2008

STEVEN LEDERER
Director of Environmental Management

COUNTY of NAPA
ENVIRONMENTAL MANAGEMENT
1195Third Street, Suite 101, Napa CA 94559
Phone: 707/253-4471 Fax: 707/253-4545
www.co.napa.ca.us

SEWAGE PERMIT

Application Type:	EM Permits-Sewage System-New Install Conventional		
Permit Number:	E08-00140	**Applied Date:**	04/02/2008
Parcel Number:	022-080-025-000	**Issued Date:**	04/02/2008
		Expiration Date:	4/2/2010

Site Address:	3199 ST HELENA HWY NORTH ST HELENA		
Owner:	TILLEY CHRISTOPHER AND PAULINE	**Phone:**	
Address:	901 SKIBO LANE, MAMARONECK, NY, 10543-4726		
Applicant:	Christopher Tilley	**Phone:**	
Business Name:			

Type of Project: New Install Conventional

Commercial UP#: P04-0541

	Bedrooms				
	Existing	**Proposed**	**GPD**		**GPD**
Residence				**Sanitary Waste**	420
Second Dwelling				**Process Waste**	1000
Guest House					

Water Supply: Well

Distance from closest water source to any part of sewage system: >100

Specifications

Designer:	Jim Clifton	**Drainline:**	1076	**Sump Type:**	1200/0r 1500 Gal Sump
Engineered Plan Date:		**Trench Depth (in):**	36	**A/V Alarm:**	Yes
Conventional Plan Date:	03/10/2008	**Rock Under Pipe (in):**	18	**Remote Alarm:**	Yes
Septic Tank:	see plan	**Chamber Manu:**		**Elec Self Cert:**	Yes
Sewer Line:	ABS/PVC Sched 40	**Model Number:**			
Length (ft):		**DOC Backfill (in):**	12		
		DOC Fill (in):			

TO PERMITTEE:

Any work performed or operations conducted under the auspices of this permit constitutes acceptance of all conditions, inspections and comments contained in this permit, and the incorporation of all requirements as set forth in the permit application.

Staff Signature: _____ Date: 4/2/08

STEVEN LEDERER
Director of Environmental Management

COUNTY of NAPA
ENVIRONMENTAL MANAGEMENT
1195Third Street, Suite 101, Napa CA 94559
Phone: 707/253-4471 Fax: 707/253-4545
www.co.napa.ca.us

Sewage Permit
CONDITIONS/INSPECTIONS/COMMENTS

Application Type: New Install Conventional

Permit Number:	E08-00140	**Applied Date:**	04/02/2008
Parcel Number:	022-080-025-000	**Issued Date:**	04/02/2008
Applicant:	Christopher Tilley		
Owner:	TILLEY CHRISTOPHER AND PAULINE		

Conditions:

Code	Condition
HISTORIC SITE ISSUE	Historic Site. Historic Landmark nomination pending and must be obtained prior to issuance of Certificate of Occupancy per requirements of the Use Permit.
EM-11	The applicant shall comply with the Department of Public Works "Conditions of Approval-National Polution Discharge Elimination System Requirements", a copy of which was provided at the time of permit issuance. Failure to comply with the NPDES requirements will result in a stop-work order.
EM-5	An as-built drawing must be submitted prior to final.
EM-6	Electrical form to be submitted prior to final.

Inspections: Inspected By: Date: 04/02/2008

11/13/08 Note: 2 old tanks by house to be destroyed- Jim Clifton will pump, slash tires, & pull to land to dump & fine a 2nd payment is obtained for the grease interceptor

Inspection	
Leach Lines	~P 4/14/08
Initial Layout and Site Prep	4/14
Sewer Line	PZ 11/13/08
Septic Tank Installation	PZ 11/13/08
Sump Tank, Pump, Force Main	PZ 11/13/08
Control Box, Dose Counter, Alarm	PZ 12/4/08
D-Box	None
Environmental Management Final	PZ 12/4/08
Remote Alarm	PZ 12/4/08
Grease Interceptor Install	Installed later under separate permit

Comments:

Date	Comment
04/02/2008	Agreement for future winery on file.
	Call 253-4135 at least 24 hours in advance during normal business hours to schedule inspection requests. Inspections are taken on a first-come-first-served basis so if you need a specific date and time be sure to call well in advance
	Environmental Management"s inspection must be obtained prior to covering any portion of the system.
04/02/2008	Any deviation from these permit specifications without prior approval from the Department of Environmental Management will be cause for stopping work until the changes are fully justified and approved.
	If a claim is to be submitted for a refund, per County Code, a 25% processing fee will be retained. Such claims must be made within one year of the date on the receipt.

STEVEN LEDERER
Director of Environmental Management

COUNTY of NAPA

ENVIRONMENTAL MANAGEMENT
1195Third Street, Suite 101, Napa CA 94559
Phone: 707/253-4471 Fax: 707/253-4545
www.co.napa.ca.us

APPLICATION
THIS IS NOT A PERMIT

Application Type:	EM Permits-Sewage System-New Install Conventional		
Permit Number:	E08-00140	**Parcel Number:**	022-080-025-000
Situs Address:	3199 ST HELENA HWY NORTH ST HELENA	**Applied Date:**	04/02/2008
Owner:	TILLEY CHRISTOPHER AND PAULINE	**Phone:**	
Applicant:	Christopher Tilley	**Phone:**	

Worker's Compensation Coverage:
( ) A Certificate of current Worker's Comp Insurance Coverage is on file with this office (or filed with this application)
( ) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation laws of California.

By executing this application, the undersigned agrees to comply with all conditions, inspections and comments of the issued permit and all federal, state and county code requirements applicable to this permit. Furthermore, I understand that the Department of Environmental Management in no way guarantees trouble-free operation of the system, and that future repair may be necessary.

Owner or Authorized Agent Signature: Pauline C. Tilley Date: 4/2/08

COUNTY of NAPA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

STEVEN LEDERER
Director

CHRISTINE SECHELI
Assistant Director

SEPTIC SYSTEM SUMP PUMP ELECTRICAL SYSTEM INSTALLATION CONFORMANCE CERTIFICATION NOTICE

Complete this form, and return it to:

County of Napa
Dept. of Environmental Management
1195 Third Street, Suite 101
Napa, CA 94559

RECEIVED
DEC 04 2008
DEPT. OF
ENVIRONMENTAL MANAGEMENT

This installation self-certification is only available for use for a stand-alone breaker for a septic system sump pump and alarm with no other connections. A licensed contractor must complete the certification.

Site Owner: Chris Tilley

Assessor's Parcel Number (APN): 22-080-025

Site Address: 3199 St. Helena Hwy N

Septic System Permit Number: E08-00140

Building Permit Number: B07-00973

Date Installation Completed: Nov 25-08

Contractor: Gleffe Electric

License Number: 430094 Date:

Conductor Size: #12 Circuit Amperage: 20

Conductor Type: THHN copper

I, the undersigned, declare under penalty of perjury that the electrical apparatus to power the sewage sump pump and alarm is installed in conformance with the product manufacturer's recommendations and the California Electrical Code (1998 edition).

Executed this Dec 4th day of , 200 8 in Napa County, California.

Signature: Gary Gleffe

Print Name: Gary Gleffe

TILLEY / V. Madrone Cellars

3199 St. Helena Hwy

PW $\frac{20{,}000 \times 1.5}{30} = 1000$ GPD

SS

employees :	4 @ 15 GAL/Empl.	= 60
VISITORS	20 @ 3 GAL/Empl	= 60
EVENTS	20 @ 15 GAL/person	= 300
	(10 l/person)	
	(5 l MEAL)	420 GPD

TOTAL WASTEWATER FLOW

PW	1000 GPD
SS	420 GPD
	1420 GPD

TANK REQUIREMENTS :

Domestic = 1200 gallons

PW = 2 @ 1500 gallons

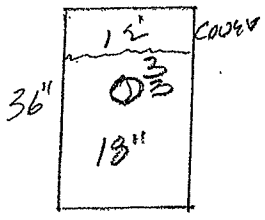
Grease INTERCEPTOR = 750 gallons

Leachfield 72" accept. soil

3-6"/hr = 0.33 gal/ft²/day

$\frac{1420}{(4)(0.3)} = 1076$ Lf.

trench detail



4 sq feet side wall per Foot

Chris + Pauline Tilley
3199 North St. Helena Hwy
St. Helena, Calif
A.P.N. 022-080-25

APN 022-080-026
EVANS

N50°35'24"E
162.71'

121.00'

N77°37'42"E

(E) COTTAGE

(E) GRAVEL ACCESS ROAD

(E) DUAL RESIDENCES TO REMAIN (MODIFICATION PER USE PERMIT UNDER SEPARATE PERMIT APPLICATION)

WELL

FERMENTATION AREA

STACKABLE PORTA TANKS
750 GALLON FERMENTATION TANK
1000 GALLON FERMENTATION TANK
1500 GALLON FERMENTATION TANK
3000 GALLON FERMENTATION TANK
STACKABLE PORTA TANKS

34.88'
S36°03'50"E

S23°58'24"W
250.89'

GRAVEL ACCESS ROAD

(E) HOUSE

(E) SEPTIC TANK

pump to house

750 Gallon Interceptor

(E) SEPTIC TANK

(E) COTTAGES

VISITOR PARKING

EMPLOYEE PARKING

GRAVEL DRIVE & TURN AROUND

Winery waste water

(E) BARN/ PROPOSED BARREL STORAGE

2 inch 40 Pump Line

REDWOOD GROVE

1200 Gallon Domestic waste

FL SEASONAL CREEK

20' WIDE RIGHT OF WAY

20'

WATER TREATMENT PLANT

WATER TANKS

(E) COTTAGE

Pump House

P105

#2

#10

540

560

520

TO OFF-SITE SPRING

262.98'
S70°59'16"E

66.80'
N53°56'10"E

APN 022-070-032
FRIAS

263.19'

S11°50'09"E

N66°5

JOB NORTH

NORTH

LEGEND:

C	COTTAGE
H	HOUSE
S	SEPTIC TANK
B	BARN
LT	LEAN TO
G	GARAGE
FL	FLOW LINE
CI	CONTOUR INTERVAL
L	LEACHFIELD

ACKNOWLEDGEMENT REGARDING ISSUANCE OF A SEWAGE PERMIT TO SERVE FUTURE WINERY

The undersigned owner(s) hereby acknowledge to the County of Napa through the Department of Environmental Management the following:

1. This acknowledgement applies to that parcel of land designated as Assessors parcel Number 022080025, located at 3199 St. Helena Hwy. N, St Helena within the County of Napa. A complete legal description of the property is attached hereto as Exhibit "A". Furthermore, this project has been approved by County Use Permit P04-0541.

2. The Constraints on the issuance of building permits may require owner to wait for several months until a permit is issued to construct the project on the above referenced parcel. Owner wishes to install a sewage system at the present time.

3. Owner acknowledges that he has been informed and understands that the issuance of a sewage permit does not guarantee that a building permit will ever be issued for the subject parcel. All construction is performed at owner's risk and the County of Napa shall not be responsible if owner fails to obtain a building permit at any time in the future.

4. Owner acknowledges that he has been informed and understands that he must comply with all other County requirements applicable to this project.

Owner Signature — Date: 4-2-08

Owner Signature — Date: 4/2/08

COUNTY *of* NAPA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

STEVEN LEDERER
Director

CHRISTINE M. SECHELI, R.E.H.S.
Assistant Director

INSTRUCTIONS FOR COMPLETING THE ACKNOWLEDGEMENT REGARDING ISSUANCE OF SEWAGE PERMIT TO SERVE A FUTURE WINERY

1. Type in the property owner's names, Assessor's Parcel number and site location.

2. All legal owners must sign and date the agreement and have the signatures notarized with an all purpose acknowledgement.

3. The property owner is responsible for submitting evidence satisfactory to this department that the slope in the area of the proposed sewage disposal system is less that 5% (In most cases a topological map of the area will be acceptable). **If the property is greater than 5% slope in the area of the sewage disposal system, this agreement may not be used unless the project has a valid use permit which considered the location of this septic system.**

4. Prior to issuance of a sewage permit the following must be completed:

   a) A developed water supply (well, spring or public agency) with the required yield and storage as stated in Title V, Article 2 of the County Code (the Well Ordinance).

   b) An approved soil percolation test must be on file with this office.

   c) If the soil percolation test requires a SDSDS, the plans must be submitted and approved.

   d) If the soil percolation test will allow a standard septic system, a plot plan indicating the proposed leach line location, reserve area, wells and other setbacks must be indicated.

5. This department may require that you receive a planning or zoning clearance from the CDPD. If not, after all the above steps have been completed, this office can issue the sewage permit.

PLEASE NOTE: ALL OTHER COUNTY REQUIREMENTS WILL STILL APPLY

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California
County of Napa }

On April 2nd 2008 (Date) before me, Lee Richard Gibson, Notary Public (Here Insert Name and Title of the Officer),
personally appeared Christopher W. Tilley & Pauline M. Cullen - Tilley (Name(s) of Signer(s)),

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Signature of Notary Public)

LEE RICHARD GIBSON
COMM. #1763333
NOTARY PUBLIC - CALIFORNIA
NAPA COUNTY
My Comm. Expires Aug. 24, 2011

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Acknowledgement re: issuance of sewage permit
Document Date: April 2nd 2008 Number of Pages: 1
Signer(s) Other Than Named Above: X

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____
☐ Individual
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Attorney in Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: _____

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

Signer's Name: _____
☐ Individual
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Attorney in Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: _____

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

STEVEN LEDERER
Director of Environmental Management

COUNTY of NAPA
ENVIRONMENTAL MANAGEMENT
1195Third Street, Suite 101, Napa CA 94559
Phone: 707/253-4471 Fax: 707/253-4545
www.co.napa.ca.us

APPLICATION
THIS IS NOT A PERMIT

Application Type:	EM Permits-Sewage System-New Install Conventional		
Permit Number:	E08-00140	**Parcel Number:**	022-080-025-000
Situs Address:	3199 ST HELENA HWY NORTH ST HELENA	**Applied Date:**	04/02/2008
Owner:	TILLEY CHRISTOPHER AND PAULINE	**Phone:**	
Applicant:	Christopher Tilley	**Phone:**	

Worker's Compensation Coverage:
( ) A Certificate of current Worker's Comp Insurance Coverage is on file with this office (or filed with this application)
(X) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation laws of California.

By executing this application, the undersigned agrees to comply with all conditions, inspections and comments of the issued permit and all federal, state and county code requirements applicable to this permit. Furthermore, I understand that the Department of Environmental Management in no way guarantees trouble-free operation of the system, and that future repair may be necessary.

Owner or Authorized Agent Signature: _____ Date: 4-2-08

Legend

A 4" Sewerline from Bathroom 5ft from back wall of winery 40' Long

B " " " + surface drain in separate pipes 71 from building

C 4" Sewer Line + surface drain in Separate pipes 44' to 4" VALVES 71 Long

D 4" " " " do.

E 4" Line to surface drain

F 2 1500 gal winery waste tanks

G 2 4" valves to direct stormwater out of Septic tanks in a box

H 1500 gal Domestic

I 1500 gal pump tank with duplex submersible pump

J 2" pump Line 106' Long 2" pump line 97'

K 2" pump Line

L Cross-overs for Drain field

M Drain field

90 -70 + 90-50 cross-over at 70'

N. Inspection pipe/cap

O Surface

Chris & Pauline Filley
3199 HWY 29
St. Helena
A.P.N. 22-080-025

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DEC 04 2008
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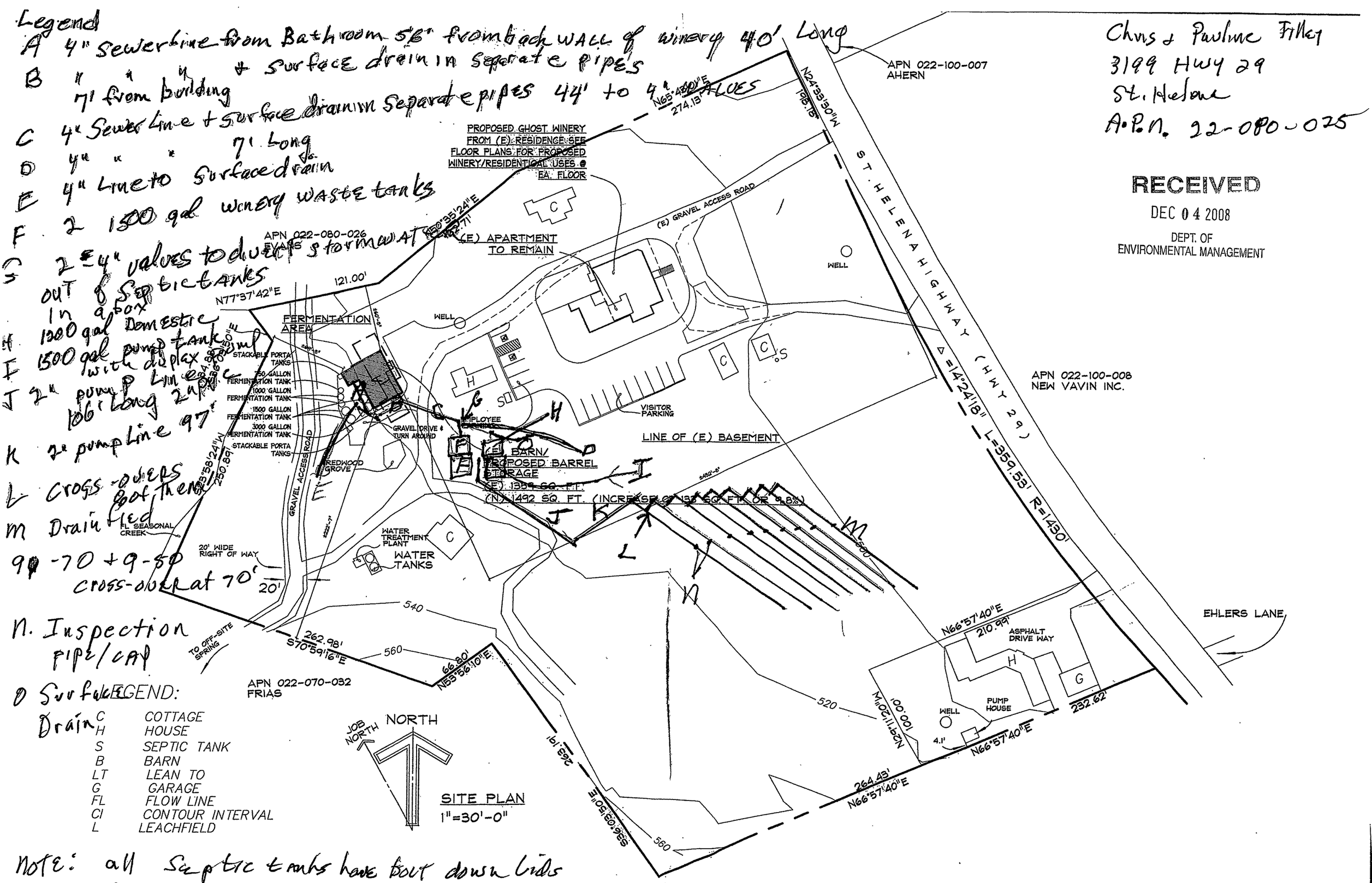
ENVIRONMENTAL MANAGEMENT



LEGEND:

C	COTTAGE
H	HOUSE
S	SEPTIC TANK
B	BARN
LT	LEAN TO
G	GARAGE
FL	FLOW LINE
CI	CONTOUR INTERVAL
L	LEACHFIELD

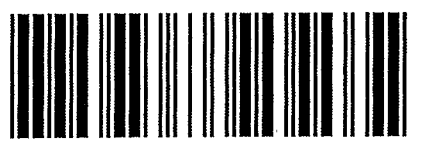
Note: all Septic tanks have bolt down lids to surface

ENCLOSURE C

Environmental

Cover Sheet

APN	022 - 080 - 025 - 000
Permit #	E04-0653
Program	SD
DocType	SER
Street #	3199
Street Name	St Helena Hwy
Year	2004



NAPA COUNTY

DEPARTMENT OF Environmental Management
1195 THIRD STREET ROOM 101 NAPA, CALIFORNIA 94559
PHONE 707-253-4471 FAX 707-253-4545 www.co.napa.ca.us

TRENT CAVE, R.E.H.S.
Director of Environmental Management

SITE EVALUATION

Permit Number:	**E04-0653**		
Status:	**PENDING**		Applied: 11/01/2004
Comp Type:	EMSEWAGE SITEEVAL		Test Date: 11/01/2004
Fee:	$456.00		Test Time:
Site Address:	**3199 ST HELENA HWY**	**Parcel Number:**	022-080-025-000
Owner:	**TILLEY CHRISTOPHER AND PAULINE**	Phone:	
Address:	901 SKIBO LANE MAMARONECK 10543-4726		
Applicant:	**JIM CLIFTON**	Phone:	965-2622

Type of Project: **site evaluation for winery**

Prosposed wastewater flows:

Residence:	0 gpd
Winery Production Capacity:	0 gpy ?
Process Waste:	0 gpd
Sanitary Waste:	0 gpd
Total Waste Flow:	0 gpd
Other:	0 gpd

Summary of Results:

Primary Area:

Conventional System	Y	Alternative System	N
Acceptable soil depth	72 inches	Acceptable soil depth	0 inches
Assigned percolation rate	3-6 inches/hour	Assigned percolation rate	inches/hour

Reserve Area:

Conventional System	Y	Alternative System	N
Acceptable soil depth	56 inches	Acceptable soil depth	0 inches
Assigned percolation rate	3-6 inches/hour	Assigned percolation rate	inches/hour

Comments:
Cond: EM-2
Plot Plan

Staff Signature: Kim Withrow Date: 12-20-04

DEM REHS KWithrow
Date 11/1/04

Soil Profile Data

Site Plan Received Yes
Accuracy Checked by KW

Profile	Horizon Depth	Boundary	Color	% Coarse Particles (>2 mm)	Texture	Structure	Perc Rate (inches/hr)	Consistence			Pores	Roots	Mottling
								D	M	W			
1	0-48"	Clear		0 - 15%	Silt Loam	Mod Blocky	3-6	--	V Frb	NS	Few Fine	Few Fine	None --/--
	48-72"	--		15 - 30%	SCL	Mod Blocky	3-6	--	V Frb	SS	Few Fine	-- None	None --/--
2	0-56"	Clear		0 - 15%	SCL	Strong Blocky	3-6	--	Frb	SS	Few Fine	Few Fine	None --/--
	56"+	--		>50%	Clay	-- --	--	--	--	--	-- --	-- --	-- --/--
3	0-18"	Clear		0 - 15%	Silt Loam	Mod Blocky	3-6	--	V Frb	NS	Few Fine	Few Fine	None --/--
	18-46"	Clear		15 - 30%	Silt Loam	Strong Blocky	3-6	--	V Frb	NS	Few Fine	-- None	None --/--
	46-72"	--		15 - 30%	SCL	Strong Blocky	3-6	--	Frb	SS	Few Fine	-- None	None --/--
4	0-18"	Clear		0 - 15%	Silt Loam	Mod Blocky	3-6	--	V Frb	NS	Few Fine	Few Fine	None --/--
	18-46"	Clear		15 - 30%	Silt Loam	Strong Blocky	3-6	--	V Frb	NS	Few Fine	-- None	None --/--
	46-72"	--		15 - 30%	SCL	Strong Blocky	3-6	--	Frb	SS	Few Fine	-- None	None --/--
		--		0 - 15%	--	-- --	--	--	--	--	-- --	-- --	-- --/--
		--		0 - 15%	--	-- --	--	--	--	--	-- --	-- --	-- --/--

Boundary	USDA Texture Class	Structure	Consistence			Pores	Roots	Mottles
Abrupt: <1"; Clear: 1" – 2.5"; Gradual: 2.5" – 5"; Diffuse: >5"	Sand; **L**oamy Sand; **S**andy **L**oam; Sandy **C**lay **L**oam; Sandy **C**lay; **C**lay **L**oam; Loam; Clay; Silty Clay; **S**ilty **C**lay **L**oam Silt Loam; Silt	Weak, **Mo**derate, or Strong and **G**ranular; Platy; **P**rismatic; **C**olumnar; Blocky; **A**ngular **B**locky; **S**ubangular **B**locky; **M**assive; **Ce**mented	Dry- **L**oose; Soft; Slightly Hard; Hard; Very Hard; **E**xtremely Hard	Moist: **L**oose; Very **F**riable; **F**riable; Firm; Very Firm; **E**xtremely Firm;	Wet: NonSticky; Slightly Sticky; Sticky; Very Sticky; NonPlastic; Slightly Plastic; Plastic; Very Plastic	Quantity: Few, Common or Many; Size: Very Fine, Fine, Medium, Coarse	Quantity: Few, Common or Many; Size: Very Fine, Fine, Medium, Coarse, Very Coarse	Quantity: Few, Common, or Many; Size: Fine, **M**edium, **C**oarse, Very **C**oarse or **E**xtremely **C**oarse; Contrast: **F**aint, **D**istinct or **P**rominent

Site Address: 3199 St. Helena Highway North City: St. Helena AP Number: 022-080-025
Owner: Tilley Site Evaluator: Jim Clifton Permit #: E04-0653

E04-653

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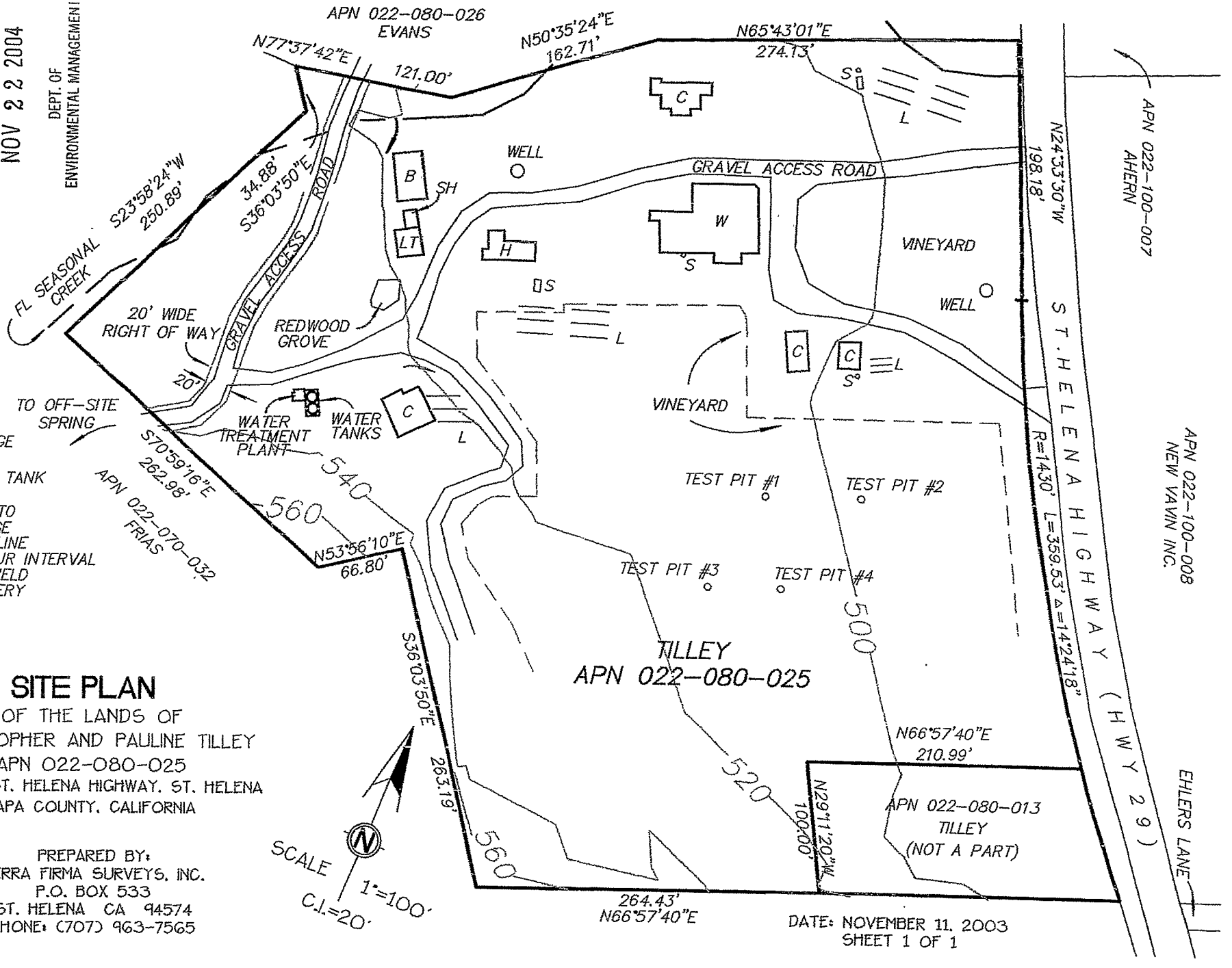
DEPT. OF ENVIRONMENTAL MANAGEMENT



LEGEND:

C	COTTAGE
H	HOUSE
S	SEPTIC TANK
B	BARN
LT	LEAN TO
G	GARAGE
FL	FLOW LINE
CI	CONTOUR INTERVAL
L	LEACHFIELD
W	WINERY

SITE PLAN

OF THE LANDS OF
CHRISTOPHER AND PAULINE TILLEY
APN 022-080-025
3199 N. ST. HELENA HIGHWAY, ST. HELENA
NAPA COUNTY, CALIFORNIA

PREPARED BY:
TERRA FIRMA SURVEYS, INC.
P.O. BOX 533
ST. HELENA CA 94574
PHONE: (707) 963-7565

DATE: NOVEMBER 11, 2003
SHEET 1 OF 1

Terra Firma Surveys, Inc.
P.O. Box 533
St. Helena California 94574

Phone: (707) 963-7565 *Fax: (707) 963-7542*

LETTER OF TRANSMITTAL

TO: Christine M. Secheli, R.E.H.S.
Napa County Department of Environmental Management
1195 Third Street, Room 101
Napa CA 94559

RECEIVED
NOV 2 2 2004
DEPT. OF
ENVIRONMENTAL MANAGEMENT

DATE: November 19, 2004

CC: Christopher Tilley

FROM: Christopher K. Cole CKC

RE: **Site Plan with Septic Systems**
Lands of Christopher and Pauline Tilley
APN 022-080-025 3199 N. St. Helena Hwy, St. Helena CA
7.85 Acres

ENCLOSED:

- One 8 ½"x11" Site Plan of the Tilley parcel plotted at a scale of 1"=100'.

COMMENTS:

This map shows all of the existing septic systems and leachfields. The most recent test holes in the main vineyard prepared by Jim Clifton are also shown.

Please call if you have any questions.

ENCLOSURE D

Legend:
BLUE Option 1: 900 SF Package Treatment System with Subsurface Drip Disposal (3,000 SF Primary and 200% Reserve = 6,000 SF)
GREEN Option 2: 900 SF Package Treatment System with Land Application Area via Vineyard Irrigation (1 acre)
ORANGE Option 3: Hold and Haul

0 30 60
GRAPHIC SCALE IN FEET

OWNER:
AXR NAPA VALLEY
3199 SAINT HELENA HIGHWAY NORTH
SAINT HELENA, CA 94574

APPLICANT:
SUMMIT ENGINEERING, INC.
575 W. COLLEGE AVENUE, SUITE 201
SANTA ROSA, CA 95401

APN 022-080-026
APN 022-100-008
APN 022-080-025
APN 022-080-013
APN 022-070-032

SAINT HELENA HIGHWAY
(E) HISTORIC WALL, TYP
(E) ROAD CENTERLINE
40.0' DECELERATION LANE
R20.0' (SEE NOTE 1)
R50.0'
240.8'
15.2'
21.2'
62.5' OF FROM TOP OF BANK
(E) SEPTIC TANK, SEE NOTE 7
(E) SEPTIC SYSTEM, SEE NOTE 7
5' SETBACK FROM SEPTIC SYSTEM
(E) GRAVEL PARKING STALLS
(E) COTTAGE #4
20.0' + 2.0' SHLDR
LIMITS OF NEW GRAVEL WIDENING TO MEET NAPA COUNTY ROAD & STREET STANDARDS, TYP
(E) PARKING STALLS
(E) FH
(E) ABANDONED WELL DESTROYED UNDER PERMIT E07-00318
(E) ABANDONED WELL SEE NOTE 9
(E) WINERY
(E) 15.3'
(E) PARKING STALLS TO BE REMOVED
EMERGENCY ACCESS SIGN, SEE NOTE 10
(E) RESIDENCE TO BE CONVERTED TO WINERY OFFICES
(E) GREASE INTERCEPTOR
(E) PUMP TANK
(E) ADA PARKING
(E) SEPTIC TANK, SEE NOTE 6
(E) ABANDONED SEPTIC SYSTEM
(E) 14.7'
(E) COTTAGE #7
(E) BARN
65' CREEK SETBACK
76.0'
AB2004 OUTDOOR TASTING AREA
FDC ON ASR
(E) ABANDONED SEPTIC SYSTEM
(E) 14.2', SEE NOTE 5
MAIN WINERY SS TANKS, SEE NOTE 8
(E) VINEYARD, TYP
5.0' SETBACK
20.0' + 2.0' SHLDR
APPROX. LIMITS OF VINEYARD IRRIGATION (~1 ACRE)
APPROXIMATE PROPERTY LINE
90.0' SETBACK
(SEE NOTE 3)
20.0' PROPERTY LINE SETBACK
ASPHALT ACCESS ROAD
28.0' ROAD SETBACK
HIRSCH CREEK
(E) EMPLOYEE PARKING STALLS
(E) PARKING STALL
AB2004 OUTDOOR TASTING AREA
FH (SEE NOTE 4)
(E) WATER TREATMENT SHED
(E) WATER STORAGE TANKS
PROPOSED FIRE PUMP HOUSE
FDC
CV
PIV
(E) COTTAGE #8
PROPOSED ACCESS ROAD, TYP
NAPA COUNTY FIRE TRUCK TURNAROUND, TYP
PROPOSED CAVE, SAD
CAVE PORTAL, TYP OF 3 (SEE NOTE 2)
PORTAL #1
PORTAL #2
PORTAL #3
(SEE NOTE 2)
102.5'
96.1'
85.6'
R100.0'
25.0'
(E) FIRE WATER TANKS TO BE REPLACED WITH 10,500 GAL CONCRETE TANKS (5 TOTAL)
(E) 100' WELL SETBACK
SEE SHEET UP2
APPROXIMATE LOCATION OF 2004 SOIL TEST PIT, TYP OF 4
SUBSURFACE DISPOSAL AREA PRIMARY ~3,000 SF
50-FT EFFECTIVE TEST PIT RADIUS, TYP OF 4
APPROXIMATE (E) LEACHFIELD, SEE NOTE 8
200% RESERVE DISPOSAL AREA ~6,000 SF
342.5'
(E) WELL, APPROXIMATE LOCATION BASED ON INFORMATION IN NAPA COUNTY ONLINE ELECTRONIC DATABASE
NAPA COUNTY FIRE TRUCK TURNAROUND, TYP
(E) IRRIGATION TANKS
PROPOSED HOLD AND HAUL TANK SEE NOTE 11
PROPOSED PW TREATMENT SYSTEM, SEE NOTE 11
900 SF PACKAGE TREATMENT SYSTEM
900 SF PACKAGE TREATMENT SYSTEM
TREATED EFFLUENT IRRIGATION STORAGE TANK
HOLD AND HAUL TANK
TP1
TP2
TP3
TP4

NOTES:
1. ENTRANCE GEOMETRY COMPLIES WITH APPLICABLE REQUIREMENTS FROM THE NAPA COUNTY ROAD & STREET STANDARDS AND CALTRANS DESIGN REQUIREMENTS.
2. REFER TO ARCHITECT AND LANDSCAPE ARCHITECT DRAWINGS FOR PROPOSED LANDSCAPING AT CAVE PORTALS.
3. REFER TO LANDSCAPE ARCHITECT DRAWINGS FOR PROPOSED LANDSCAPING ALONG HIGHWAY 29.
4. FIRE HYDRANT TO BE COMPLIANT WITH CALIFORNIA FIRE CODE SECTION 507, APPENDIX B, AND APPENDIX C.
5. ROAD IS PROPOSED FOR FIRE EMERGENCY ACCESS ONLY. (3)
6. THE EXISTING WINERY KITCHEN IS THE ONLY SOURCE OF WASTEWATER THAT IS CONNECTED TO THIS TANK. WASTEWATER FROM THE TANK IS PUMPED INTERMITTENTLY AND HAULED OFFSITE FOR DISPOSAL. THERE IS NO CONNECTION TO A LEACHFIELD FROM THIS TANK.
7. SEPTIC SYSTEM ONLY SERVES COTTAGE #4.
8. SS FROM COTTAGE #7, COTTAGE #8, BARN AND WINERY ALL FLOW TO MAIN SS TANKS AND TO MAIN LEACHFIELD FOR DISPOSAL.
9. WELL DEMOLITION PERMIT TO BE OBTAINED THROUGH NAPA COUNTY FOR DESTRUCTION OF THIS WELL
10. SIGNAGE WILL BE PROVIDED TO INDICATE ONLY EMERGENCY VEHICLES ARE PERMITTED BEYOND THIS POINT. THE ROADWAY WILL BE CLEARLY DELINEATED AS FIRE ACCESS ONLY. THE DETAILS OF FIRE ACCESS SIGNAGE AND DELINEATION WILL BE COORDINATED WITH NAPA COUNTY DURING SUBSEQUENT PHASES OF DESIGN.
11. WINERY PROPOSES TO INSTALL EITHER A PW HOLD-AND-HAUL TANK OR AN ONSITE PW TREATMENT SYSTEM. REFER TO WASTEWATER FEASIBILITY STUDY FOR ADDITIONAL DETAILS. (3)

PARKING TABLE

NUMBER	TYPE
17	STANDARD WINERY SPACES
3	(E) STANDARD RESIDENTIAL SPACES
1	VAN ACCESSIBLE SPACE
21	**TOTAL SPACES**

ABBREVIATIONS:

AC	ASPHALT CONCRETE	FH	FIRE HYDRANT
AD	AREA DRAIN	GB	GRADE BREAK
APN	ASSESSOR'S PARCEL NUMBER	LIDF	LOW IMPACT DEVELOPMENT FACILITY
ASR	AUTOMATIC SPRINKLER RISER	LL	LOWER LEVEL
BASMAA	BAY AREA STORMWATER MANAGEMENT AGENCIES ASSOCIATION	PD	PLANTER DRAIN
		PIP	PROTECT IN PLACE
BFE	BASE FLOOD ELEVATION	PIV	POST INDICATOR VALVE
BLDG	BUILDING	PW	PROCESS WASTE
℄	CENTERLINE	SAD	SEE ARCHITECTURAL DRAWINGS
CONC	CONCRETE	SB	SETBACK
CV	CONTROL VALVE	SD	STORM DRAIN
DI	DRAIN INLET	SS	SANITARY SEWAGE
DMA	DRAINAGE MANAGEMENT AREA	SRA	SELF RETAINING AREA
DS	DOWNSPOUT	STD	STANDARD
DG	DECOMPOSED GRANITE	TD	TRENCH DRAIN
(E)	EXISTING	TI	TRAFFIC INDEX
FDC	FIRE DEPARTMENT CONNECTION	TYP	TYPICAL
FF	FINISH FLOOR	UL	UPPER LEVEL

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AXR NAPA VALLEY
3199 ST HELENA HIGHWAY NORTH
SAINT HELENA, CA 94574
APN 022-080-025

USE PERMIT MODIFICATION

OVERALL SITE PLAN

2022-12-13	USE PERMIT APPLICATION
2023-04-13	USE PERMIT RESUBMITTAL
2023-12-11	USE PERMIT RESUBMITTAL
3 2024-03-19	USE PERMIT RESUBMITTAL

DATE: 2024-03-19
JOB NO: 2021183
SCALE: AS SHOWN
DRAWN: JH
CHECKED: TCS
SHEET UP1 1 OF 5

(E) WINERY

(E) COTTAGE #7

(E) BARN

(E) VINEYARD

(E) COTTAGE #8

(E) WATER TANKS

(E) OH

(E) SS, TYP

4" SD

TP CONF 321.59±

TP CONF 320.58±

EG 331.73
TP 330.00

TD #3
TG 326.48
IE 324.48

EG 342.28
TP 326.48

PROPOSED WINE CAVE

TOE OF 2:1 FILL

EG/TP 324.15

APPROXIMATE LOCATION OF 2004 SOIL TEST PIT, TYP OF 4

TP1

TP2

TP3

TP4

50-FT EFFECTIVE TEST PIT RADIUS, TYP OF 4 (3)

TD #1
TG 321.90
IE 319.90

EG 336.20
TP 321.90

TP 323.22
EG 323.16

RETAINING WALL, TYP

SEE NOTE 1 (1)

TD #2
TG 321.90
IE 319.90

EG 325.55
TP 323.60

TP 323.20
EG 322.97

EG 337.82
TP 321.90

RIPRAP ENERGY DISSIPATOR

IE 317.93

Setbacks from proposed storm drain to leachfield

APPROXIMATE PROPERTY LINE

NOTES: (1)

1. REFER TO ARCHITECT DRAWINGS FOR SLOPES ABOVE CAVE PORTALS.

0 20 40
GRAPHIC SCALE IN FEET

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SAINT HELENA, CA 94574
APN 022-080-025

USE PERMIT MODIFICATION

PERLIMINARY GRADING & DRAINAGE PLAN

	2022-12-13 USE PERMIT APPLICATION
	2023-04-13 USE PERMIT RESUBMITTAL
	2023-12-11 USE PERMIT RESUBMITTAL
3	2024-03-19 USE PERMIT RESUBMITTAL

DATE: 2024-03-19
JOB NO: 2021183
SCALE: AS SHOWN
DRAWN: JH
CHECKED: TCS

SHEET UP2
2 OF 5

ENCLOSURE E

SUMMIT ENGINEERING, INC.	AXR Napa Valley Wastewater Feasibility Study PW Effluent Storage Tank Sizing (Option 3)	PROJECT NO. 2021183 BY: CC CHK:

PW EFFLUENT STORAGE TANK

Min. Tank Volume=	29,490	gallons	(Can be split into multiple tanks)
Number of tanks=	1		(provides 15 days of storage at average peak harvest month flows)
Needed tank volume	29,490	gallons	
Selected tank volume	32,000	gallons	based on National Storage Tank 32,000 gallon Factory Coated Bolted Steel Tank #492
Actual Tank Height =	18	ft	
Useable Tank Height =	16	ft	Accounting for 2 feet of freeboard
Tank Diameter =	16.00	ft	
Unit Volume =	2,000	gal/ft	

Month	Initial Volume (gal)	Total Inflow (gal)	Divert Volume[a] (gal)	Final Volume (gal)	Final Depth (ft)
August	0	22,050	22,050	0	0.0
September	0	34,440	22,000	12,440	6.2
October	12,440	27,090	25,000	14,530	7.3
November	14,530	15,540	15,000	15,070	7.5
December	15,070	13,440	10,000	18,510	9.3
January	18,510	13,860	10,000	22,370	11.2
February	22,370	15,120	8,000	**29,490**	14.7
March	29,490	15,960	17,000	28,450	14.2
April	28,450	14,280	15,000	27,730	13.9
May	27,730	13,440	20,000	21,170	10.6
June	21,170	11,760	20,000	12,930	6.5
July	12,930	13,020	25,950	0	0.0
TOTAL	**202,690**	**210,000**	**210,000**		

[a] Monthly volume of effluent to be used for onsite irrigation or reuse.

SUMMIT ENGINEERING, INC.	AXR NAPA VALLEY Wastewater Feasibility Study PW Irrigation Balance	PROJECT NO. 2021183 BY: CC CHK:

Applied Irrigation Area Vineyard 1.00 acres

Total Area Available for Irrigation Vineyard acres

Month	Reference ET[a]	Turfgrass Crop Coefficient[b]	Vineyard Crop Coefficient[c]	Turfgrass ET[d]	Vineyard ET[d]	100 year Precipitation[e]	Irrigation Demand[f]		Operating Days per Month[g]	Percolation Capacity[h]		Assimilative Capacity[i]		Effluent Applied[j]		Excess Capacity
	(in)			(in)	(in)	(in)	(in)	(Mgal)	(d)	(in)	(Mgal)	(in)	(Mgal)	(Mgal)	(in)	(Mgal)
August	6.5	0.9	0.5	5.6	2.9	0.1	2.8	0.077	25	30.60	0.831	33.4	0.908	0.022	0.81	0.89
September	5.1	0.7	0.3	3.8	1.3	0.2	1.2	0.032	22	26.93	0.732	28.1	0.764	0.022	0.81	0.74
October	3.4	0.8	0.1	2.6	0.2	4.2	0.0	0.000	17	20.81	0.565	20.8	0.565	0.025	0.92	0.54
November	1.8	0.7	0.0	1.2	0.0	8.2	0.0	0.000	12	14.69	0.399	14.7	0.399	0.015	0.55	0.38
December	0.9	0.6	0.0	0.6	0.0	18.1	0.0	0.000	11	13.46	0.366	13.5	0.366	0.010	0.37	0.36
January	1.2	0.6	0.0	0.8	0.0	16.3	0.0	0.000	11	13.46	0.366	13.5	0.366	0.010	0.37	0.36
February	1.7	0.6	0.0	1.1	0.0	16.9	0.0	0.000	11	13.46	0.366	13.5	0.366	0.008	0.29	0.36
March	3.4	0.8	0.0	2.6	0.0	12.6	0.0	0.000	12	14.69	0.399	14.7	0.399	0.017	0.63	0.38
April	4.8	1.0	0.2	5.0	0.8	5.0	0.0	0.000	15	18.36	0.499	18.4	0.499	0.015	0.55	0.48
May	6.2	1.0	0.6	5.9	3.6	3.3	0.3	0.008	18	22.03	0.599	22.3	0.607	0.020	0.74	0.59
June	6.9	0.9	0.7	6.1	4.9	0.9	4.0	0.109	22	26.93	0.732	30.9	0.841	0.020	0.74	0.82
July	7.4	0.9	0.6	7.0	4.8	0.0	4.7	0.129	26	31.82	0.865	36.6	0.993	0.026	0.96	0.97
Total	**49.4**			**42.1**	**18.5**	**85.7**	**13.0**	**0.4**	**202.0**	**247.2**	**6.7**	**260.3**	**7.1**	**0.21**	**7.7**	**6.86**

(a) Average monthly reference evapotranspiration rates, see Climate Data Worksheet.
(b) Kc coefficients for pasture from Table 1, "Landscape Irrigation System Evaluation and Management"- University of California Cooperative Extension, April 2009
(c) Kc coefficients for vineyards from Table 5-12, Irrigation with Reclaimed Municipal Wastewater - A Guidance Manual, 84-1 wr, SWRCB.
(d) ET=ETo x Kc. A weighted value is determined on the basis of the available irrigated acreage of vineyard and pasture.
(e) Precipitation, 10-year rainfall event, see Climate Data Worksheet.
(f) Irrigation Demand = ET-Precipitation, inches. A weighted value is determined on the basis of the available irrigated acreage of vineyard and pasture.
(g) Number of operating days per month based on estimated irrigation days available based on 24-hr post storm criteria for a 100-year return period. Summit Engineering, NBRID Capacity Study, April 1996.
(h) Design percolation rate is a maximum of.75 inches per day for the number of operating day per month. Per USDA soil survey, predominant soil type is bale loam.
Sizing perc rate based on clay soils. Pretreated loading rates for non-shrink clay soils adjusted by a 0.04 safety factor to account for typical slow rate land application design methodology.
(i) Assimilative capacity is the sum of irrigation demand and percolation applied.
(j) Effluent applied depths exceeding 1 inch/month could result in ponding; if ponding occurs, additional disposal area may be required for expansion

Percolation Adjustment		
Hourly Percolation Rate	1.275	in/hr
15	24	hr/day
Daily Percolation Rate	30.6	in/day
Land Application Safety Factor	0.04	
Adjusted Percolation Rate	1.22	in/day

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