Wastewater Feasibility Study

Flynnville Wine Company P12-00222 & P12-00223
Planning Commission Hearing February 15, 2017

October 23, 2015

Napa County PBES
1195 Third Street, 2nd Floor
Napa, CA 94559

Attention: Peter Ex

Re: Flynnville Wine Company
1402 St. Helena Highway
Calistoga, CA 94515
Use Permit Application
Project Number 2008008

Dear Mr. Ex:

This correspondence is provided to address the feasibility to treat and dispose of wastewater from the proposed Flynnville Wine Company facility which will be located at 1402 St. Helena Highway in Calistoga, Napa County. The winery is currently applying for a Use Permit for the ultimate production of 25,000 cases of wine per year. The winery will include a new process wastewater system for a 25,000 case winery facility and a new sanitary sewage management system for the proposed hospitality plan and winery employees.

As part of the Use Permit application, we have developed the enclosed wastewater management system feasibility study. The process wastewater (PW) management system will be a collection of PW from work areas with gravity transmission with screening to a subsurface pump/sump tank. After the pump/sump tank, Flynnville Wine Company is considering a package treatment plant system provided by equipment manufacturers (e.g. Orenco Systems, Inc., Lyve Winery Wastewater Systems, or MBR or equivalent system) followed by sub-surface drip dispersal. Flynnville Wine Company is also presenting the option of recycling treated PW for irrigation of proposed vineyard and landscape areas. In both cases, adequate capacity exists for the disposal or reuse of PW.

The sanitary sewage (SS) will flow by gravity to a septic tank equipped with an effluent filter for solids capture. From the septic tank, the SS will flow to sump tank where it will be pumped to a pretreatment system followed by sub-surface drip dispersal.

A description and sizing criteria for each alternative is provided in Enclosures B and C of this report. Please refer to the overall site plan for site and project features including well locations, and locations of the proposed PW and SS management systems.

Comments received via email correspondence from Kim Withrow, and from you in the September 28, 2015 incompleteness letter have been addressed. The incompleteness letter and email correspondence from Kim Withrow are included in Enclosure F.

Enclosure A: Vicinity Map

- Overall Site Plan (UP1)
- Wastewater Site Plan (UP3)
- PW Wastewater Management System Schematic
- SS Wastewater Management System Schematic
- Typical Winery Wastewater Characteristics

Enclosure B: Wastewater Management System Description

Enclosure C: Wastewater Management System Design Criteria

Enclosure D: Process Wastewater Irrigation Balance

- Lyve Wastewater Treatment System Information
- Advantex Wastewater Treatment System Information

Enclosure E: Site Evaluation Data

Enclosure F: Environmental Health Comments from Kim Withrow and Peter Ex, Napa County PBES

Should you have any questions or need any additional information, please call me at your earliest convenience (707) 527-0775 ext. 124.

Sincerely,

Jason Roberts, P.E.
PROJECT ENGINEER
C 82666

FLYNNVILLE WINE COMPANY

WASTEWATER FEASIBILITY STUDY

ENCLOSURE A

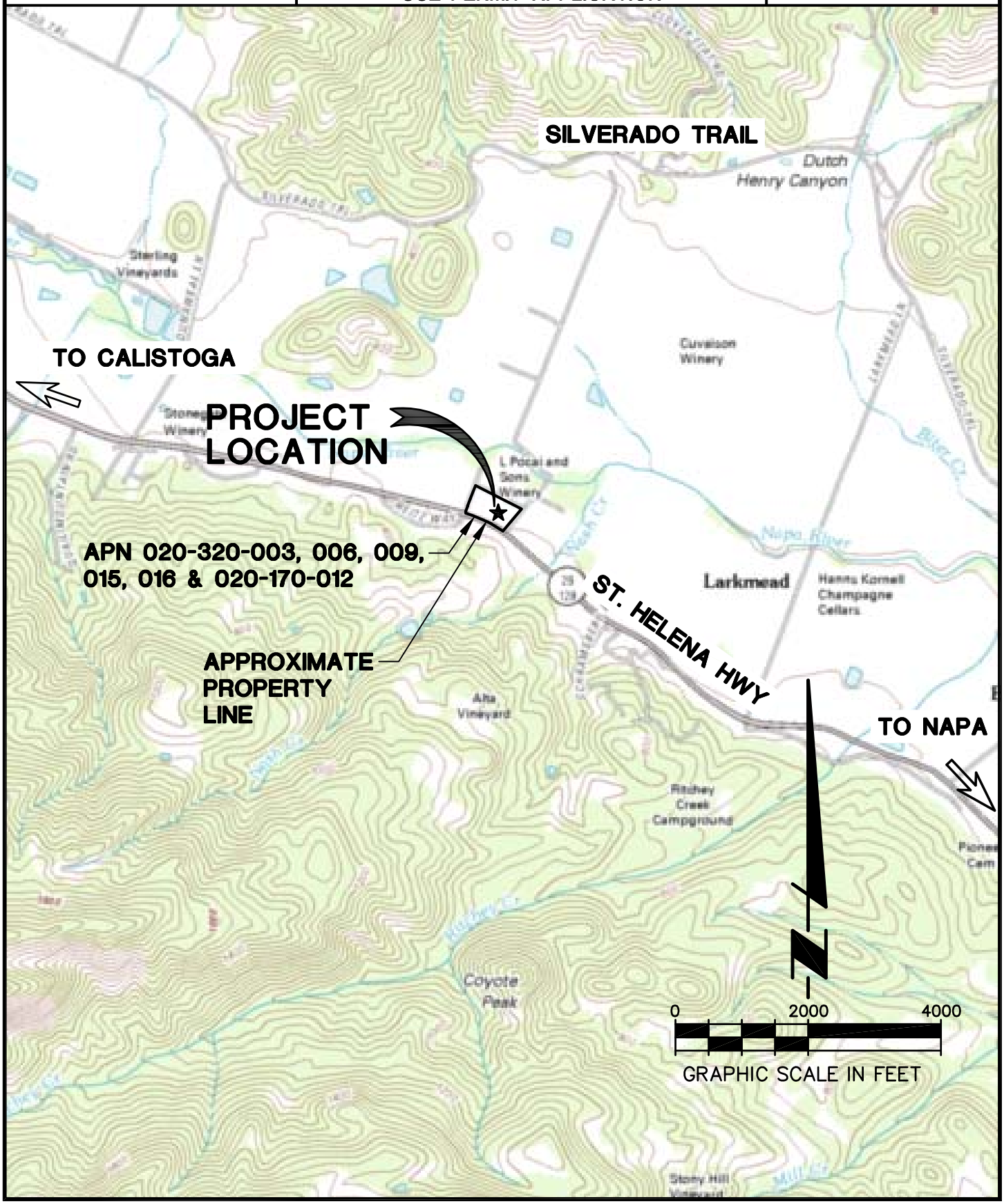
VICINITY MAP
OVERALL SITE PLAN (UP1)
WASTEWATER SITE PLAN (UP3)
PW MANAGEMENT SYSTEM SCHEMATIC
SS MANAGEMENT SYSTEM SCHEMATIC
TYPICAL WINERY WASTEWATER CHARACTERISTICS

SUMMIT

FLYNNWILLE WINE COMPANY
1184 MAPLE LANE
CALISTOGA, CALIFORNIA
APN 020-320-003, 006, 009, 015, 016, & 202-170-012

USE PERMIT APPLICATION

PROJECT NO. 2008008
DATE 2015-07-02
SHT NO 1 OF 1
BY JA CHK MS



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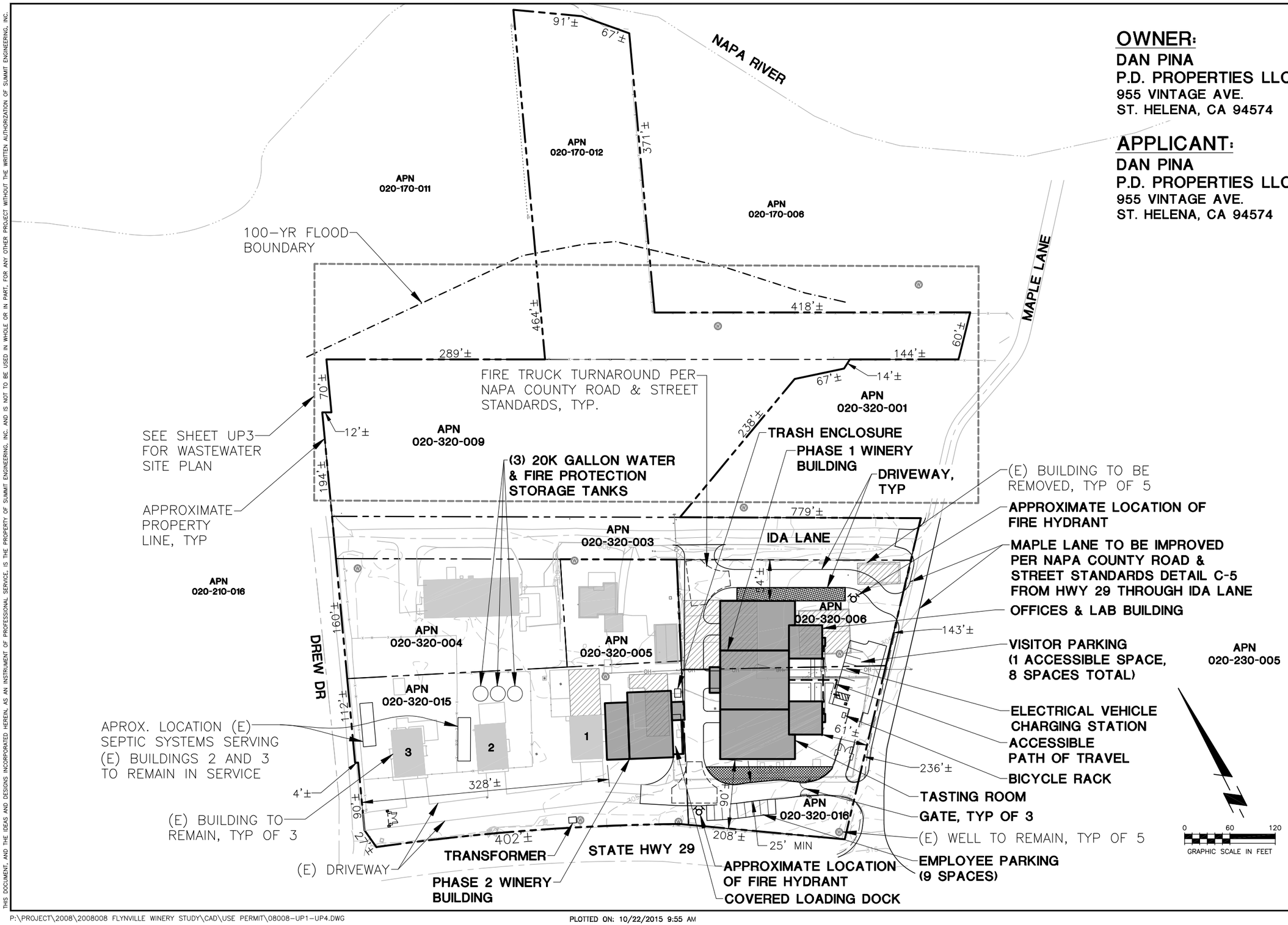
Summit Engineering, Inc
463 Aviation Blvd., Suite 200 • Santa Rosa, CA 95403 • 707-527-0775 • www.summit-sr.com



OWNER:
DAN PINA
P.D. PROPERTIES LLC
955 VINTAGE AVE.
ST. HELENA, CA 94574

APPLICANT:
DAN PINA
P.D. PROPERTIES LLC
955 VINTAGE AVE.
ST. HELENA, CA 94574

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CALISTOGA, CALIFORNIA
APN 020-320-003, 006, 009, 015, 016, & 020-170-012

USE PERMIT APPLICATION

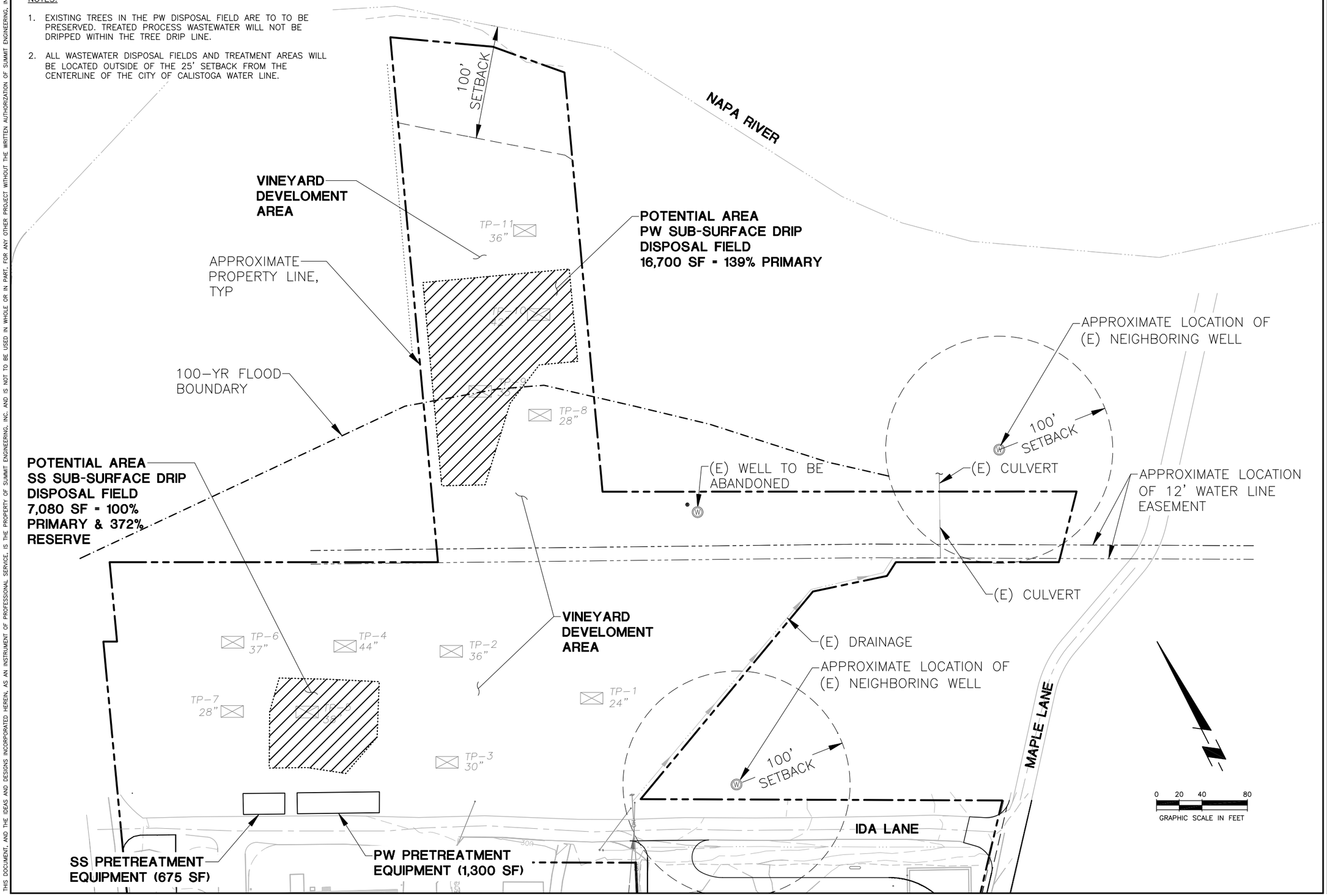
OVERALL SITE PLAN

2015-07-02	PERMIT SUBMITTAL
2015-09-02	PERMIT RESUBMITTAL
2015-10-23	PERMIT RESUBMITTAL

DATE:	2015-07-02
JOB NO:	2008008
SCALE:	AS SHOWN
DRAWN:	TF
CHECKED:	MS
SHEET	UP1

NOTES:

1. EXISTING TREES IN THE PW DISPOSAL FIELD ARE TO TO BE PRESERVED. TREATED PROCESS WASTEWATER WILL NOT BE DRIPPED WITHIN THE TREE DRIP LINE.
2. ALL WASTEWATER DISPOSAL FIELDS AND TREATMENT AREAS WILL BE LOCATED OUTSIDE OF THE 25' SETBACK FROM THE CENTERLINE OF THE CITY OF CALISTOGA WATER LINE.



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CALISTOGA, CALIFORNIA
APN 020-320-003, 006, 009, 015, 016, & 020-170-012

USE PERMIT APPLICATION

WASTEWATER SITE PLAN

2015-07-02	PERMIT SUBMITTAL
2015-09-02	PERMIT RESUBMITTAL
2015-10-23	PERMIT RESUBMITTAL

DATE: 2015-07-02
JOB NO: 2008008
SCALE: AS SHOWN
DRAWN: JR
CHECKED: MS

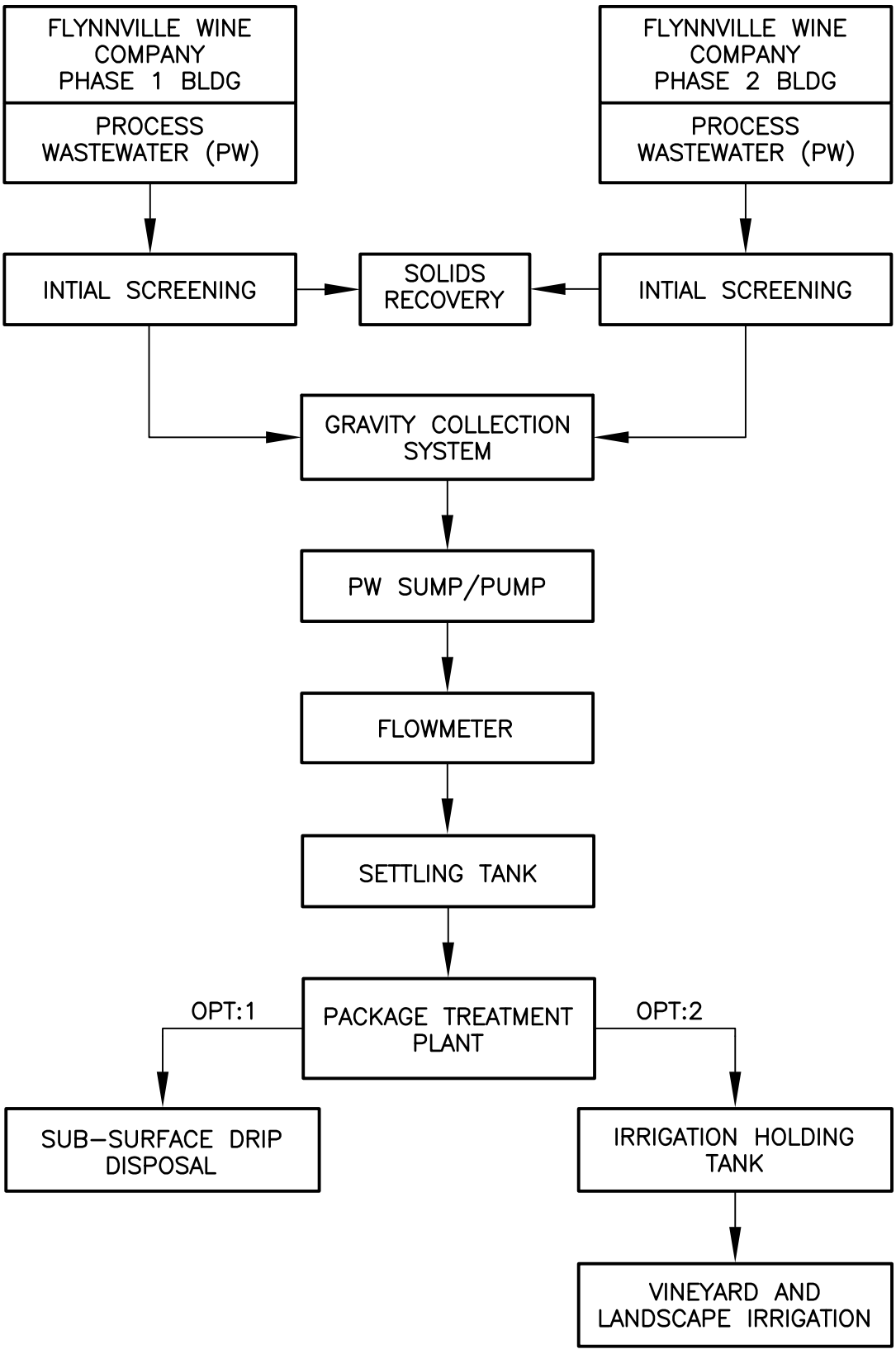
SHEET **UP3**

FLYNNVILLE WINE COMPANY
1402 ST. HELENA HWY
CALISTOGA, CA 94515

SUMMIT

PW MANAGEMENT SYSTEM SCHEMATIC

PROJECT NO. 2008008 DATE 09-02-2015
BY JR CHK GG SHT NO 1 OF 1



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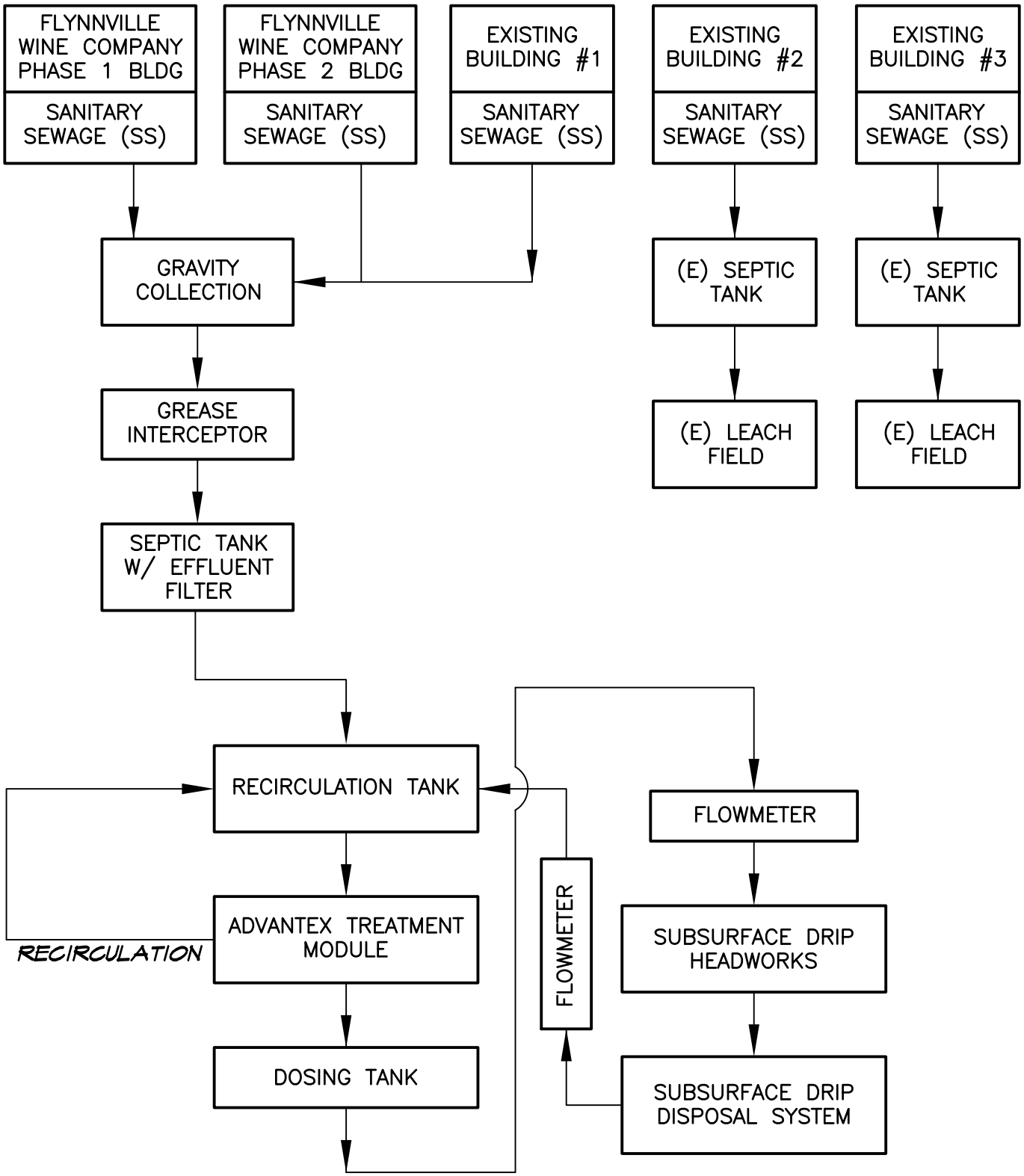
1402 ST. HELENA HWY
CALISTOGA, CA 94515

SUMMIT

SS MANAGEMENT SYSTEM SCHEMATIC

PROJECT NO. 2008008 DATE 09-02-2015
BY JR CHK GG SHT NO 1 OF 1



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TYPICAL WINERY PROCESS WASTEWATER 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_s	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

FLYNNVILLE WINE COMPANY

WASTEWATER FEASIBILITY STUDY

ENCLOSURE B

WASTEWATER MANAGEMENT SYSTEM DESCRIPTION

FLYNNVILLE WINE COMPANY
Calistoga, Napa County, California

WASTEWATER MANAGEMENT SYSTEM DESCRIPTION

WINERY PROCESS WASTEWATER

Project Description

Flynnville Wine Company is proposing a 25,000 case per year winery facility located at 1402 St. Helena Highway in Calistoga, Napa County, California. The following wastewater management system description details the proposed wastewater management system conditions.

Flynnville Wine Company is proposing pre-treatment and sub-surface disposal of winery process wastewater (PW). The method of pre-treatment will be determined following preliminary design and cost estimate phases, and prior to preparation of construction documents and permit submittal. Pre-treatment will consist of a high rate, small footprint packaged treatment system provided by equipment manufacturers such as: Orenco Systems, Inc., Lyve Winery Wastewater Systems, MBR System, or equivalent.

The high rate PW treatment options will be discussed in the following sections of this feasibility study. Following approval of the Use Permit, Flynnville Wine Company will select the preferred manufacturer for design and installation. Installation of a new PW management system will be permitted and inspected by the Napa County Planning, Building & Environmental Services (PBES), and Environmental Health Division.

The sanitary sewage (SS) system disposal system will be developed and is discussed later in this report.

Site Description

The proposed facility will be located off of St. Helena Highway between Calistoga and St. Helena in an agricultural and rural area with neighboring wineries and vineyards. The topography of the site slopes to the west. Surface drainage flows overland to the southwest.

The proposed PW pre-treatment & disposal system, buildings, vineyards, roads, SS pre-treatment & disposal system, well locations, and property lines are located on the Overall Site Plan (UP1) and the Wastewater Site Plan (UP3), as presented in the Use Permit application.

Process Wastewater Characteristics

PW will consist primarily of wastewaters collected at floor drains and trenches within the winery, receiving, crush, tank, and washdown areas. No SS will be discharged into the PW management system. All exterior tank and process areas will be covered, precluding the need for stormwater diversion valves in exterior work areas. The PW sewer and storm drain systems will be completely separate. No distillation will occur at the facility; hence there will be no stillage waste.

Process Wastewater Conveyance, Treatment and Disposal

The following features will be incorporated into the PW management system:

1) Initial screening
2) Gravity collection system
3) Primary Treatment consisting of:
    a) pH control (if necessary)
    b) Flow measurement
    c) Settling Tank
4) Secondary Treatment consisting of:
    a) Package Treatment Plant
    b) Recirculation Tank (if required)
    c) Storage/Dosing Tank
5) Flow measurement
6) Option 1:
    a) Headworks & Filter
    b) Sub-Surface Drip Dispersal System
7) Option 2:
    a) Recycled PW Irrigation

A discussion of each of these features is provided below. Refer to the wastewater management system schematic in Enclosure A for a flow diagram of the PW management system.

1) Initial screening – Provided by screened baskets and strainers installed on the trench drains and floor drains within the winery. Screen opening sizes will be approximately 1/4 inch for exterior drains and 1/8 inch for interior drains.
2) Gravity collection system – Designed to provide low maintenance and no infiltration or exfiltration. Piping is compatible with process wastewaters and satisfies Uniform Plumbing Code and local requirements.
3) Primary Treatment – Consisting of the following elements:
    a) pH control system (if necessary)
        i) Summit's experience over the last 10 years has indicated that pH neutralization of winery PW is typically not necessary for most High Rate Treatment Systems.

The combination of naturally occurring alkalinity in the source water and the alkaline cleaning compounds used within the winery usually provides sufficient buffering to maintain pond pH above 6.5. Neutralizing chemicals should only be used when absolutely necessary.

For the above reasons, Summit does not recommend the installation of pH control systems when the PW Management System is first constructed. Instead, it is recommend that the pH be monitored for a year (monitoring is required by the PBES), especially through one harvest season. If at the end of the one-year monitoring period it has been demonstrated that pH control is necessary (or sooner if conditions warrant), a pH control system could be added.

b) Flow measurement – An inline flow measurement device will be provided to measure flows from the winery to the treatment system.

c) Settling Tank – Removes additional solids via settling, and provides anaerobic treatment of PW sludge

4) Secondary Treatment

a) High Rate Treatment System – Although several package high rate treatment systems are considered to be acceptable, a Lyve Winery Wastewater System is discussed in more detail in this report for reference.

b) Recirculation Tank – As required by the treatment technology

c) Storage/Dosing Tank will provide flow equalization prior to disposal, and provide the volume required for even interval timed dosing of the sub-surface dispersal field, or irrigation area. If PW is recycled for irrigation use, the tank size shall accommodate 15 days of storage to account for a prolonged rain event.

5) Flow Measurement – An additional flow measurement device will be provided to measure the discharge flows to the associated disposal system.

6) Option 1: Sub-Surface Drip Dispersal

a) Headworks & Filter – Geoflow Wasteflow Automatic Headworks will be provided which is a pre-assembled unit including the filter, valves and pressure gauge in the box. It is installed between the pump and the field.

b) Subsurface Drip Dispersal System – The subsurface drip dispersal system sized for disposal of PW from the winery would require a total of area 12,000 square feet (see Enclosure A). An additional 100%+ reserve area is provided via irrigation as described in Option 2.

7) Option 2: Recycled PW Irrigation – The proposed vineyard and landscape areas provide adequate capacity for reuse and disposal (through percolation) of PW from the winery. See enclosure D for PW Irrigation Balance.

8) OTHER CONSIDERATIONS

Odor Control

There should be no obnoxious odors from a properly designed and operated treatment system of these types. See Alternative Courses of Action for operation alternatives for unforeseen conditions.

Ground Water Contamination

The distance to the nearest water well from any of the winery PW treatment and disposal components is greater than 100 feet. No disposal of reclaimed wastewater will occur within 100 feet of any existing wells.

Disposal of treated effluent is considered a beneficial use and is considered an effective means to protect groundwater quality.

Protection

Exposed wastewater treatment facilities will be posted with appropriate warning signs. The pre-treatment area will be fenced, if necessary, to restrict public access.

Alternative Courses of Action

Although no operational difficulties are foreseen, the following additional courses of action would be available if necessary:

1) Ability to add carbon dioxide to reduce pH at the pre-treatment site or installation of another type of pH control.

2) Additional stages of treatment to increase effluent quality

3) Increased use of disposal area to increase discharge capacity

SOLID WASTES

Solid wastes from the winery include primarily pomace, seeds, and stems. The estimated quantities of these wastes for 60,000 gallons of wine per year are as follows:

$$\frac{\text{60,000 gal of wine}}{\text{165 gal of wine/ton grapes}} \times \frac{\text{0.35 tons of solids}}{\text{ton of grapes}} = \text{127 tons of solids}$$

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

$$\frac{2.54 \times 10^5 \text{ lbs}}{\text{38 lbs/CF}} \times \frac{\text{1 cubic yard}}{\text{27 cubic feet}} = \text{247 CY}$$

This quantity of solids wastes applied to 3.2 acres of vineyard is approximately 0.5 inches deep. These organic solids will be composted, spread on the vineyard, and disked in as a soil conditioner and supplemental nutrient source on a routine basis. Excess solid wastes will be hauled to an off-site composting location to reduce the application depth.

Solids, in the form of sludge, will accumulate in treatment tanks and require periodic removal. Those highly decomposed solids could be either dried and spread in a vineyard area or transported to a solid waste disposal site.

SANITARY SEWAGE

The owner intends to design and install a new onsite system in accordance with all necessary Napa County Department of Environmental Management criteria and permits. Sanitary sewage (SS) flows will be handled separately from the process wastewater flows. Existing buildings 2 and 3 (as shown on Sheet UP1) each have existing septic systems that will remain in service. Adequate reserve area is allocated for all proposed SS production; including production from existing buildings 2 and 3 (see Sheet UP3). Due to the proximity of existing building 1 to the new winery buildings, SS from this building will be treated and disposed of by the new system serving the winery.

Sanitary sewage will be treated and disposed of using a septic tank, pre-treatment system and subsurface drip disposal. Given suitable soils, this method of treatment and disposal of SS is appropriate. Numerous systems of this type have been permitted in Napa County.

Sanitary Sewage Conveyance, Treatment and Disposal

The SS treatment and disposal system will have the following components:

1) Gravity collection
2) Grease Interceptor
3) Septic tank with effluent filter
4) Pre-treatment system
5) Dosing tank
6) Flow measurement
7) Subsurface drip headworks
8) Subsurface drip disposal

A discussion of each of these features is provided below. Refer to the wastewater management system schematic in Enclosure A for a flow diagram of the PW management system.

1) Gravity collection system – Designed to provide low maintenance and no infiltration or exfiltration. Piping is compatible with process wastewaters and satisfies Uniform Plumbing Code and local requirements.

2) Grease Interceptor – Precast concrete grease interceptor for removal of oil and grease from the kitchen prior to pre-treatment. Oil and grease removal reduces pump failure and clogging of treatment and disposal systems.

3) Septic tank with effluent filter – A precast concrete settling tank of approximately 1,500 gallons will be provided for solids removal prior to any of the treatment alternatives. Removal of solids in the septic tank helps to reduce BOD loads on the system, minimize the frequency of sludge removal in aerobic systems, and reduce the potential for clogging the soil pores in the drip field. A septic tank of this volume will provide approximately 4 days of retention at peak harvest flows. An effluent filter will also be provided to remove additional suspended solids which do not settle out in the tank.

4) Recirculation/Blending Tank – A 1,200 gallon recirculation/blending tank will be provided to allow for dilution and buffering of peak hydraulic and organic loads. Orenco Systems Inc. recommends a minimum of one (1) day retention in the recirculation/blending tank at peak flows and a minimum of three (3) days retention at average flows. The recirculation/blending tank provided will allow for 3.2 days retention at peak flows. A duplex pumping system will be installed in the recirculation/blending tank to dose the AX-20 filter pod.

5) Pre-treatment systems – AdvanTex Treatment System. Package high rate treatment systems have been widely utilized for domestic wastewater treatment and have been very successful in performing consistent reliable treatment when properly designed and operated. Most manufacturers of these systems will provide performance guarantees of the equipment given that the operational parameters are maintained within the initial design assumptions.

6) Dosing Tank– A precast concrete dosing tank of approximately 1,200 gallons will be provided for to allow for collection of treated effluent prior to subsurface disposal. The tank will be located below grade per County standards. A duplex pump system will allow for timed dosing to the subsurface drip field.

7) Sub-surface Drip Headworks - Geoflow Wasteflow Automatic Headworks will be provided which is a pre-assembled unit including the filter, valves and pressure gauge in the box. It is installed between the pump and the field.

8) Flow Measurement – Flow measurement devices will be provided to measure the discharge and return flows to/from the subsurface drip field.

9) Subsurface Drip Dispersal System – The subsurface drip system sized for disposal SS of from the winery would require a total of area 1,500 square feet. An additional 200%+ reserve area is designated, see Enclosure A.

Odor Control

There should be no obnoxious odors from a properly designed and operated system.

Ground Water Contamination

The nearest water well to the any of the winery process wastewater treatment and disposal systems is a minimum of 100 feet. No disposal of SS will occur within 100 feet of any existing wells.

Protection

Exposed wastewater treatment facilities will be posted with appropriate warning signs. The pre-treatment area will be fenced, if necessary, to restrict public access.

FLYNNVILLE WINE COMPANY

WASTEWATER FEASIBILITY STUDY

ENCLOSURE C

WASTEWATER MANAGEMENT SYSTEM DESIGN CRITERIA

FLYNNVILLE WINE COMPANY
Calistoga, Napa County, California

DESIGN CRITERIA

PROCESS WASTEWATER (PW) DESIGN FLOWS

Based on typical flow data from wineries of similar size and characteristics and corresponding PW generation rates, projected flows are calculated as follows:

Annual Volume

Annual production (projected)	=	25,000 cases wine/year
Annual gallons produced	=	60,000 gallons wine/year
PW generation rate (assumed)	=	6.0 gal PW/gal wine
PW flow	=	60,000 gal wine x 6.0 gal PW/gal wine
	=	360,000 gal PW/year

Average Day Flow

360,000 gal PW/365 days	=	986 gal PW/day

Average Day Peak Harvest Month Flow

The harvest month of September accounts for approximately 16.4 percent of the annual PW flow.

$$360{,}000 \text{ gal PW} \times \frac{0.164}{30 \text{ day}} = 1{,}968 \text{ gal PW/day}$$

Napa County Peak Day

$$\frac{60{,}000 \text{ gallons wine} \times 1.5}{30 \text{ day harvest}^*} = 3{,}000 \text{ gal PW/day}$$

*After consultation with the client, it was determined that the harvest would not last longer than 30 days. The Napa County peak day formula calls for a 60-day harvest for 60,000 gallons of wine, but the 30 day harvest that was chosen will result in a more conservative estimate of peak PW production.

TREATMENT SYSTEM SIZES

Lyve High Rate Treatment System

Lyve Winery Wastewater Treatment Systems are a conventional activated sludge process capable of providing a high level of treatment in a small footprint This modular activated sludge system would consist of an aeration basin with fine bubble diffusion and a clarification module designed for a peak flow of 4,000 gpd (see Enclosure D for more information). In addition to the Lyve system, the treatment system will include an equalization tank for buffering of peak loads, pumps, valves, sludge storage tank, and a treated effluent storage/dosing tank. The treated effluent from the Lyve system will be discharged from the storage/dosing tank via sub-surface irrigation.

The Lyve treatment system component sizing is proposed as follows:

Primary Settling Tank:	1 – 10,000 gallon tank (below ground)
Lyve treatment system:	1 – Model LS20 Package w/ sludge digester tank
Treated Water Storage/Dosing Tank:	1 – 5,000 gallon tank (minimum, above ground)

Once sufficient treatment has been achieved in the aeration basin, the treated wastewater is discharged into the upflow clarifier and will decant over weirs into an effluent storage/dosing tank. Wastewater effluents from other winery facilities with Lyve Systems have been on the order of 40-50 mg/L BOD_5 and TSS.

PROCESS WASTEWATER (PW) DISPOSAL

Option 1: Sub-Surface Drip Disposal Field

PW generated from the winery will be treated via the Lyve treatment system, or other high rate treatment system. PW effluent will be disposed of in a sub-surface drip disposal field. The size of the disposal field is based on a site evaluations conducted on August 4, 2008 under Permit #'s E08-00416 and E08-00417. Based on the site evaluation, it is anticipated that acceptable soil to a minimum depth of 33 inches in the vicinity of Test Pits 5, 9 & 10 could be utilized with an application rate of 0.25 gpd/sf, and a 6-inch deep dripline installation.

Required drip field size based on the minimum application rate is projected as follows:

$$\text{Drip Field Area} = \frac{3{,}000 \text{ gpd}}{0.25 \text{ gal/sf/day}}$$

$$= 12{,}000 \text{ ft}^2$$

For 200% reserve, the required additional area is 24,000 SF. Adequate in-ground disposal area does not exist for this requirement, and as such, a 100% reserve area is designated as vineyard and landscape irrigation as described in Option 2 below. The exact location of the PW disposal field will be determined following preliminary design and cost estimate phases, and prior to preparation of construction documents and permit submittal.

Option 2: Vineyard and Landscape Irrigation

PW generated from the winery will be treated via the Lyve treatment system, or other high rate treatment system. PW effluent will be stored and recycled for irrigation use in the proposed vineyard and winery landscape areas. A water balance based on average monthly PW production, climatic factors, plant type, and percolation capacity of the soil is presented in Enclosure D. The water balance shows that excess assimilative capacity exists for each month of the year.

FLYNNVILLE WINE COMPANY
Calistoga, Napa County, California

DESIGN CRITERIA

SANITARY SEWAGE (SS)

The proposed sanitary sewage (SS) management system at Flynnville Wine Company will consist of typical wastewater generated from restrooms, laboratories, and lunch room facilities. Portable toilets and sanitation facilities will be provided for all marketing events where the total amount of visitors exceeds 25 per day. Therefore, sanitary sewage flow is estimated using peak employees and tasting visitors. The peak employee value includes winery AND existing business employees. While existing buildings 2 and 3 will continue to be served by their own septic systems, the new system will be sized to accommodate SS production from ALL sources on the site. The proximity of existing building 1 is such that it will be connected to the new SS system. The anticipated SS flows are projected as follows:

Harvest Day w/ Peak Event & Visitation								
Employee (full-time)	20	x	15	gpd	=	300	gal/day
Tasting Visitors	25	x	3	gpd	=	75	gal/day
Total						***375***	***gal/day***

Septic Tank

The required septic tank size for the winery flow based on Napa County PBES criteria is calculated from Table 13.44.020 in the Napa County Code:

Flow, gal/d	Recommended Minimum Capacity, gal
600	1,200
900	1,500
1,200	2,000
1,500	2,500

A 1,500 gallon septic tank is will provide 4 days of hydraulic retention time, and Orenco's recommended volume for use with the AdvanTex AX-20 treatment unit.

Pretreatment - AdvanTex Textile Filter Aerobic Treatment Unit (ATU)

Orenco System's AdvanTex Treatment Unit is a packed bed textile filter that supports attached growth biological treatment. Similarly, this type of high rate treatment system is recommended as an option for PW pre-treatment. For the proposed SS flowrate of 375 gpd, one AdvanTex AX-20 unit is recommended (see Enclosure D for more information).

The system components sizing are as follows*:

AdvanTex unit:	1 – AX-20 Filter Pod (7.6' by 3.3', 25 square feet)
Septic Tank:	1 – 1,500 gallon concrete tank (5'-7" by 10'-8", 60 square feet)
Recirculation Tank:	1 – 1,200 gallon tank (5'-9" by 8'-6", 49 square feet)

Dosing Tank:	1 – 1,000 gallon tank (5'-1" by 8'-2", 42 square feet)
Effluent Disposal Area:	Subsurface drip system, 1,500 SF

* A grease interceptor will be installed if required by PBES or the treatment system manufacturer.

Site Evaluation Data

A site evaluation was performed by Summit and Napa County PBES on August 4, 2008 in the proposed SS primary and reserve disposal areas. See Enclosure E for site evaluation details. Based on the soil type and topography, it is proposed to use a subsurface drip system for disposal of pretreated SS effluent from the AdvanTex Treatment System. Based on the site evaluation, it is anticipated that acceptable soil to a minimum depth of 33 inches in the vicinity of Test Pits 5, 9 & 10 could be utilized with an application rate of 0.25 gpd/sf, and a 6-inch deep dripline installation.

Drip Field Sizing

Required drip field size based on the minimum application rate is projected as follows:

$$\text{Drip Field Area} = \frac{375 \text{ gpd}}{0.25 \text{ gal/sf/day}}$$

$$= 1{,}500 \text{ ft}^2$$

An additional 200% reserve area (3,000 SF) is also available. The Wastewater Site Plan (Sheet UP3) in Enclosure A shows a potential disposal area of 7,080 ft^2, enough area for 100% primary and 200% reserve. The exact location of the SS disposal field will be determined following preliminary design and cost estimate phases, and prior to preparation of construction documents and permit submittal.

FLYNNVILLE WINE COMPANY

WASTEWATER FEASIBILITY STUDY

ENCLOSURE D

PROCESS WASTEWATER IRRIGATION BALANCE
LYVE WASTEWATER TREATMENT SYSTEM INFORMATION
ADVANTEX WASTEWATER TREATMENT SYSTEM INFORMATION

SUMMIT ENGINEERING, INC. Consulting Civil Engineers	FLYNNVILLE WINE COMPANY PROCESS WASTEWATER IRRIGATION BALANCE Process Wastewater Design Criteria	PROJECT NO. 2008008 BY: JR CHK: GG

DESIGN CRITERIA

FULL PRODUCTION

Production Level	25,000	cases/year	
Annual Production	60,000	gal wine/year	
PW Generation Rate	6.0	gal PW/gal wine	
Annual PW Flow	360,000	gal PW/year	
Months of Harvest	Sept		
Average Day Harvest Flow	2,000	gal PW/day	(Arithmetic average)
Average Day Peak Harvest Month Flow	3,000	gal PW/day	(Napa County Peak Day formula)

DESIGN PROCESS WASTEWATER FLOWS

Month	Monthly Percentage of Annual Flow[a] (%)	Monthly Flow (Mgal)	Monthly Flow (gal)
August	10.5%	0.038	37,628
September	16.4%	0.059	59,056
October	12.9%	0.046	46,395
November	7.4%	0.027	26,681
December	6.4%	0.023	23,096
January	6.6%	0.024	23,631
February	7.2%	0.026	26,001
March	7.6%	0.027	27,466
April	6.8%	0.024	24,385
May	6.4%	0.023	23,217
June	5.6%	0.020	20,141
July	6.2%	0.022	22,303
Total	**100%**	**0.360**	**360,000**

[a] Monthly percentage of annual flow based on average of PW flow data from 11 wineries.

SUMMIT ENGINEERING, INC. Consulting Civil Engineers	FLYNNVILLE WINE COMPANY PROCESS WASTEWATER IRRIGATION BALANCE Irrigation & Effluent Application Rates	PROJECT NO. 2008008 BY: JR CHK: GG

Applied Irrigation Area

Vineyard	3.20	acres
Landscape	0.6	acres

Month	Reference ET[a] (in)	Vineyard Crop Coefficient[c]	Vineyard ET[d] (in)	Precipitation[e] (in)	Vineyard Irrigation Demand[f] (in)	Landscape Irrigation Demand[b] (in)	Total Irrigation Demand (in)	Total Irrigation Demand (Mgal)	Operating Days per Month[g] (d)	Percolation Capacity[h] (in)	Percolation Capacity[h] (Mgal)	Assimilative Capacity[i] (in)	Assimilative Capacity[i] (Mgal)	Effluent Applied (Mgal)	Excess Capacity (in)	Excess Capacity (Mgal)
August	5.9	0.5	2.65	0.1	2.5	0.890	3.426	0.015	31	22.3	1.94	24.9	2.593	0.038	0.36	2.56
September	5.2	0.3	1.34	0.3	1.0	0.569	1.603	0.010	30	21.6	1.88	22.6	2.362	0.059	0.57	2.30
October	3.3	0.1	0.23	1.8	0.0	0.000	0.000	0.000	16	11.5	1.00	11.5	1.202	0.046	0.44	1.16
November	1.1	0.0	0.00	4.0	0.0	0.000	0.000	0.000	14	10.1	0.88	10.1	1.052	0.027	0.26	1.03
December	1.2	0.0	0.00	6.5	0.0	0.000	0.000	0.000	5	3.6	0.31	1.0	0.104	0.023	0.22	0.081
January	0.8	0.0	0.00	7.9	0.0	0.000	0.000	0.000	6	4.3	0.38	1.0	0.104	0.024	0.23	0.081
February	2.3	0.0	0.00	5.8	0.0	0.000	0.000	0.000	5	3.6	0.31	1.0	0.104	0.026	0.25	0.078
March	3.6	0.0	0.00	4.8	0.0	0.000	0.000	0.000	12	8.6	0.75	1.0	0.104	0.027	0.26	0.077
April	5.2	0.2	0.83	2.2	0.0	0.000	0.000	0.000	13	9.4	0.81	9.4	0.977	0.024	0.23	0.95
May	6.7	0.6	3.90	0.7	3.2	0.433	3.620	0.008	16	11.5	1.00	14.7	1.535	0.023	0.22	1.51
June	7.0	0.7	4.99	0.2	4.8	0.986	5.767	0.017	17	12.2	1.06	17.0	1.776	0.020	0.19	1.76
July	6.9	0.6	4.43	0.0	4.4	1.167	5.586	0.020	30	21.6	1.88	26.0	2.715	0.022	0.21	2.69
Total	**49.2**		**18.4**	**34.4**	**16.0**	**4.0**	**20.0**	**0.070**	**195.0**	**140.4**	**12.2**	**140.2**	**14.6**	**0.4**	**3.5**	**14.27**

(a) Average monthly reference evapotranspiration rates, see Climate Data Worksheet.
(b) Landscape irrigation requirements calculated using California Department of Water resources guidleines for Estimated Total Water Use (ETWU) for low water use plant with high efficiency irrigation.
(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) Average monthly rainfall observed between 1931 and 1995, for St. Helena, CA. See http:/www.worldclimate.com
(f) Irrigation Demand = ET-Precipitation, inches.
(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. Design perc rate based on results of non-swell clay soils pretreated loading rates adjusted by a 0.04 safety factor to account for typical slow rate land application design methodology. Landscape areas not applied to percolation capacity.
(i) Assimilative capacity is the sum of irrigation demand and percolation applied. This value is limited to 1 inch for wet months (Dec - Mar)

WINERY & BREWERY WASTEWATER TREATMENT SYSTEMS

FEATURES:

- Produces High-Quality Effluent for Water Reuse
- Small Footprint
- Low Life Cycle Costs
- Award Winning Technology
- Full Performance Guarantee
- Low O&M Costs
- Simple Installation
- Easy Clean Membrane Design.
- Remote Monitoring and Operation Capabilities
- Energy Efficient
- Full Operations and Engineering Support Available

LYVE SYSTEM™ MODEL LS20

LYVE SYSTEMS offers several pre-engineered packaged treatment systems for various size wineries and breweries. Each system is able to rapidly treat high-strength wastewater and provide superior quality effluent in a small package. With remote monitoring capabilities built into the system, minimal operator time is required.

Visit www.lyvesystems.com for additional model sizes and information.

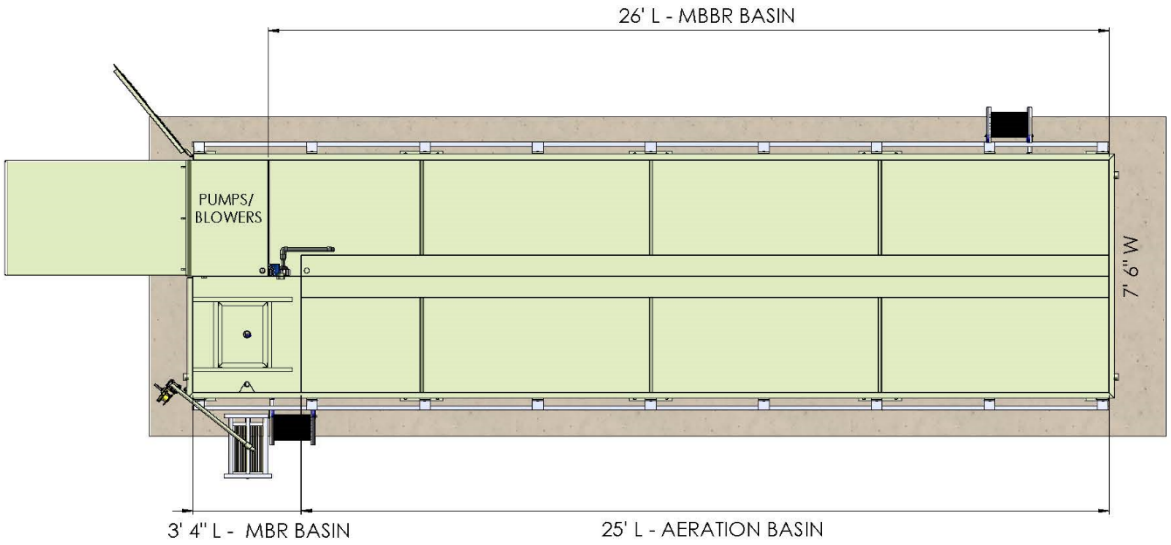
DESIGN CRITERIA			
Design Flow	≤	4,000	gpd
Influent BOD_5	=	4,000-8,000	mg/L
Influent COD	=	6,500 - 15,000	mg/L
Effluent BOD	≤	5	mg/L
Effluent TSS	≤	2	mg/L
SPECIFICATIONS			
Operating Weight	=	140,000	lbs.
Power Requirements	=	460 V/3 Phase/40 Amps	
Dimensions	=	28'8" L x 10'6" H x 7'6" W	

**Custom models available for higher strength influent wastewater.*

2014 Wine Industry Award for Wastewater Treatment

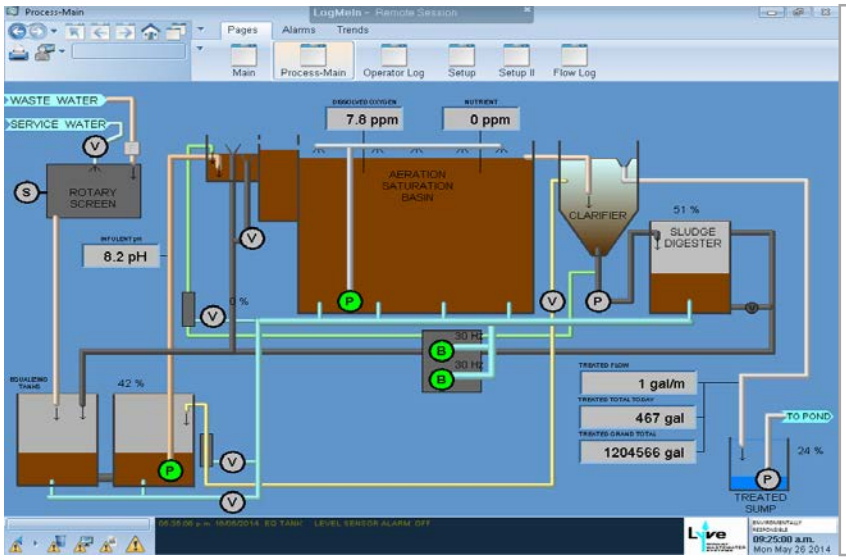
LS20 MODEL INCLUDES

- pH Adjustment System
- Moving Bed Bio-film Roughing Reactor (MBBR)
- Aeration Basin and Title 22 Ultrafiltration Membrane Bio-Reactor (MBR)
- Membrane CIP System
- Touch Screen Control Panel
- Insurance, Delivery, Set-Up and Commissioning at Job Site



Installation Requirements: Equipment Slab and Utility Connections.

MONITORING & CONTROL SYSTEM



Each **LYVE SYSTEM** includes a web-based monitoring and controls system equipped with a camera for real time viewing. Each system can be operated through a computer, smart phone, or facility command center. Control system records and displays:

- Tank Liquid Levels
- DO Readings
- Flowmeter Readings
- Influent pH Level
- TMP Readings
- Membrane Flux Readings

ADDITIONAL TREATMENT OFFERINGS:

Influent Screens (basket, rotary, flex rake), Equalization Tanks (above or below ground), Moving Bed-Biofilm Reactors (MBBR), Dissolved Air Flotation (DAF) Systems, Aerobic Sludge Digesters, and a V-Belt Dewatering Press.

Lyve WASTEWATER TREATMENT

Technical Data Sheet

AdvanTex® – AX20 Filter

Orenco Systems® Incorporated
800-348-9843

Applications

Orenco's AdvanTex® Treatment System* is an innovative technology for onsite treatment of residential wastewater. The heart of the System is the AdvanTex® Filter, a sturdy, watertight fiberglass basin filled with an engineered textile material. This lightweight, highly absorbent textile material treats a tremendous amount of wastewater in a small space. The AdvanTex® Treatment System is ideal for:

- Small sites
- System upgrades and repairs
- New construction
- Poor soils
- Nitrogen reduction
- Price-sensitive markets
- Pretreatment

For sizing, see "AdvanTex® Design Criteria," NDA-ATX-2.

The heart of the AdvanTex® Treatment System is this sturdy, watertight fiberglass basin filled with an engineered textile material.

**Covered by U.S. patent numbers 5,980,748; 5,531,894; 5,480,561; 5,360,556; 5,492,635; and 4,439,323. Additional patents pending.*

Features/Specifications

To specify this product, require the following:

- Wastewater treatment to better than secondary treatment standards
- Consistent treatment, even during peak flows
- Timer operation for flow monitoring, flow modulation, and surge control
- Fixed film textile media (a polyester plastic), operated in an unsaturated condition
- Consistent media quality
- Low maintenance beyond annual servicing
- Low energy consumption (under $1.45-4.86/month power cost at national average electric rate of $.10 kWh)
- Complete pre-manufactured package, ready-to-install
- Watertight construction, corrosion-proof materials, tamper-proof lid bolts
- Anti-flotation flanges
- Quiet operation

Standard Models

AX20, AX20N

(AX20 units carrying the NSF logomark are labeled AX20N, per NSF protocol.)

Physical Specifications

*Approximate Dimensions***

Filter Basin Length in. (mm)	91 (2311)
Width in. (mm)	40 (1016)
Height in. (mm)	31 (787)
Area (footprint) in. (m^2)	20 ft^2 (1.86)
Filter Dry Weight lb (kg)	400 (181)

*** See AdvanTex® Treatment System drawings for exact dimensions*

AdvanTex® Treatment System AXN Models meet the requirements of NSF-ANSI Standard 40 for Class I Systems.

FLYNNVILLE WINE COMPANY

WASTEWATER FEASIBILITY STUDY

ENCLOSURE E

SITE EVALUATION INFORMATI0N

Napa County Department of
Environmental Management

SITE EVALUATION REPORT

Please attach an 8.5" x 11" plot map showing the locations of all test pits triangulated from permanent landmarks or known property corners. The map must be drawn to scale and include a North arrow, surrounding geographic and topographic features, direction and % slope, distance to drainages, water bodies, potential areas for flooding, unstable landforms, existing or proposed roads, structures, utilities, domestic water supplies, wells, ponds, existing wastewater treatment systems and facilities.

Permit #: E08 - 00416

APN: 020-320-009

(County Use Only)
Reviewed by: Date:

PLEASE PRINT OR TYPE ALL INFORMATION

Property Owner Dan Pina	☒ New Construction ☐ Addition ☐ Remodel ☐ Relocation ☐ Other:
Property Owner Mailing Address 995 Vintage Ave.	☐ Residential - # of Bedrooms: Design Flow : gpd
City State Zip St. Helena CA 94574	☒ Commercial – Type: Winery, unknown size Sanitary Waste: gpd Process Waste: gpd
Site Address/Location 4102 St. Helena Hwy. Calistoga, CA 94515	☐ Other: Sanitary Waste: gpd Process Waste: gpd

Evaluation Conducted By:

Company Name Summit Engineering, Inc.	Evaluator's Name Richard Ross, E.I.T.	Signature (Civil Engineer, R.E.H.S., Geologist, Soil Scientist)
Mailing Address: 463 Aviation Blvd. Suite 200		Telephone Number 707 – 527 – 0775
City State Zip Santa Rosa CA 95403		Date Evaluation Conducted August 04, 2008

Primary Area	Expansion Area
Acceptable Soil Depth: 24 - 38 in. Test pit #'s: 1 - 7	Acceptable Soil Depth: 24 - 38 in. Test pit #'s: 1 - 7
Soil Application Rate (gal. /sq. ft. /day): 500 sq.ft./ 100 gpd (subsurface drip)	Soil Application Rate (gal. /sq. ft. /day): 500 sq.ft./ 100 gpd (subsurface drip)
System Type(s) Recommended: Subsurface Drip	System Type(s) Recommended: Subsurface Drip
Slope: 0-5 %. Distance to nearest water source: ft.	Slope: 0-5 %. Distance to nearest water source: ft.
Hydrometer test performed? No ☒ Yes ☐ (attach results)	Hydrometer test performed? No ☒ Yes ☐ (attach results)
Bulk Density test performed? No ☒ Yes ☐ (attach results)	Bulk Density test performed? No ☒ Yes ☐ (attach results)
Percolation test performed? No ☒ Yes ☐ (attach results)	Percolation test performed? No ☒ Yes ☐ (attach results)
Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)	Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)

Site constraints/Recommendations:

Test Pit # 1

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0 – 6	C	0 – 15	C	MAB	H	F	SP	CF, CM	MVF	CFD
6 – 24	A	0 – 5	SC	WSB	SH	FRB	NS	CVF, CF	FF	CMFt
24 – 48	--	0 – 5	C	M	--	F	VS	NONE	NONE	NONE

Test Pit # 2

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0 – 8	C	0 – 15	C	MSB	H	F	NP	FF	CM	FFFt
8 – 19	C	0 – 15	SC	MSB	S	FRB	NS	CF	CF	FFFt
19 – 36	--	0 – 15	SC	WSB	S	FRB	S	CF	FF	FFFt

Test Pit # 3

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0 – 10	C	0 - 5	C	MSB	SH	FRB	NS	CF, CM	MVF	CFD
10 – 30	A	0 - 5	SC	MSB	S	FRB	S	CVF, CF	FF	CMFt
30 +	--	0 – 5	C	M	--	F	VS	NONE	NONE	NONE

Attach additional sheets as needed

Test Pit # 4

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0 – 10	C	0 – 15	C	MSB	H	F	SP	CF, CM	CVF	NONE
10 – 36	C	0 – 5	SC	WSB	S	FRB	NS	MF	CVF	FFFt
36 – 44	--	0 – 5	SC	WSG	S	L	NS	FVF	FVF	NONE

Test Pit # 5

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0 – 9	C	0 – 15	C	MAB	H	F	NP	CF, CM	MVF	NONE
9 – 38	G	0 – 5	SC	WAB	SH	VFRB	NS	FF	FF	NONE
38 +	--	0 – 5	C	M	--	F	VS	NONE	NONE	NONE

Test Pit # 6

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0 – 10	C	0 – 15	C	MSB	H	F	NP	CF, CM	MVF	NONE
10 – 37	C	0 – 15	SC	MSB	SH	FRB	NS	CVF, CF	CF	CM
37 +	--	0 – 15	C	M	--	F	VS	NONE	NONE	NONE

Test Pit # 7

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0 – 6	C	0 – 5	C	MSB	H	F	NP	CF	MF	FFFt
6 – 28	A	0 – 10	SC	MSB	SH	FRB	NS	FM	FF	FFFt
28 +	--	50 +	SC	MSB	SH	FRB	NS	FVF	FM	CMP

Test Pit #

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			

Test Pit #

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			

Napa County Department of
Environmental Management

SITE EVALUATION REPORT

Please attach an 8.5" x 11" plot map showing the locations of all test pits triangulated from permanent landmarks or known property corners. The map must be drawn to scale and include a North arrow, surrounding geographic and topographic features, direction and % slope, distance to drainages, water bodies, potential areas for flooding, unstable landforms, existing or proposed roads, structures, utilities, domestic water supplies, wells, ponds, existing wastewater treatment systems and facilities.

Permit #: E08 - 00417

APN: 020-170-012

(County Use Only)
Reviewed by: Date:

PLEASE PRINT OR TYPE ALL INFORMATION

Property Owner Dan Pina	☒ New Construction ☐ Addition ☐ Remodel ☐ Relocation ☐ Other:
Property Owner Mailing Address 995 Vintage Ave.	☐ Residential - # of Bedrooms: Design Flow : gpd
City State Zip St. Helena CA 94574	☒ Commercial – Type: Winery, unknown size Sanitary Waste: gpd Process Waste: gpd
Site Address/Location 4104 St. Helena Hwy. Calistoga, CA 94515	☐ Other: Sanitary Waste: gpd Process Waste: gpd

Evaluation Conducted By:

Company Name Summit Engineering, Inc.	Evaluator's Name Richard Ross, E.I.T.	Signature (Civil Engineer, R.E.H.S., Geologist, Soil Scientist)
Mailing Address: 463 Aviation Blvd. Suite 200		Telephone Number 707 – 527 – 0775
City State Zip Santa Rosa CA 95403		Date Evaluation Conducted August 04, 2008

Primary Area	Expansion Area
Acceptable Soil Depth: 24 - 42 in. Test pit #'s: 8 - 11	Acceptable Soil Depth: 24 - 42 in. Test pit #'s: 8 - 11
Soil Application Rate (gal. /sq. ft. /day): 500 sq. ft./ 100 gpd (subsurface drip)	Soil Application Rate (gal. /sq. ft. /day): 500 sq. ft./ 100 gpd (subsurface drip)
System Type(s) Recommended: Subsurface Drip	System Type(s) Recommended: Subsurface Drip
Slope: 0-5 %. Distance to nearest water source: 150 ft.	Slope: 0-5 %. Distance to nearest water source: 150 ft.
Hydrometer test performed? No ☒ Yes ☐ (attach results)	Hydrometer test performed? No ☒ Yes ☐ (attach results)
Bulk Density test performed? No ☒ Yes ☐ (attach results)	Bulk Density test performed? No ☒ Yes ☐ (attach results)
Percolation test performed? No ☒ Yes ☐ (attach results)	Percolation test performed? No ☒ Yes ☐ (attach results)
Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)	Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)

Site constraints/Recommendations:

The last horizon (28" +) in test pit 8 was wet during the evaluation and displayed prominent mottling, and appeared to have greater than 50% rock content. The last horizon (36" +) in test pit 11 had high sand content and therefore the limit is set at 36" for design purposes.

Test Pit # 8

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0 – 4	C	0 – 15	C	MSB	H	F	NP	FF	CM	FFFt
4 – 28	C	10 – 35	SC	SSB	H	F	NS	FF	FF	FFFt
28 +	--	50 +	SC							MMP

Test Pit # 9

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0 – 8	C	0 – 15	C	MSB	H	F	SP	CF, CM	MVF	NONE
8 – 33	C	0 – 10	SCL	WG	S	VFRB	NS	FF	CF, CM	NONE
33 – 55	--	0 – 5	C	SSB	VH	VF	S	FVF, FF	FVF, FF	FFFt

Test Pit # 10

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0 – 8	C	0 - 15	C	MSB	H	F	NP	FF	CM	NONE
8 – 42	--	0 – 10	SC	SSB	H	F	S	CVF, CF	CF, CM	NONE

Attach additional sheets as needed

Test Pit # 11

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0 – 6	C	0 – 5	C	MSB	H	F	NP	CF, CM	MVF, CF	NONE
6 – 36	G	0 – 5	SC	WSB	SH	FRB	NS	CVF, CF	FVF, FF	FFFt
36 +	--	0 – 5	SC	G	S	VFRB	NS	FVF	FVF	NONE

Test Pit #

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			

Test Pit #

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			

FLYNNVILLE WINE COMPANY

WASTEWATER FEASIBILITY STUDY

ENCLOSURE F

NAPA COUNTY PBES ENVIRONMENTAL HEALTH COMMENTS

Jason Roberts

From: Withrow, Kim <Kim.Withrow@countyofnapa.org>
Sent: Tuesday, August 25, 2015 11:09 PM
To: Jason Roberts
Cc: Ex, Peter; Greg Swaffar; Jeff Redding; Monica Shah; 2008008@newforma.summit-sr.com; Hade, Jason
Subject: RE: Flynnville Wine Company Use Permit P15-00225: Environmental Health Comments

Jason,

I have the following comments on the Flynnville use permit application:

1. Please indicate the location of the existing wastewater systems serving the existing businesses that will remain on the property. Will the wastewater generated from the existing buildings be discharged to the new wastewater system? If not, the systems will have to be protected during construction and operation. Also, if the existing systems will remain, adequate reserve area for the 2 businesses will have to be identified.
2. One water system will have to be approved and constructed to serve all uses on the property including the two existing businesses. The water system feasibility report must be updated to include the existing businesses. If the total number of employees exceeds 25 daily for at least 6 months per year, the system will be regulated as a non-transient non-community water system.

Please let me know if you have any questions regarding the above.

Regards,
Kim

Kim Withrow, R.E.H.S.
Environmental Health Supervisor

Napa County Planning, Building & Environmental Services
Division of Environmental Health
1195 Third Street, Suite 210
Napa, CA 94559
(707)251-1075
Fax: (707)299-4439

From: Jason Roberts [mailto:jason@summit-sr.com]
Sent: Tuesday, August 25, 2015 11:50 AM
To: Withrow, Kim
Cc: Ex, Peter; Greg Swaffar; Jeff Redding; Monica Shah; 2008008@newforma.summit-sr.com
Subject: Flynnville Wine Company Use Permit P15-00225: Environmental Health Comments

Kim,
I am writing to inquire about Environmental Health comments for the Flynnville Wine Company Use Permit Application – P15-00225. Jason Hade stated that the comments would be issued on August 14th. We are planning address any comments and re-submit on Sept 1st, and need to make sure that we have time to address any comments from

Environmental Health before that date. Please contact me via phone or email with the status of the Environmental Health comments.

Thanks you,

JASON ROBERTS, P.E.
PROJECT ENGINEER | Water/Wastewater

SUMMIT ENGINEERING, INC.
463 AVIATION BLVD. STE 200
SANTA ROSA, CA 95403
707.527.0775 EXT.124
www.summit-sr.com

Environmental Health Division:

4. Environmental Health Division comments are as follows:
    a. Based on the wastewater site evaluation report, soil mottling was observed in a majority of the test pits at less than 24 inches below grade. Therefore, winter groundwater monitoring is required. It is recommended that an alternate wastewater treatment system be proposed should winter groundwater monitoring show that a subsurface system is not feasible.

Please be aware that this is an identification of information known to be necessary at this time to continue the processing of your application. Further review of your project may necessitate the request for additional information, including supplemental reports, in the event they are determined to be prepared in a manner inconsistent with County protocol or otherwise inadequate for the purposes of CEQA and application processing.

Thank you in advance for providing the above material. In order to expedite review of your resubmittal by the County, I would appreciate it if you would submit all materials required for completeness at one time directly to me. In addition, please ensure that all revised plans, reports, or other resubmitted documents are clearly marked "revised" and dated.

If you have any questions about this letter, please feel free to contact me at 707-259-8757 or via email at jason.hade@countyofnapa.org.

Sincerely,

Jason R. Hade

Jason R. Hade, AICP
Planner III

Enclosures

cc: Project File