capacity with a minimum retention time of 9 days. Treated PWW is disposed of via 1600 lineal feet of drain field pipe, pressure dosed, and using a six zone Hydrotech valve. This system has functioned well over the years and no problems occurred during the 2009 harvest. Regular maintenance is provided by RSV employees who were intimately involved in all aspects of design and installation of the system.

The proposed system upgrade will employ a biological treatment system know as a sub-surface flow constructed wetland (CW) to increase system capacity and retention time, while improving treatment efficacy through contact with an extensive microbiological community. CWs have been employed successfully for treating winery PWW since 1998, with the first installation at Benziger Family Winery in Glenn Ellen (Sonoma County). Since then, over 25 constructed wetlands have been installed at wineries through California and the Pacific Northwest. The RSV system will be submitted for approval through the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) and via MOU through Napa County.

The CW system will receive waste water from winery processing only. Domestic waste water from the winery will remain separate from PWW and be managed through the previously approved conventional onsite septic system.

The CW will receive PWW from the designated tanks in which settling and primary treatment occur. Dissolved materials are biodegraded through a bio-geo matrix consisting of a sealed (EPDM liner) pond filled with aggregate and including selected plants. PWW is introduced at one end of the rectangular CW bed and passes through the length of the bed before collection and outflow at the other end. The bio-geo matrix provides a vast surface area and symbiotic rhizosphere for microbes and bacteria to perform the breakdown/digestion of organic compounds found in the PWW. Once the process waste water has been treated, it is suitable for discharge to a holding tank then pumped to a disposal or irrigation field compliant with Section 9 of Napa County Manual "DESIGN, CONSTRUCTION, AND INSTALLATION OF ALTERNATIVE SEWAGE TREATMENT SYSTEMS".

The dispersal field will be located below the proposed new parking area. This parking area is scheduled to be constructed of pervious concrete so will behave as earth in terms of permeability for both air and water. The dispersal field will be designed in

conformance with Section 9 as described above. The pervious concrete will be planted with a soil and seed mix to "green" the parking area consistent with an all-weather dust free surface as required.

It is recognized that this proposed system is not "conventional" and will require careful use of Napa County guidelines (as noted above) and close work with the departments involved in permitting the final design. The SFBRWQCB has already been notified of the proposed design.

These treatment systems are part of a larger integrated water system at the winery. Because of the inclusion of a state-of-the-art high-pressure steam cleaning system, the use of caustic will be reduced. The system is provided by ARS Enterprises and provides both cleaning and sterilization of processing equipment using high pressure super hot steam. Reductions in water use of up to 90% are possible with this system. We have estimated a conservative 50% reduction in process water used. The treatment system is designed based around anticipated PWW flows and a water balance outlining projected PWW generation can be provided.

Management

The PWW management system is managed by the staff of RSV, principally the Wine Maker. However, RSV will employ professionals as needed to ensure functionality of the PWW management system. Furthermore, an Operation and Maintenance Guide will be provided to Winery personnel, to include normal operations and maintenance as well as provide a trouble-shooting section in the event of problems. Contact information for system designers, and other approved professionals will be provided.

Financial

The new systems employed by RSV require significant capital expense and will provide long term stability to the waste water treatment system. These pieces (ARS Steam Cleaning, SSFCW, sub-surface dispersal, etc) are all part of an integrated-design waste water management system.

Robert Sinskey Vineyards
6320 Silverado Trail, Yountville

Sewer Demand Table

Project Information	Parcel Size (A)	Parcel Location Factore (B)	Allowable Water Allotment (AXB)
APN: 031-230-017	11.82	0.5	5.91

2	Sanitary Sewer Peak Flow - Based on Proposed Marketing Plan					
Description of Use	Estimate[1]	Unit	Qty	Unit	Subtotal (af/day)	Subtotal (gal/day)
Commercial	12	gal/staff/special event	16	staff/caterer[3]	0.0006	192
Day Visitors	3	gal/visitor/day	132	visitors	0.0012	396
Other Usage (visitor)	7	gal/visitor/special event	150	max./special event	0.0032	1,050

PEAK DEMAND	(af/day)	(gal/day)
Total =	0.0050	1,638

3	Sanitary Sewer Average Flow Per Day & Year					
Description of Use	Estimate[1]	Unit	Qty	Unit	Average (gal/yr)	Average (gal/day)
Commercial	15	gal/emp/day	13	employee[3]	70,200	195
Other Usage (visitor)	3	gal/person/day	99	visitors/day	106,920	297

Average Demand	(gal/yr)	(gal/day)
Total =	177,120.00	492

WATER SUPPLY/WASTE DISPOSAL INFORMATION SHEET

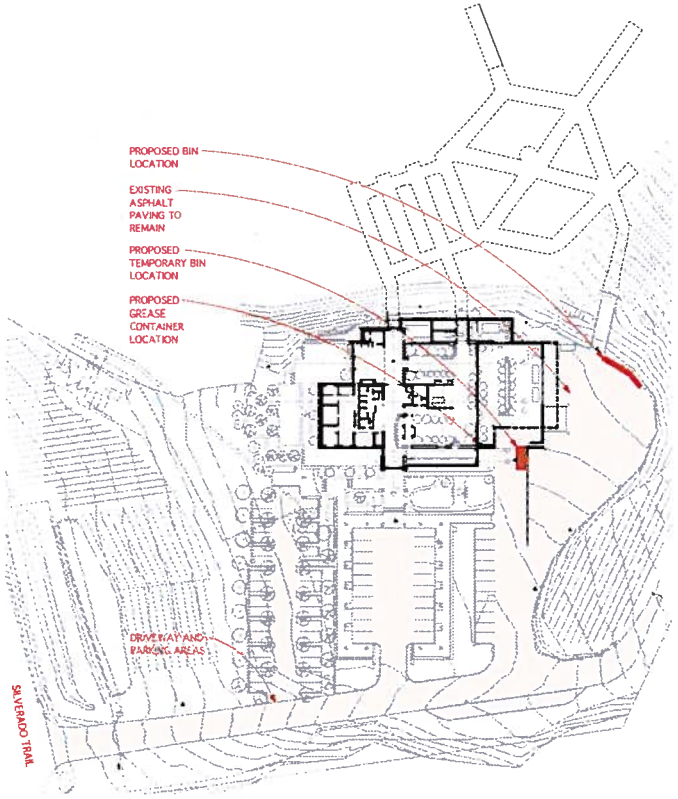
I. WATER SUPPLY	Domestic	Emergency
A. Proposed source of Water (eg., spring, well, mutual water company, city, district, etc.):	Well	Well
B. Name of Proposed Water Supplier (if water company, city, district): annexation needed?	N/A ☐Yes ☐No	N/A ☐Yes ☐No
C. Current Water Use (in gallons/day): Current water source:	2,836 Well	
D. Anticipated Future Water Demand (in gallons/day):	3,360	
E. Water Availability (in gallons/minute):	105	
F. Capacity of Water Storage System (gallons):	32,500	32,500 (60,000 gal. proposed)
G. Nature of Storage Facility (eg., tank, reservoir, swimming pool, etc.):	tanks	tanks
F. Completed Phase I Analysis Sheet (Attached):		

II. LIQUID WASTE	Domestic (sewage)	Other (please specify)
A. Disposal Method (e.g., on-site septic system on-site ponds, community system, district, etc.):	on-site septic	--
B. Name of Disposal Agency (if sewage district, city, community system): annexation needed?	N/A ☐Yes ☐No	-- ☐Yes ☐No
C. Current Waste Flows (peak flow in gallons/day):	1,887	--
D. Anticipated Future Waste Flows (peak flows in gallons/day):	1,992	2,717 gal. PWW
E. Future Waste Disposal Capacity (in gallons/day):	17,500 gal. storage for domestic wastewater	30,000 gal. for PWW in constructed wetland

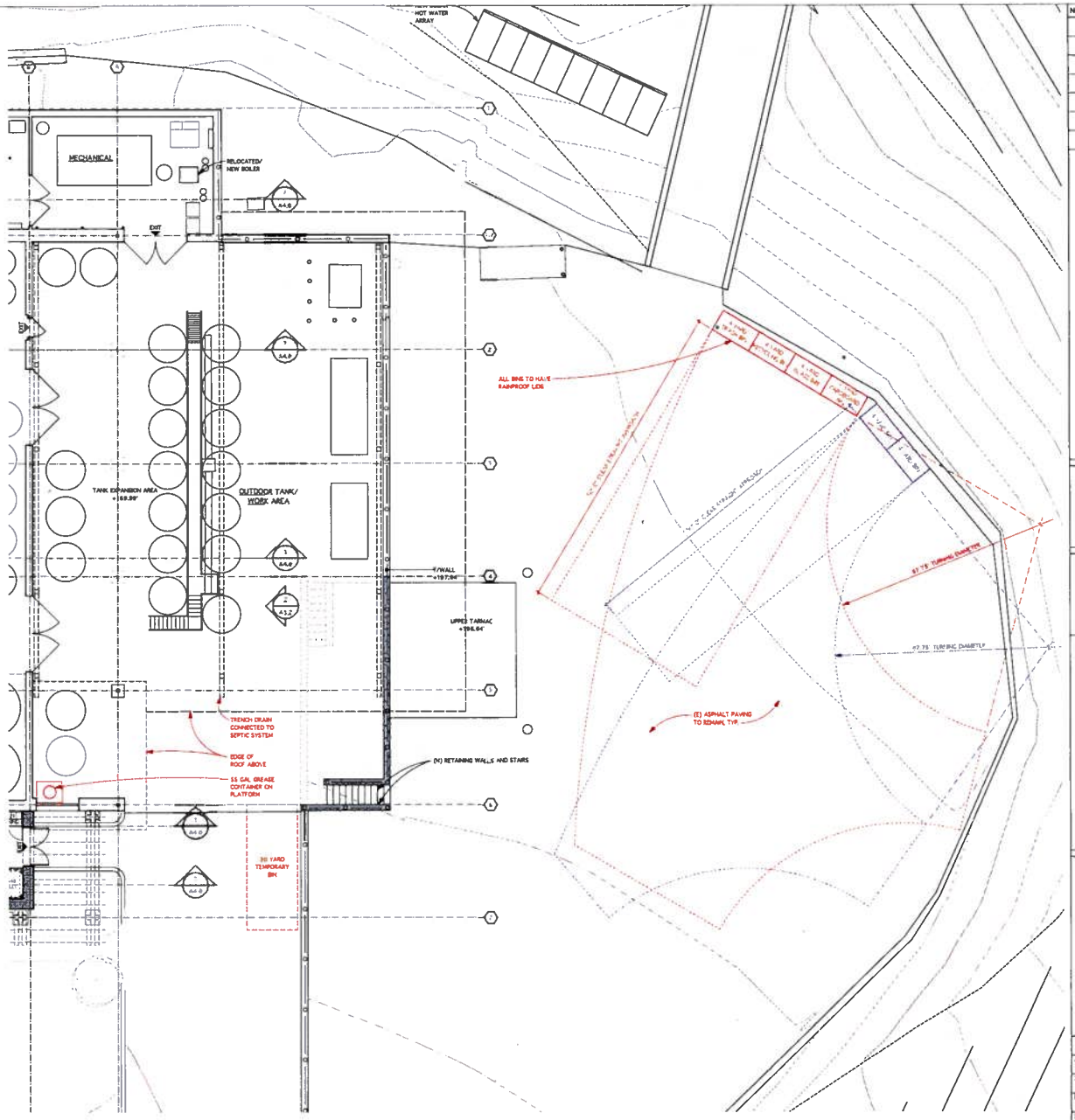
III. SOLID WASTE DISPOSAL		
A. Operational Wastes (on-site, landfill, garbage co., etc.):	Septic sludge to authorized entity	Process sludge to authorized entity
B. Grading Spoils (on-site, landfill, construction, etc.):	Grading will be balanced	cut/fill

IV. HAZARDOUS/TOXIC MATERIALS (Please fill out attached hazardous materials information sheet, attached)

A. Disposal Method (on-site, landfill, garbage co., waste hauler, etc.):	N/A	N/A
B. Name of Disposal Agency (if landfill, garbage co., private hauler, etc.):	N/A	N/A



2 SITE PLAN
A2.1C 1" = 50'



1 PROPOSED WASTE AND RECYCLING BIN LOCATIONS
A2.1C 1/8" = 1'-0"

No.	Issue Notes	Date

ARKIN TILT ARCHITECTS
1901 8th Street, #180
Berkeley, CA 94710
phone 510 528 9830
fax 510 528 0260
info@arkintilt.com
www.arkintilt.com

WINERY RENOVATION FOR
ROBERT SINSKEY VINEYARDS
6320 SILVERADO TRAIL
NAPA, CA 94558
A.P.N. 031-230-017

PROPOSED WASTE AND RECYCLING BIN LOCATIONS

DATE: 02.25.2010
JOB: RSV
SCALE: AS NOTED
DRAWN: AW
SHEET: A2.1C

DRAWING REDUCED TO FIT ON 8 1/2" X 11" PAGE