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Water Availability Analysis



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Water Availability Analysis
 for the
 Caldwell Vineyard Winery

Located at:
 270 Kreuzer Lane
 Napa, CA 94558

Date: 1/20/2017

Project # 00193

Legend
Requires Input
Automatically Calculates
Important Value Automatically Calculates
Important Value Requires Input

Hit ctrl+alt+shift+F9 when finished to recalc a

*Received
 July 25, 2017*

WATER AVAILABILITY ANALYSIS- PHASE ONE STUDY			
WATER USE CALCULATIONS FOR EXISTING USE			
RESIDENTIAL	#	FACTOR	AF/YR
PRIMARY RESIDENCES=	0	0.65	0.00
SECONDARY RESIDENCES=	0	0.25	0.00
FARM LBR DWELLING (# OF PPL) =	0	0.08	0.00
		SUB TOTAL=	0.00
NON- RESIDENTIAL CALCULATIONS			
AGRICULTURAL	# ACRE	FACTOR	AF/YR
VINEYARD IRRIGATION ONLY=	30.32	0.3	9.10
VINEYARD HEAT PROTECTION=	30.32	0.25	7.58
VINEYARD FROST PROTECTION=	0	0.25	0.00
IRRIGATED PASTURE=	0	4	0.00
ORCHARDS=	0	4	0.00
LIVESTOCK (SHEEP/COWS)=	0	0.01	0.00
		SUB TOTAL=	16.68
WINERY	# GAL	FACTOR	AF/YR
PROCESS WATER=	25000	SEE WW CALCS	0.38
DOMESTIC AND LANDSCAPING=	25000	SEE WW CALCS	0.08
		SUB TOTAL=	0.46
INDUSTRIAL	# EMPL	FACTOR	AF/YR
FOOD PROCESSING=	0	31	0.00
PRINTING/ PUBLISHING=	0	0.6	0.00
		SUB TOTAL=	0.00
COMMERCIAL	# EMPL	FACTOR	AF/YR
OFFICE SPACE=	0	0.01	0.00
WAREHOUSE=	0	0.05	0.00
		SUB TOTAL=	0.00
EXISTING USE TOTALS			
RESIDENTIAL=	0.00	AF/YR	
AGRICULTURAL=	16.68	AF/YR	
WINERY=	0.46	AF/YR	
INDUSTRIAL=	0.00	AF/YR	
COMMERCIAL=	0.00	AF/YR	
OTHER USAGE (LIST BELOW)			
		AF/YR	
		AF/YR	
		AF/YR	
		AF/YR	
		AF/YR	
TOTAL EXISTING WATER USE=	5583402	G/YR	
TOTAL EXISTING WATER USE=	17.14	AF/YR	

WATER AVAILABILITY CALCULATIONS FOR EXISTING USE			
WELL NUMBER	Q - GPM	AF/YR	
1	91	146.794	
2		0.000	
3		0.000	
4		0.000	
5		0.000	
TOTAL=	91	146.794	
SPRING NUMBER	Q - GPM	AF/YR	
1		0.000	
2		0.000	
3		0.000	
4		0.000	
5		0.000	
TOTAL=	0	0.000	
TANK #	GAL	AF	
1	5000	0.015	
2	5000	0.015	
3	5000	0.015	
4	5000	0.015	
5	5000	0.015	
TOTAL=	25000	0.077	
RESERVOIR #	GAL	AF	
1	0.000		
2	0.000		
3	0.000		
4	0.000		
5	0.000		
TOTAL=	0.000	0	
GROUND WATER RECHARGE	AF/YR/ACRE	PARCEL AC	AF/YR
assumed worst case recharge rate =	0.30	83.07	24.92
TOTAL AVAILABLE WATER =	8119979.52	G/YR	
TOTAL AVAILABLE WATER =	24.92	AF/YR	
TOTAL EXISTING WATER USE=	17.14	AF/YR	
REMAINING AVAILABLE WATER =	7.78	AF/YR	

WATER USE CALCULATIONS FOR PROPOSED USE			
RESIDENTIAL	#	FACTOR	AF/YR
PRIMARY RESIDENCES=	0	0.65	0.00
SECONDARY RESIDENCES=	0	0.25	0.00
FARM LBR DWELLING (# OF PPL) =	0	0.08	0.00
		SUB TOTAL=	0.00
NON- RESIDENTIAL CALCULATIONS			
AGRICULTURAL	# ACRE	FACTOR	AF/YR
VINEYARD IRRIGATION ONLY=	30.32	0.3	9.10
VINEYARD HEAT PROTECTION=	30.32	0.25	7.58
VINEYARD FROST PROTECTION=	0	0.25	0.00
IRRIGATED PASTURE=	0	4	0.00
ORCHARDS=	0	4	0.00
LIVESTOCK (SHEEP/COWS)=	0	0.01	0.00
		SUB TOTAL=	16.68
WINERY	# GAL	FACTOR	AF/YR
PROCESS WATER =	35000	SEE WW CALC	0.54
DOMESTIC WATER =	35000	SEE WW CALC	0.25
		SUB TOTAL=	0.79
INDUSTRIAL	# EMPL	FACTOR	AF/YR
FOOD PROCESSING=	0	31	0.00
PRINTING/ PUBLISHING=	0	0.6	0.00
		SUB TOTAL=	0.00
COMMERCIAL	# EMPL	FACTOR	AF/YR
OFFICE SPACE=	0	0.01	0.00
WAREHOUSE=	0	0.05	0.00
		SUB TOTAL=	0.00
PROPOSED USE TOTALS			
RESIDENTIAL=	0.00	AF/YR	
AGRICULTURAL=	16.68	AF/YR	
WINERY=	0.79	AF/YR	
INDUSTRIAL=	0.00	AF/YR	
COMMERCIAL=	0.00	AF/YR	
OTHER USAGE (LIST BELOW)			
		AF/YR	
		AF/YR	
		AF/YR	
		AF/YR	
		AF/YR	
TOTAL PROPOSED WATER USE=	5690926	G/YR	
TOTAL PROPOSED WATER USE=	17.47	AF/YR	

WATER AVAILABILTY CALCULATIONS FOR PROPOSED USE			
WELL NUMBER	Q - GPM	AF/YR	
1	91	146.794	
2		0.000	
3		0.000	
4		0.000	
5		0.000	
TOTAL=	91	146.794	
SPRING NUMBER	Q - GPM	AF/YR	
1		0.000	
2		0.000	
3		0.000	
4		0.000	
5		0.000	
TOTAL=	0	0.000	
TANK #	GAL	AF	
1	5000	0.015	
2	5000	0.015	
3	5000	0.015	
4	5000	0.015	
5	5000	0.015	
TOTAL=	25000	0.077	
RESERVOIR #	GAL	AF	
1	0		
2	0		
3	0		
4	0		
5	0		
TOTAL=	0	0.000	
GROUND WATER RECHARGE	AF/YR/ACRE	PARCEL AC	AF/YR
assumed worst case recharge rate =	0.30	83.07	24.92
TOTAL WATER AVAILABLE =	8119979.52	G/YR	
TOTAL WATER AVAILABLE =	24.92	AF/YR	
TOTAL PROPOSED WATER USE=	17.47	AF/YR	
REMAINING AVAILABLE WATER =	7.45	AF/YR	