

## Water Availability Analysis

NEW LIFE COMMUNITY ADVENTIST CHURCH USE PERMIT P16-00210-UP



CMP Civil Engineering & Land Surveying 1607 Capell Valley Road Napa, CA 94558 (707) 815-0988 Cameron@CMPEngineering.com CMPEngineering.com



## Water Availability Analysis

## for the

## New Life Community Adventist Church

1451 American Canyon Road

American Canyon, CA 94503

APN: 059-100-002

Prepared By:

CMP Civil Engineering & Land Surveying

1607 Capell Valley Road

Napa, CA 94558

(707) 815-0988

Date: 5/4/2016



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Contact Informa	ition				
Property Owner:	New Life Community Adventist Church, c/o John Wambaa				
Owner Address: 219 Sandy Neck Way					
	Vallejo, CA 94591				
Owner Phone:	(707) 373-1106				

#### Site Map

Please see the Use Permit Site Plan for the subject project which has been included with this submittal. The said map shows the proposed water source (existing well) for the proposed church and its proximity to other water sources.

#### <u>Narrative</u>

This project involves a proposed church located on a 1.83 acre parcel at 1451 American Canyon Road in Napa County. The property owners are proposing to build a church with a maximum of 150 attendees. Services will be held once a week on Saturdays, all other days the church will be vacant except for a possible special event of which a maximum of 4 per year are proposed with a maximum of 250 attendees. There is one existing residence on the property that will be demolished before the church is constructed. There is one 35,000 gallon water tank proposed to serve the church. Of this 35,000 gallons, 28,000 is for fire protection and the remaining 7000 gallons would serve the churches domestic needs. The tank will be filled by an existing onsite well which has a capacity of 5 gallons per minute which is equivalent to 8.07 acre feet per year. The well is located on the general southeast portion of the lot. There is one known neighboring well within the 500 foot setback from the project well. This well is located approximately 195 feet south of the project well across the street. Due to the low proposed water use, the neighboring well is not expected to be affected by the proposed use.

The existing calculated annual water use for the entire property is 0.50 acre feet. This is due to the existing residence on the subject parcel. This existing residence is proposed to be demolished and replaced with the proposed church. After the demolishing of the residence and construction of the church the new water use is expected to be 0.21 acre feet per year. Thus the project is proposing a net decrease in water use of 0.29 acre feet. This decrease in water use will be beneficial to the neighboring well.

Using a worst case scenario groundwater recharge rate of 0.3 acre feet of water use per acre of land the maximum allowed water use for this parcel would be 0.55 acre feet of water per year. Comparing the proposed use of 0.21 acre feet per year to the above 0.55 acre feet value as well as the well capacity value of 8.07 acre feet per year, it is clear that the subject parcel and well has more than enough capacity to serve the proposed use.

#### **Calculations**

Please see the attached calculations.

# Attachment "A" Wastewater and Water

**Use Calculations** 



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Winery Wastewater Flow Calculations for the New Life Community Adventist Church

> Located at: 1451 American Canyon Road American Canyon, CA 94503

> > Date: 5/42016

Project # 000177

Legend

**Requires** Input

Automatically Calculates

Important Value Automatically Calculate

Important Value Requires Input

Hit ctrl + alt + shift + F9 when finished to recalc all formulas

Church Was	te Flow Su	mmary	,			
The existing system is designed to treat domestic			a maximu	m of 150 sea	its.	
Large events will be serviced by portable tempora				1		
Church Domest	ic Waste P	eak Flow	S			
% Water savings from low flow fittings =	20%	percent				
Typical Saturday (Service Day)						
Number of attendees =	80	<b>#</b>				
Event people count serviced by this system =	0	#				
Attendees estimated domestic waste flow =	448.00	gal/day				
Event daily domestic waste flow =	0.00	gal/day				
Church Dimestic Flow =	448.00	gal/day				
Max Attendence Saturday (Service Day						
Number of attendees =	150	#				
Event people count serviced by this system =	0	<b> </b> #				
Attendees estimated domestic waste flow =	840.00	gal/day				
Event daily domestic waste flow =	0.00	gal/day				
Church Dimestic Flow =	840.00	gal/day				
All other days						
Number of attendees =	0	#				
Event people count serviced by this system =	0	#				
Attendees estimated domestic waste flow =	0.00	gal/day				
Event daily domestic waste flow =	0.00	gal/day				
Church Dimestic Flow =	0.00	gal/day				
Total Domestic Waste Peak Flows =	840.00	gal/day				
Church Waste Ann	ual Volume		tions			
Typical Saturday (Service Day)						
Number of attendees =	80	#				
Attendees estimated domestic waste flow =	448.00	gal/day				
Number of Flow Days =	40.00	days/yr				
Annual Domestic Waste Volume =	17920	-				
	17920	gal/year				
Max Attendence Saturday (Service Day Number of attendees =	150	#				
Attendees estimated domestic waste flow =	840.00	 gal/day				
	All South and share share share to					
Number of Flow Days =	12.00	days/yr				
Annual Domestic Waste Volume =	10080	gal/year				
All other days		<b>.</b>				
Number of attendees =	0	_#				
Attendees estimated domestic waste flow =	0.00	gal/day				
Number of Flow Days =	313.00	days/yr				
Annual Domestic Waste Volume =	0	gal/year				
Special Event Visitor Volumes	visitors	days/yr	flow/day	gallons		
Large Events =	250	4	8	8000		
Medium Events =	0	0	8	0		
Other =	0	0	8	0		
Other 2 =	0	0	8	0		
Total Annual Event Visitor Waste Volume =	8000	gal/year		: * E.		
Total Annual Church Domestic Waste =	36000	gal/year	0.11	af/year		



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### Water Availability Analysis for the New Life Community Adventist Church

Located at: 1451 American Canyon Road American Canyon, CA 94503

Date: 5/4/2016

Project # 00177

Legend	
Requires Input	
Automatically Calculates	
Important Value Automatically Calculates	
Important Value Requires Input	Hit ctrl+alt+shift+F9 when finished to recalc

RESIDENTIAL	#	FACTOR	AF/
PRIMARY RESIDENCES=	1	0.5	0.5
SECONDARY RESIDENCES=	0	0.3	0.00
FARM LBR DWELLING (# OF PPL) =	0	0.06	0.00
		SUB TOTAL=	0.50
NON- RESID	ENTIAL CA	LCULATIONS	
GRICULTURAL	# ACRE	FACTOR	AF/YR
VINEYARD IRRIGATION ONLY=	0.00	0.5	0.00
VINEYARD HEAT PROTECTION=	ont no	0.25	0.00
VINEYARD FROST PROTECTION=	0	0.25	0.00
IRRIGATED PASTURE=	0	4	0.00
ORCHARDS=	0	4	0.00
LIVESTOCK (SHEEP/COWS)=	VL00eted	0.01	0.00
	<i>y</i>	SUB TOTAL=	0.00
VINERY	# GAL	FACTOR	AF/YR
PROCESS WATER=	0	NA	0.00
DOMESTIC AND LANDSCAPING=	0	0.000005	0.00
		SUB TOTAL=	0.00
NDUSTRIAL	# EMPL	FACTOR	AF/YR
FOOD PROCESSING=	0	31	0.00
PRINTING/ PUBLISHING=	0 tt 10-im	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
	ING USE T		
RESIDENTIAL=	0.50	AF/YR	
AGRICULTURAL=	0.00	AF/YR	
WINERY=	0.00	AF/YR	
	0.00	AF/YR	
	0.00	AF/YR	
OTHER USAGE (LIST BELOW)		AF/YR	
	1	AF/YR AF/YR	
		AF/YR	
		AF/TR AF/YR	
		AF/TR AF/YR	
	, , , ,		
TOTAL EXISTING WATER USE	162914	G/YR	
TOTAL EXISTING WATER USE=	0.50	AF/YR	

WELL NUMBER	Q - GPM	AF/YR	
1	5	8.065	
2		0.000	1 <sup>1</sup> 2
3	1 - 0	0.000	
4		0.000	
5	2011年11月3日4	0.000	1
TOTAL=	5	8.065	
SPRING NUMBER	Q - GPM	AF/YR	
· 1. · · · · · · · ·		0.000	
2		0.000	
3		0.000	मों के <del>स</del>
4		0.000	
5	and the second second pro-	0.000	
TOTAL=	0	0.000	1
TANK #	GAL	AF	4.115
1		0.000	
2		0.000	
3	JAMES T	0.000	
4		0.000	1
5		0.000	1.1
TOTAL=	0	0.000	
RESERVOIR #	GAL	AF	
1	0.000	CAME SUPER	
2	0.000	TON PROPERTY	
3	0.000	and the second second second	
4	0.000	1. The second second second	
5	0.000		
TOTAL=	0.000	0	
GROUND WATER RECHARGE	AF/YR/ACRE	PARCEL AC	AF/YR
assumed worst case recharge rate =	0.30	1.83	0.55
TOTAL AVAILABLE WATER =	178880.01	G/YR	
TOTAL AVAILABLE WATER =	0.55	AF/YR	
TOTAL EXISTING WATER USE=		AF/YR	
REMAINING AVAILABLE WATER =		AF/YR	

	#	FACTOR	AF/YR	
PRIMARY RESIDENCES=	0	0.75	0.00	
SECONDARY RESIDENCES=	0	0.3	0.00	
FARM LBR DWELLING (# OF PPL) =	0	0.06	0.00	
		SUB TOTAL=	0.00	
NON- RESID	ENTIAL CA	LCULATIONS		
AGRICULTURAL	# ACRE	FACTOR	AF/YR	
VINEYARD IRRIGATION ONLY=	0	0.5	0.00	
VINEYARD HEAT PROTECTION=	0	0.25	0.00	
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=	0.00	
WINERY	# GAL	FACTOR	AF/YR	
PROCESS & DIMESTIC WATER=	0	NA	0.00	
LANDSCAPING=	0	NA	0.00	
	and the second	SUB TOTAL=	0.00	
NDUSTRIAL	# 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	
PROPO	OSED USE	TOTALS		1
RESIDENTIAL	0.00	AF/YR		-
AGRICULTURAL=	0.00	AF/YR		
WINERY=	0.00	AF/YR		
INDUSTRIAL	0.00	AF/YR		
COMMERCIAL	0.00	AF/YR		
OTHER USAGE (LIST BELOW)	0.00			
CHURCH (SEE WW CALCS)	0.11	AF/YR		
MISC LANDSCAPING	0.10	AF/YR		
	0.10	AF/YR		
	0.06	AF/YR		
		AF/YR		
		, , , , , , , , , , , , , , , , , , , ,		
	68424	G/YR		
TOTAL PROPOSED WATER USE=	0.21	AF/YR		

		NS FOR PRO	TOOLD	JSE
WELL NUMBER	Q - GPM	AF/YR		
1		0.000		
2		0.000		
3		0.000		
4		0.000		
5		0.000		
TOTAL=	0	0.000	54."	
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	35000	0.107		
2	0	0.000		
3	0	0.000		
4	0	0.000		
5		0.000		
TOTAL=	35000	0.107		
RESERVOIR #	GAL	AF		
1	0			
2	0			
3	0			
4	0			
5 TOTAL=	0	0.000		
GROUND WATER RECHARGE		PARCEL AC	AF/YR	
assumed worst case recharge rate =	0.30	1.83	0.55	
assumed worst case recharge fale -	0.50	1.05	0.00	
TOTAL WATER AVAILABLE =	178880.01	G/YR		
TOTAL WATER AVAILABLE =	0.55	AF/YR		
TOTAL PROPOSED WATER USE=	0.21	AF/YR		
REMAINING AVAILABLE WATER =	0.34	AF/YR		



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