“M”

Water System Feasibility Report

Pridmore Property
General Plan Amendment P17-00135
Rezone P20-00223 and Use Permit P20-00222
Planning Commission Hearing May 15, 2024

CMP Civil Engineering & Land Surveying Inc.
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Napa, CA 94558
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Water System Feasibility Report

for the

Pridmore Property
(Formally Capell Valley School)

1191 Capell Valley Road

Napa, CA 94558

APN: 032-130-026

Prepared By:

CMP Civil Engineering & Land Surveying Inc.

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Napa, CA 94558

(707) 266-2559

Date: 7/22/2020

Jul 22, 2020

Table of Contents

Water System General Descriptions

The existing water system, officially called the Capell Valley School Water System (CA2800633), historically supplied water to the Capell Valley Elementary School. Now that the school has been closed down we would like to use the existing water system to supply potable water to the proposed tourist lodging units on the subject site. The water source for the existing water system is an existing 45 gallon well which pumps to a 10,000 gallon water tank.

Water System Technical Description and Feasibility

The water source for this system is the existing well on the property. The subject source well is located on the general southeastern end of the property. See Attachment “A” for a map showing the exact location. The well is currently used to provide potable water to the existing school buildings and has a capacity of 45 gallons per minute (GPM). Please see the well logs and other pertinent information in Attachment “E”. The well is currently fitted with a 55’ deep seal with a minimum 3” annular space. The well water has been tested for adverse and hazardous constituents as required by local, state and federal permitting agencies. No constituents were found to be above allowable drinking water levels. The constituents that were tested for are shown in Attachment “D”. From the well the water is then pumped through a network of PVC pipes rated for potable water to one 10,000 gallon potable water storage tank. From here the potable water is then routed to the existing and proposed buildings.

There will be a total of 9 tourist lodging structures and one care taker unit connected to this water system along with the existing accessory buildings already connected to it which will be there to support the proposed lodging units. Looking at the domestic and process wastewater calculations shown in Attachment “B”, the maximum day demand (MDD) on this water system is 1664 gallons per day (GPD). The peak hourly demand (PHD) is (1664 x 1.5) = 2496 gallons per hour (GPH). Given that the subject well has a capacity of 45 GPM, at this rate it can provide a maximum of 64,800 GPD. Comparing this to the above MDD of 1664 GPD, there is more than enough daily capacity for the proposed project. Moving on to the PHD requirements. The code states that a water system must be able to provide the PHD for four consecutive hours which in this case is (2496 GPH x 4 H) = 9,984 gallons. Given that the well can pump at 45 GPM this equals (45 GPM x 60 M x 4 H) = 10,800 gallons every four hours. Add this to the capacity of the 10,000 gallon storage tank and the maximum 4 hour capacity of this water system is 20,800 gallons. Comparing this to the required 9,984 gallons, there is more than enough water available to meet the PHD requirements.

Looking at the entire parcels water use and availability, the proposed calculated annual water use for the subject parcel is 3.20 acre feet. See the Water Availability Calculations in Attachment “B”. Given that this parcel is 5.08 acres in size and has a groundwater recharge rate of 1.54 acre feet of water use per acre (see Groundwater

Recharge Calculations in Attachment “B”) the maximum allowed water use for this parcel would be 7.82 acre feet of water per year. Comparing the proposed use of 3.20 acre feet per year to the above 7.82 acre feet value as well as the annual well capacity value of 72.59 acre feet per year, it is clear that the subject parcel and well has more than enough capacity to serve the proposed use.

In case of emergency the existing 10,000 gallon tank will be utilized and if needed potable water will be hauled in from the City of Napa until repairs are made or new well is installed if needed.

Water Quality and Testing

The existing project well has been tested for water quality. The hazardous constituents tested are below allowable local, state and federal drinking water quality levels. Attachment “C” shows both the EPA and California allowable constituent levels. Attachment “D” shows the testing results. The water quality for the project well meets local, state and federal requirements, and it is expected that this existing public water system will be reinstated in service once the appropriate permits and improvements have been obtained and completed. Once the system is placed in service again then continued testing will be as follows: quarterly testing for bacteria’s, annual testing for nitrites, and nitrate testing once every three years.

Managerial Expectations

A qualified person will be hired to properly monitor, operate and maintain this water system. This persons responsibilities will be but are not limited to the following items:

1. Inspect the water system on a regular bases to make sure everything is operating properly and there are no possible points of contamination.
2. Personally fix any failures or components showing signs of wearing within the system or if necessary coordinate with service providers to fix such items.
3. Properly sample the water and send samples to the proper testing lab as required by the pertinent permitting agencies.
4. Notify owner and manager of any water system infrastructure needs and any planned water shutdown periods.
5. Develop emergency water system shutdown procedures and be able to implement them.

Financial Expectations

The water system is existing so no new construction costs are expected however it is estimated that the water system would cost $40,000 to replace today if it was necessary. It is expected that the system will have a usable lifespan of 30 years. It is expected to cost $500 annually to operate, maintain and properly sample and test the water. It is expected that the system will cost roughly $62,000 to replace 30 years from

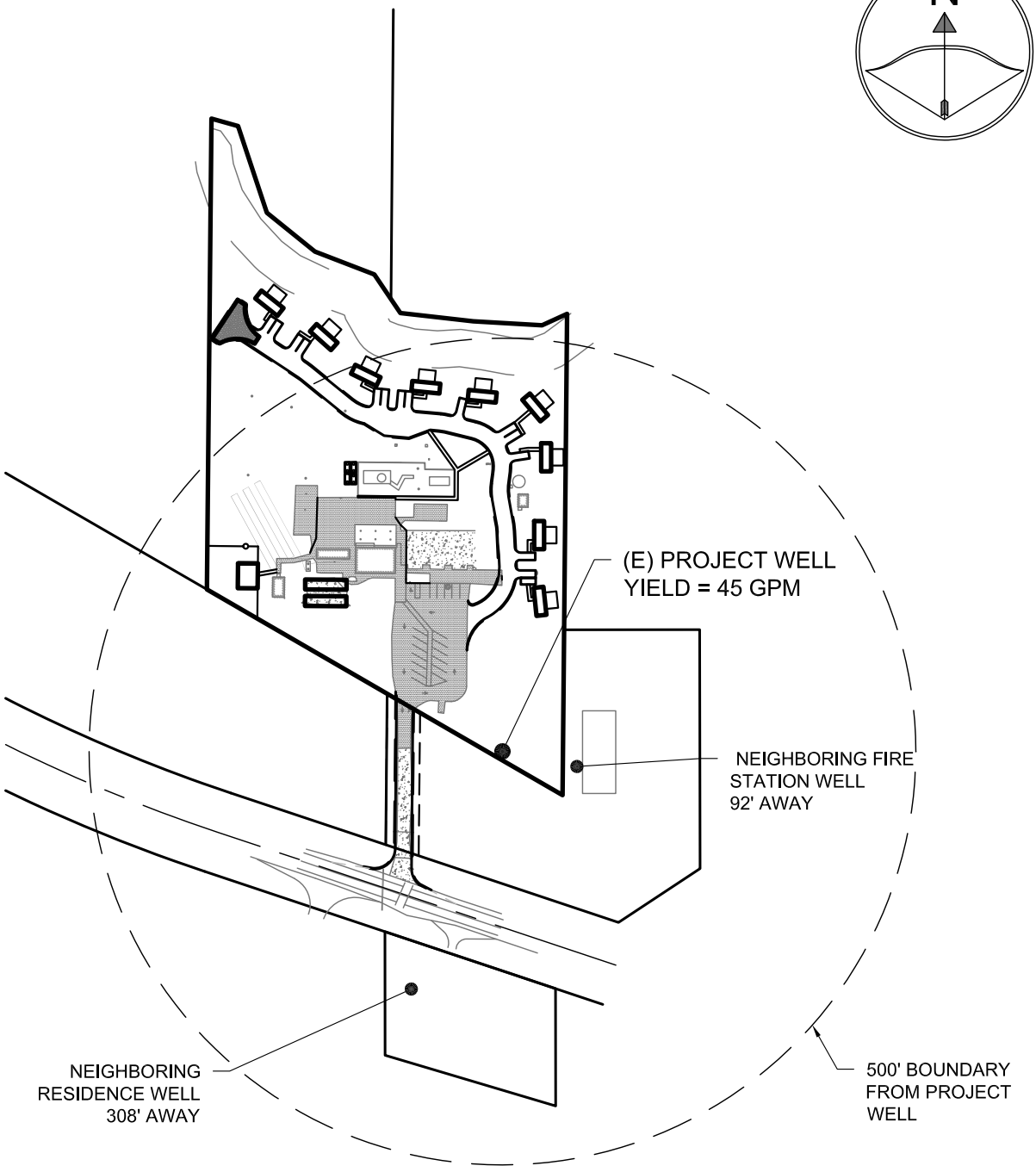
now. To have this money available 30 years from now, $2134 must be set aside in a 0% annual interest rate account for the next 30 years. Thus it will cost an estimated $2634 per year to own, operate, maintain and eventually replace the subject water system. The proposed tourist lodging operation should produce adequate funds to meet the financial demands of this water system.

Conclusions

The subject property and associated water system has an adequate water source for the proposed and existing uses on the subject parcel.

Attachment “A”

Well Location Map



0 100 200 400

SCALE: 1"=200'

WELL LOCATION MAP

SHEET: 1 OF 1

PROJECT INFO:

PRIDMORE PROPERTY
(FORMALLY CAPELL
VALLEY SCHOOL)
1191 CAPELL VALLY ROAD
NAPA, CA 94558
032-130-026

PREPARED BY:

CMP CIVIL ENGINEERING &
LAND SURVEYING INC.
1607 CAPELL VALLEY ROAD
NAPA, CA 94558
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P #: 00055 DATE: 05/13/2020

CMP
CIVIL & LAND
ENGINEERING SURVEYING

Attachment “B”

Water Availability Analysis Calculations,
Wastewater Calculations,
Ground Water Recharge Calculations

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Water Availability Calculations

for the

Capell School Lodging Project

Located at:

1191 Capell Valley Road

Napa, CA 94558

Date: 7/22/2020

Project # 00055

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

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

WATER AVAILABILITY ANALYSIS- PHASE ONE STUDY

WATER USE CALCULATIONS FOR HISTORICAL USE

RESIDENTIAL	#	FACTOR	AF/YR
PRIMARY RESIDENCES=	0	0.5	0.00
SECONDARY RESIDENCES=	0	0.2	0.00
FARM LBR DWELLING (# OF PPL) =	0	0.06	0.00
		SUB TOTAL=	0.00

NON- RESIDENTIAL CALCULATIONS

AGRICULTURAL	# ACRE	FACTOR	AF/YR
VINEYARD IRRIGATION ONLY=	0	0.3	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
SCHOOL	**# GAL**	**FACTOR**	**AF/YR**
DOMESTIC WATER USE =	345379	SEE WW CALC	1.06
LANDSCAPING WATER USE =	1694310	SEE IRR. CALC	5.20
		SUB TOTAL=	6.26
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=	0.00	AF/YR
SCHOOL=	6.26	AF/YR
INDUSTRIAL=	0.00	AF/YR
COMMERCIAL=	0.00	AF/YR
OTHER USAGE (LIST BELOW)		
RECYCLED WASTE WATER =		AF/YR
		AF/YR
		AF/YR
		AF/YR
		AF/YR
TOTAL EXISTING WATER USE=	**2039688**	**G/YR**
TOTAL EXISTING WATER USE=	**6.26**	**AF/YR**

WATER AVAILABILTY CALCULATIONS FOR HISTORICAL USE			
WELL NUMBER	Q - GPM	AF/YR	
1	45	72.590	
2		0.000	
3		0.000	
4		0.000	
5		0.000	
TOTAL=	45	72.590	
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	10000	0.031	
2		0.000	
3		0.000	
4		0.000	
5		0.000	
TOTAL=	10000	0.031	
RESERVOIR #	GAL	AF	
1	0		
2	0		
3	0		
4	0		
5	0		
TOTAL=	0.000	0	
GROUND WATER RECHARGE	AF/YR/ACRE	PARCEL AC	AF/YR
See Groundwater Recharge Analysis	1.54	5.08	7.82
TOTAL AVAILABLE WATER =	**2549023.87**	**G/YR**	
TOTAL AVAILABLE WATER =	**7.82**	**AF/YR**	
TOTAL EXISTING WATER USE=	**6.26**	**AF/YR**	
REMAINING AVAILABLE WATER =	**1.56**	**AF/YR**	

WATER USE CALCULATIONS FOR PROPOSED USE				
RESIDENTIAL	**#**	**FACTOR**	**AF/YR**	
PRIMARY RESIDENCES=		0.5	0.00	
SECONDARY RESIDENCES=		0.2	0.00	
FARM LBR DWELLING (# OF PPL) =		0.06	0.00	
		SUB TOTAL=	0.00	
NON- RESIDENTIAL CALCULATIONS				
AGRICULTURAL	**# ACRE**	**FACTOR**	**AF/YR**	
VINEYARD IRRIGATION ONLY=		0.3	0.00	
VINEYARD HEAT PROTECTION=		0.25	0.00	
VINEYARD FROST PROTECTION=		0.25	0.00	
IRRIGATED PASTURE=		4	0.00	
ORCHARDS=		4	0.00	
LIVESTOCK (GOATS/CHICKENS)=	0.1	0.01	0.00	
		SUB TOTAL=	0.01	
LODGING	**# GAL**	**FACTOR**	**AF/YR**	
DOMESTIC WATER USE =	289988	SEE WW CALC	0.89	
LANDSCAPING WATER USE =	749406	SEE IRR. CALC	2.30	
		SUB TOTAL=	3.19	
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=	0.01	AF/YR
LODGING=	3.19	AF/YR
INDUSTRIAL=	0.00	AF/YR
COMMERCIAL=	0.00	AF/YR
OTHER USAGE (LIST BELOW)		
RECYCLED WASTE WATER =		AF/YR
		AF/YR
		AF/YR
		AF/YR
		AF/YR
TOTAL PROPOSED WATER USE=	**1042652**	**G/YR**
TOTAL PROPOSED WATER USE=	**3.20**	**AF/YR**

WATER AVAILABILTY CALCULATIONS FOR PROPOSED USE

WELL NUMBER	Q - GPM	AF/YR
1	45	72.590
2		0.000
3		0.000
4		0.000
5		0.000
TOTAL=	45	72.590
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	10000	0.031
2		0.000
3		0.000
4		0.000
5		0.000
TOTAL=	10000	0.031
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
See Groundwater Recharge Analysis	1.54	5.08	7.82

TOTAL WATER AVAILABLE =	**2549023.87**	**G/YR**
TOTAL WATER AVAILABLE =	**7.82**	**AF/YR**
TOTAL PROPOSED WATER USE=	**3.20**	**AF/YR**
REMAINING AVAILABLE WATER =	**4.62**	**AF/YR**

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Ground Water Recharge Analysis

for the

Capell School Lodging Project

Located at:
1191 Capell Valley Road
Napa, CA 94558

Date: 7/22/2020

Project # 00055

Legend
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GROUND WATER RECHARGE CALCULATIONS

PARCEL VARIABLES

Parcel size =	5.08	ac
Average annual rainfall (P) =	34.00	in (from napa county RSS)
Total parcel average rainfall volume =	14.39	ac-ft/yr

EVAPOTRANSPIRATION (E)

Surface Type	Area (ac)	E (ac-ft)	
Vineyard =	0.00	0.00	
Orchard =			
Hay =			
Other Crops =			
Impervous Surfaces onto Grassland =	0.72	0.00	
Totals =	0.72	0.00	
Native plants area =	4.36	ac	
Native plants estimated coefficient =	0.35	coefficient	
Plant density =	80%	percent	
Native Plant Growth Cycle Factor =	0.70	factor	
Grass refernce ETo =	47.04	in (from Zone 8 ITRC value typ yr)	
Native plant ETc =	11.52	in	
Total annual native plant E =	3.35	ac-ft	
Total annual E for parcel =	**3.35**	**ac- ft**	

RUNOFF (R)

Average runoff relief coefficient =	8%	%
Average runoff soil coefficient =	6%	%
Average runoff vegitation coefficient =	6%	%
Average runoff surface coefficient =	8%	%
Total Runoff Coefficient =	28%	%
Average annual rainfall =	14.39	ac-ft
Runoff producing rainfall =	80%	%
Total Annual Runoff (R) =	**3.22**	**ac-ft**

ANNUAL GROUND WATER RECHARGE STORAGE (S) = P-(R+E)

Total Annaul Precipitation (P) =	14.39	ac-ft
Total Annual Runoff (R) =	3.22	ac-ft
Total Annual Evapotranpiration (E) =	3.35	ac-ft
Total Annual Ground Recharge (S) =	**7.82**	ac-ft
Annual Recharge Rate Per Acre =	**1.54**	**ac-ft / yr / ac**

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Proposed Wastewater Flow Calculations

for the

Capell School Lodging Project

Located at:

1191 Capell Valley Road

Napa, CA 94558

Date: 7/22/2020

Project # 00055

Legend

Requires Input
Automatically Calculates
Important Value Automatically Calculate
Important Value Requires Input

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

Waste Flow Summary

The existing school wastewater system was under designed to handle a peak flow of 600 gallons per day of domestic wastewater. The proposed change in use will exceed this amount thus an additional wastewater system will be required. All proposed events will be serviced by portable toilets.

Peak Domestic Waste Flow Calculations

Proposed Lodging Units Peak Domestic Waste Flows

Total number of single bedroom lodging units =	4	lodging units
Total number of double bedroom lodging units =	5	lodging units
Total number of single bedroom caretaker units =	1	caretaker units
Peak wasteflow per lodging bedrooms =	106.00	gal/day/br
Peak wasteflow per care taker bedrooms =	120.00	gal/day/br
Peak Lodging Units Domestic Waste Flow =	**1604.00**	gal/day

Proposed Employee Peak Domestic Waste Flows

Peak Employee Waste Flows		
Number of FT Employees =	4	#
Number of PT Employees =	0	#
FT employee daily domestic waste flow =	60.00	gal/day (15 g/p)
PT employee daily domestic waste flow =	0.00	gal/day (8 g/p)
Peak Employee Waste Flows =	**60.00**	**gal/day**
Total Combined Domestic Waste Flows =	**1664**	**gal/day**

Annual Waste Flow Volume Calculations

Average Lodging Units Domestic Waste Flows

Total number of single bedroom lodging units =	4	lodging units
Total number of double bedroom lodging units =	5	lodging units
Total number of single bedroom caretaker units =	1	caretaker units
Total bedroom (br) count =	15	br
Average wasteflow per bedroom =	50.00	gal/day/br
Total Design Peak Domestic Waste Flows =	750.00	gal/day
Total Design Peak Domestic Waste Flows =	**273750**	**gal/yr**

Average Employee Domestic Waste Flows

Peak Employee Waste Flows		
Number of FT Employees =	4	#
Number of PT Employees =	0	#
FT employee daily domestic waste flow =	30.00	gal/day (7.5 g/p)
PT employee daily domestic waste flow =	0.00	gal/day (4 g/p)
Emplyee Domestic Flow =	30.00	gal/day
Total Design Peak Domestic Waste Flows =	**10950**	**gal/yr**

Average Event Domestic Waste Flows

Special Event Volumes	visitors	days/yr	flow/day	gallons
Large Events =	150	6	3	2700
Medium Events =	60	12	3	2160
Other =			3	0
Other 2 =			3	0
Total Annual Event Visitor Waste Volume =	**4860**	**gal/year**		
Total Annual Waste Flow Volume =	**289560**	**gal/yr**	**0.89**	**af**

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Historical Wastewater Flow Calculations

for the

Capell School Lodging Project

Located at:

1191 Capell Valley Road

Napa, CA 94558

Date: 7/22/2020

Project # 00055

Legend

Requires Input
Automatically Calculates
Important Value Automatically Calculate
Important Value Requires Input

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

Historical Waste Flow Summary

The subject property used to be a public school with a peak attendence of 90 students, 3 teachers, 2 part time aids and a part time grounds keeper. The calculated flows below are based on this.

Historical School Peak Domestic Waste Flow Calculations

Historical Student Peak Student Domestic Waste Flows

Estimated peak number of students attending =	90	#
Peak wasteflow per student =	20.00	gal/day/std
Peak Student Waste Flow =	**1800.00**	gal/day

Historical School Peak Employee Domestic Waste Flows

Peak Employee Waste Flows		
Number of FT Employees =	3	#
Number of PT Employees =	3	#
FT employee daily domestic waste flow =	45.00	gal/day (15 g/p)
PT employee daily domestic waste flow =	24.00	gal/day (8 g/p)
Peak Employee Waste Flows =	**69.00**	**gal/day**
Total Combined Domestic Waste Flows =	**1869**	**gal/day**

Historical School Annual Waste Flow Volume Calculations

Historical Student Average Domestic Waste Flows

Estimated peak number of students attending =	90	#
Ave wasteflow per student =	10.00	gal/day/std
Ave Student Waste Flow =	900.00	gal/day
Total Design Peak Domestic Waste Flows =	**328500**	**gal/yr**

Historical Employee Average Domestic Waste Flows

Peak Employee Waste Flows		
Number of FT Employees =	3	#
Number of PT Employees =	2	#
FT employee daily domestic waste flow =	22.50	gal/day (8 g/p)
PT employee daily domestic waste flow =	8.00	gal/day (4 g/p)
Total Dimestic Flow =	30.50	gal/day
Total Design Peak Domestic Waste Flows =	**11133**	**gal/yr**

Historical Average Event Domestic Waste Flows

Special Event Volumes	visitors	days/yr	flow/day	gallons
Large Events =	200	4	5	4000
Medium Events =	50	12	5	3000
Other =			5	0
Other 2 =			5	0
Total Annual Event Visitor Waste Volume =	**7000**	**gal/year**		
Total Annual Waste Flow Volume =	**346633**	**gal/yr**	**1.06**	**af**

Attachment “C”

EPA and California Allowable Drinking
Water Constituent Levels

MAXIMUM CONTAMINANT LEVELS AND REGULATORY DATES FOR DRINKING WATER U.S. EPA VS CALIFORNIA

NOVEMBER 2008

Contaminant	U.S. EPA		California	
	MCL (mg/L)	**Date**[a]	**MCL** (mg/L)	**Effective Date**
Inorganics				
Aluminum	0.05 to 0.2[b]	1/91	1 0.2[b]	2/25/89 9/8/94
Antimony	0.006	7/92	0.006	9/8/94
Arsenic	0.05 0.010	eff: 6/24/77 eff: 1/23/06	0.05 0.010	77 11/28/08
Asbestos	7 MFL[c]	1/91	7 MFL[c]	9/8/94
Barium	1 2	eff: 6/24/77 1/91	1	77
Beryllium	0.004	7/92	0.004	9/8/94
Cadmium	0.010 0.005	eff: 6/24/77 1/91	0.010 0.005	77 9/8/94
Chromium	0.05 0.1	eff: 6/24/77 1/91	0.05	77
Copper	1.3[d]	6/91	1[b] 1.3[d]	77 12/11/95
Cyanide	0.2	7/92	0.2 0.15	9/8/94 6/12/03
Fluoride	4 2[b]	4/86 4/86	2	4/98
Lead	0.05[e] 0.015[d]	eff: 6/24/77 6/91	0.05[e] 0.015[d]	77 12/11/95
Mercury	0.002	eff: 6/24/77	0.002	77
Nickel	Remanded		0.1	9/8/94
Nitrate	(as N) 10	eff: 6/24/77	(as N03) 45	77
Nitrite (as N)	1	1/91	1	9/8/94
Total Nitrate/Nitrite (as N)	10	1/91	10	9/8/94
Perchlorate	-	-	0.006	10/18/07
Selenium	0.01 0.05	eff: 6/24/77 1/91	0.01 0.05	77 9/8/94
Thallium	0.002	7/92	0.002	9/8/94
Radionuclides				
Uranium	30 ug/L	12/7/00	20 pCi/L 20 pCi/L	1/1/89 6/11/06
Combined Radium - 226+228	5 pCi/L	eff: 6/24/77	5 pCi/L 5 pCi/L	77 6/11/06
Gross Alpha particle activity (excluding radon & uranium)	15 pCi/L	eff: 6/24/77	15 pCi/L 15 pCi/L	77 6/11/06
Gross Beta particle activity	4 millirem/yr	eff: 6/24/77	50 pCi/L[f] 4 millirem/yr	77 6/11/06
Strontium-90	8 pCi/L	eff: 6/24/77 now covered by Gross Beta	8 pCi/L[f] 8 pCi/L[f]	77 6/11/06
Tritium	20,000 pCi/L	eff: 6/24/77 now covered by Gross Beta	20,000 pCi/L[f] 20,000 pCi/L[f]	77 6/11/06

Contaminant	U.S. EPA		California	
	MCL (mg/L)	**Date**[a]	**MCL** (mg/L)	**Effective Date**
VOCS				
Benzene	0.005	6/87	0.001	2/25/89
Carbon Tetrachloride	0.005	6/87	0.0005	4/4/89
1,2-Dichlorobenzene	0.6	1/91	0.6	9/8/94
1,4-Dichlorobenzene	0.075	6/87	0.005	4/4/89
1,1-Dichloroethane	-	-	0.005	6/24/90
1,2-Dichloroethane	0.005	6/87	0.0005	4/4/89
1,1-Dichloroethylene	0.007	6/87	0.006	2/25/89
cis-1,2-Dichloroethylene	0.07	1/91	0.006	9/8/94
trans-1,2-Dichloroethylene	0.1	1/91	0.01	9/8/94
Dichloromethane	0.005	7/92	0.005	9/8/94
1,3-Dichloropropene	-	-	0.0005	2/25/89
1,2-Dichloropropane	0.005	1/91	0.005	6/24/90
Ethylbenzene	0.7	1/91	0.68 0.7 0.3	2/25/89 9/8/94 6/12/03
Methyl-tert-butyl ether (MTBE)	-	-	0.005[b] 0.013	1/7/99 5/17/00
Monochlorobenzene	0.1	1/91	0.03 0.07	2/25/89 9/8/94
Styrene	0.1	1/91	0.1	9/8/94
1,1,2,2-Tetrachloroethane	-	-	0.001	2/25/89
Tetrachloroethylene	0.005	1/91	0.005	5/89
Toluene	1	1/91	0.15	9/8/94
1,2,4 Trichlorobenzene	0.07	7/92	0.07 0.005	9/8/94 6/12/03
1,1,1-Trichloroethane	0.200	6/87	0.200	2/25/89
1,1,2-Trichloroethane	0.005	7/92	0.032 0.005	4/4/89 9/8/94
Trichloroethylene	0.005	6/87	0.005	2/25/89
Trichlorofluoromethane	-	-	0.15	6/24/90
1,1,2-Trichloro-1,2,2-Trifluoroethane	-	-	1.2	6/24/90
Vinyl chloride	0.002	6/87	0.0005	4/4/89
Xylenes	10	1/91	1.750	2/25/89

Contaminant	U.S. EPA		California	
	MCL (mg/L)	**Date**[a]	**MCL** (mg/L)	**Effective Date**
SOCS				
Alachlor	0.002	1/91	0.002	9/8/94
Atrazine	0.003	1/91	0.003 0.001	4/5/89 6/12/03
Bentazon	-	-	0.018	4/4/89
Benzo(a) Pyrene	0.0002	7/92	0.0002	9/8/94
Carbofuran	0.04	1/91	0.018	6/24/90
Chlordane	0.002	1/91	0.0001	6/24/90
Dalapon	0.2	7/92	0.2	9/8/94
Dibromochloropropane	0.0002	1/91	0.0001 0.0002	7/26/89 5/3/91
Di(2-ethylhexyl)adipate	0.4	7/92	0.4	9/8/94
Di(2-ethylhexyl)phthalate	0.006	7/92	0.004	6/24/90
2,4-D	0.1 0.07	eff: 6/24/77 1/91	0.1 0.07	77 9/8/94
Dinoseb	0.007	7/92	0.007	9/8/94
Diquat	0.02	7/92	0.02	9/8/94
Endothall	0.1	7/92	0.1	9/8/94
Endrin	0.0002 0.002	eff: 6/24/77 7/92	0.0002 0.002	77 9/8/94
Ethylene Dibromide	0.00005	1/91	0.00002 0.00005	2/25/89 9/8/94
Glyphosate	0.7	7/92	0.7	6/24/90
Heptachlor	0.0004	1/91	0.00001	6/24/90
Heptachlor Epoxide	0.0002	1/91	0.00001	6/24/90
Hexachlorobenzene	0.001	7/92	0.001	9/8/94
Hexachlorocyclopentadiene	0.05	7/92	0.05	9/8/94
Lindane	0.004 0.0002	eff: 6/24/77 1/91	0.004 0.0002	77 9/8/94
Methoxychlor	0.1 0.04	eff: 6/24/77 1/91	0.1 0.04 0.03	77 9/8/94 6/12/03
Molinate	-	-	0.02	4/4/89
Oxamyl	0.2	7/92	0.2 0.05	9/8/94 6/12/03
Pentachlorophenol	0.001	1/91	0.001	9/8/94
Picloram	0.5	7/92	0.5	9/8/94
Polychlorinated Biphenyls	0.0005	1/91	0.0005	9/8/94
Simazine	0.004	7/92	0.010 0.004	4/4/89 9/8/94
Thiobencarb	-	-	0.07 0.001[b]	4/4/89 4/4/89
Toxaphene	0.005 0.003	eff: 6/24/77 1/91	0.005 0.003	77 9/8/94
2,3,7,8-TCDD (Dioxin)	$3x10^{-8}$	7/92	$3x10^{-8}$	9/8/94
2,4,5-TP (Silvex)	0.01 0.05	eff: 6/24/77 1/91	0.01 0.05	77 9/8/94

Contaminant	U.S. EPA		California	
	MCL (mg/L)	**Date**[a]	**MCL** (mg/L)	**Effective Date**
Disinfection Byproducts				
Total Trihalomethanes	0.100 0.080	11/29/79 eff: 11/29/83 eff: 1/1/02 [g]	0.100 0.080	3/14/83 6/17/06
Haloacetic acids (five)	0.060	eff: 1/1/02 [g]	0.060	6/17/06
Bromate	0.010	eff: 1/1/02 [g]	0.010	6/17/06
Chlorite	1.0	eff: 1/1/02 [g]	1.0	6/17/06
Treatment Technique				
Acrylamide	TT[h]	1/91	TT[h]	9/8/94
Epichlorohydrin	TT[h]	1/91	TT[h]	9/8/94

a. "eff." indicates the date the MCL took effect; any other date provided indicates when USEPA established (i.e., published) the MCL.
b. Secondary MCL.
c. MFL = million fibers per liter, with fiber length > 10 microns.
d. Regulatory Action Level; if system exceeds, it must take certain actions such as additional monitoring, corrosion control studies and treatment, and for lead, a public education program; replaces MCL.
e. The MCL for lead was rescinded with the adoption of the regulatory action level described in footnote d.
f. Gross beta MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ; Sr-90 MCL = 4 millirem/year to bone marrow; tritium MCL = 4 millirem/year to total body
g. Effective for surface water systems serving more than 10,000 people; effective for all others 1/1/04.
h. TT = treatment technique, because an MCL is not feasible.

Attachment “D”

Water Quality Testing Results

00055 - FROM

NELAP/ORELAP Certification 4036

Caltest ANALYTICAL LABORATORY

ENVIRONMENTAL ANALYSES

CA-ELAP Certification 1664

Thursday, March 29, 2018

Gil Pridmore
Pridmore Bros. Inc.
1191 Capell VAlley
Napa, CA 94558

Re Lab Order: T030808
Project ID: CAPELL SCHOOL

Collected By: GIL PRIDMORE
PO/Contract #: PD MC $345.00

Dear Gil Pridmore:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, March 15, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Holly Long

1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

SAMPLE SUMMARY

Lab Order: T030808
Project ID: CAPELL SCHOOL

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T030808001	**CAPELL SCHOOL WELL HEAD**	Water	03/15/2018 12:07	03/15/2018 13:01

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NARRATIVE

Lab Order: T030808
Project ID: CAPELL SCHOOL

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods (SM) 20th Edition except where noted (SMOL=online edition).

Caltest collects samples in compliance with 40 CFR, EPA Methods, Cal. Title 22, and Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - Non Detect - indicates analytical result has not been detected.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

E - indicates an estimated analytical result value.

B - indicates the analyte has been detected in the blank associated with the sample.

NC - means not able to be calculated for RPD or Spike Recoveries.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

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ANALYTICAL RESULTS

Lab Order: T030808
Project ID: CAPELL SCHOOL

Lab ID T030808001 Date Collected 3/15/2018 12:07 Matrix Water
Sample ID CAPELL SCHOOL WELL HEAD Date Received 3/15/2018 13:01

Parameters	Result	Units	R. L.	DF	Prepared	Batch	Analyzed	Batch	Qual
pH, Electrometric Analysis	**Analytical Method:**	SM 4500-H+ B-00/-11					**Analyzed by:**	MYS	
pH	8.2	pH Units		1			03/25/18 14:48	BIO 19114	
Calculation, Hardness	**Analytical Method:**	Calculated					**Analyzed by:**	LM	
Hardness Calculation	33	mg/L	0.5	1			03/23/18 16:18	CALC	
Calculation, Total Anions	**Analytical Method:**	Calculated					**Analyzed by:**	DR	
Total Anions	4.3	meq/L		1			03/23/18 16:46	CALC	
Calculation, Total Cations	**Analytical Method:**	Calculated					**Analyzed by:**	LM	
Total Cations	4.5	meq/L		1			03/23/18 16:18	CALC	
Metals by ICPMS, Collision Mode, Total	**Prep Method:**	EPA 200.8					**Prep by:**	UKS	
	Analytical Method:	EPA 200.8					**Analyzed by:**	LM	
Arsenic	ND	mg/L	0.00080	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Boron	3.6	mg/L	0.10	10	03/22/18 00:00	MPR 15782	03/26/18 16:44	MMS 8940	
Calcium	12	mg/L	2.0	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Iron	0.20	mg/L	0.10	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Magnesium	ND	mg/L	2.0	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Manganese	0.013	mg/L	0.0020	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Potassium	ND	mg/L	4.0	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Silica (as SiO2)	15	mg/L	4.0	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Sodium	88	mg/L	4.0	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Zinc	0.13	mg/L	0.080	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Electrical Conductance Analysis	**Analytical Method:**	SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	410	umhos/cm	10	1			03/23/18 13:48	WET 9472	
Anions by Ion Chromatography	**Analytical Method:**	EPA 300.0					**Analyzed by:**	MYS	
Nitrogen, Nitrate (as N)	ND	mg/L	0.1	1			03/16/18 01:29	WIC 6217	
Fluoride	0.35	mg/L	0.1	1			03/16/18 01:29	WIC 6217	
Chloride	7.8	mg/L	1	1			03/16/18 01:29	WIC 6217	
Sulfate (as SO4)	ND	mg/L	0.5	1			03/16/18 01:29	WIC 6217	
Alkalinity, Total by Standard Methods	**Analytical Method:**	SM 2320 B-97/-11					**Analyzed by:**	DR	
Alkalinity, Total (as CACO3)	204	mg/L	10	1			03/23/18 16:46	WTI 3032	
Hydroxide (as OH)	ND	mg/L	2	1			03/23/18 16:46	WTI 3032	
Bicarbonate (as HCO3)	244	mg/L	12	1			03/23/18 16:46	WTI 3032	
Carbonate (as CO3)	ND	mg/L	6	1			03/23/18 16:46	WTI 3032	

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(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

The following information is from California Code of Regulations Title 22, Napa County Env. Health "Interpreting Drinking Water Test Results" and UC Davis Department of Land, Air, and Water Resources - Cooperative Extension. This information is provided for your convenience. Caltest does not provide consultation regarding the suitability of water for a given purpose.

Arsenic has a drinking water Maximum Contaminant Level (MCL) of 10 ug/L (ppb) or 0.010 mg/L (ppm)

Boron has an agricultural recommended limit and a state drinking water Action (Advisory) Limit of 1000 ug/L (ppb) or 1 mg/L (ppm). Boron affects the health and production of boron sensitive plants. Drinking water with greater than 10 times the Action Limit Level are recommended for removal from service.

Calcium and **Magnesium** are related to water hardness. See Hardness remarks.

Chloride has a drinking water Maximum Contaminant Level (MCL) of 600 mg/L, with a recommended level of 250 mg/L and a short-term limit of 600 mg/L.

Copper has a drinking water Maximum Contaminant Level (MCL) of 1000 ug/L (ppb) or 1 mg/L (ppm).

Electrical Conductance has a drinking water Maximum Contaminant Level (MCL) of 1,600 umhos/cm, with a recommended level of 900 umhos/cm and a short term limit of 2,200 umhos/cm. Electrical Conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25 degrees C.

Fluoride has a recommended level of 1.0 mg/L in temperate climates. Fluoride in concentrations greater than 3 mg/L can cause dental fluorosis (a brownish discoloration of the teeth).

Iron has a drinking water Maximum Contaminant Level (MCL) of 300 ug/L (ppb) or 0.3 mg/L (ppm).

Hardness is due primarily to calcium and magnesium carbonates and bi-carbonates. Up to 60 mg/L is SOFT. Between 60 to 120 mg/L is MODERATE (typically most desirable). Between 120 to 180 mg/L is HARD. Over 180 mg/L is VERY HARD.

Manganese has a drinking water Maximum Contaminant Level (MCL) of 50 ug/L (ppb) or 0.05 mg/L (ppm).

Sodium has a recommended limit of 100 mg/L. According to the American Heart Association, water containing more than 270 mg/L should not be
consumed by those on a moderately restricted sodium diet.

Nitrate as N, has a drinking water Maximum Contaminant Level (MCL) of 10 mg/L.
Nitrate as NO3 has a drinking water MCL of 45 mg/L.

Lead has a drinking water Action Limit of 15 ug/L (ppb) or 0.015 mg/L (ppm).

pH suggested level is 6.5 - 8.5.

Silica has a recommended limit of 70 mg/L. Silica in water may etch various household materials such as leaded crystal, marble, tile, windows, and porcelain.

Sulfate has a drinking water Maximum Contaminant Level (MCL) of 500 mg/L, with a recommended level of 250 mg/L and a short term limit of 600 mg/L.

Zinc has a drinking water Maximum Contaminant Level (MCL) of 5000 ug/L (ppb) or 5 mg/L (ppm).

Caltest
ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

Dear Client:

Caltest provides a variety of water analyses, but cannot provide an opinion regarding the quality of the water or its suitability for any particular use. If you would like information, please feel free to contact any of the following suggested resources listed below.

Human Health Concerns:

EPA Safe Drinking Water Hotline	800/426-4791
Napa County Environmental Health	707/253-4471
Sonoma County Environmental Health	707/565-6565

Irrigation Concerns:

University of California at Davis Department of Land, Air, and Water Resources/ Cooperative Extension. Ask for Blaine Hanson or Steve Grattan	530/752-1130

Thank you for choosing Caltest for your water testing needs. Please feel free to contact us if we can provide you with any further testing assistance.

Sincerely,
Caltest Analytical Laboratory

Todd M Albertson
Vice President

(For your information, the next page contains various regulatory limits)

Caltest ANALYTICAL LABORATORY

1885 N. KELLY ROAD • NAPA, CA 94558 • (707) 258-4000 • Fax (707) 226-1001 • www.caltestlabs.com

SAMPLE CHAIN OF CUSTODY

PAGE _____ OF _____

LAB ORDER #: T030808

PROJECT #/ PROJECT NAME: Capell School

P.O. #:

CLIENT: Pridmore Bros Inc

REPORT ATTN: Send TO Pridmore office@ Email.com

ADDRESS: 1191 ~~1305~~ CITY: Capell Valley STATE: Napa Ca ZIP: 94558

BILLING ADDRESS: 1305 ~~Same~~ Capell Valley " " "

PHONE #: 2240682 FAX PHONE: 224 8104 SAMPLER (PRINT & SIGN NAME): Gil Pridmore

ANALYSES REQUESTED

Package W

TURN-AROUND TIME
☐ STANDARD
☐ RUSH

DUE DATE:

REV. 2/13

CALTEST #	DATE SAMPLED	TIME SAMPLED	MATRIX	CONTAINER AMOUNT/TYPE	PRESERVATIVE	SAMPLE IDENTIFICATION SITE	CLIENT LAB #	COMP. or GRAB	REMARKS
	3/15	1207				Capell School Wellhead			

PAID
CK. NO. MC $345.00
DATE 3/15/18

By submittal of sample(s), client agrees to abide by the Terms and Conditions set forth on the reverse of this document.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	RELINQUISHED BY	DATE/TIME	RECEIVED BY
Gil Pridmore	3/15 1301				

FOR LAB USE ONLY

Samples: WC_____ MICRO_____ BIO_____ MET_____ SV_____ VOA_____ TEMP: 13.8 °C SEALED: (Y) / N INTACT: (Y) / N

BC: BIO_____ WC_____ MET_____

CC: AA_____ SV_____ VOA_____

SIL: HP_____ PT_____ QT_____ VOA_____

W/HNO$_3$_____ H$_2$SO$_4$_____ NaOH_____

PIL: HNO$_3$_____ H$_2$SO$_4$_____ NaOH_____ HCL_____

COMMENTS

2018 4J 3-22-18

MATRIX: W = Aqueous Nondrinking Water, Digested Metals; ML = Low R.L.s, Aqueous Nondrinking Water, Digested Metals; DW = Drinking Water; SL = Soil, Sludge, Solid; FP = Free Product

CONTAINER TYPES: AL = Amber Liter; AHL = 500 ml Amber; PT = Pint (Plastic); QT=Quart (Plastic); HG = Half Gallon (Plastic); SJ = Soil Jar; B4 = 4 oz. BACT; BT = Brass Tube; VOA = 40 mL.VOA; OTC = Other Type Container

WHITE - ORIGINAL TO LABORATORY YELLOW - CLIENT COPY AS RECEIPT

Attachment “E”

Existing and Historical Well Logs and Other
Miscellaneous Data

DAVE BESS PUMP & WELL
LIC.# C-57-C-10 487027

1115 MT GEORGE AVE.
NAPA, CALIF. 94558
707-226-2539 / 253-0574

WATER WELL TEST
REPORT # W-17-039

LOCATION (well address): 1191 Capell Valley Rd Napa CA Date 05Oct2017
TEST REQUESTOR: Gil Pridmore

SURFACE INSPECTION

CASING DIA. 6" pvc EST. AGE OF WELL 12 Years (Per Well Log) DEPTH OF WELL 250' (Per Well Log)
SANITARY SEAL (functional) PIPING SYSTEM (functional) ELECTRICAL SYSTEM (functional)
PRESSURE TANKS (functional)
WELL SIZE OF PUMP 2 (HP)
OPERATING VOLTS: 239 AMPS: R: 2.8 B: 9.5 Y:P 10.0

FLOW TEST DATA

METHOD OF TEST: 2 HOUR OPEN FLOW DISCHARGE TEST USING THE INSTALLED PUMP AND EXISTING EQUIPMENT. (TEST EQUIPMENT USED), 2" FLOW METER, 2" THROTTLING DISCHARGE VALVE, 0/200 PRESSURE GAGE AND A POWERS WELL DEPTH STATIC METER.

TIME	RATE (GPM)	WATER LEVEL
14:00	50	20ft
15:20	43	56ft
15:40	43	61ft
16:00	43	61ft

STATIC LEVEL PRIOR TO TEST 20 FT STATIC LEVEL @ END OF TEST 61 FT
TOTAL DRAW DOWN DURING THIS TEST WAS 41 ft
(AVG.)GALLONS PER MIN. 44.75 FOR 2 HOURS OF TESTING.

GENERAL COMMENTS

Well and well equipment in working order @ time of testing. The well fills a storage tank and is pressurized from the storage tank with 2 Goulds Booster pumps One ¾ HP (HB707) and 1 1hp (HB2510). Pressure Tanks are showing signs of deterioration (Rusting) and should be replaced. It seems that all controls are low voltage. The water is treated with a Culligan system, it is unknown if its operational or being serviced. Some information was taken from the well completion report Dated 6/28/2006 Log #e039625. Pump Depth is unknown at this time. Flow Meter Installed after the Booster pumps reads 5155799 Gallons.

TEST CONDUCTED BY: _____ DATE: 08Oct2017
(optional) Bacteria sampled Yes __ No X Chemical sampled: Yes __ No X

[redacted]

SA 12/6/06

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e039625

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./ STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. 1-'06
Date Work Began 6/29/2006, Ended 7/13/2006
Local Permit Agency Napa County Environmental Mgmt
Permit No. E06-01092 Permit Date 6/28/2006

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL — HORIZONTAL — ANGLE — (SPECIFY)
DRILLING METHOD ROTARY FLUID BENTONITE

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	54	BROWN CLAY
54	80	GREEN CLAY WITH SANDSTONE
80	250	90% SANDSTONE/ 10% SHALE
250	260	90% SHALE & CLAY/ 10% SANDSTONE

TOTAL DEPTH OF BORING 260 (Feet)
TOTAL DEPTH OF COMPLETED WELL 250 (Feet)

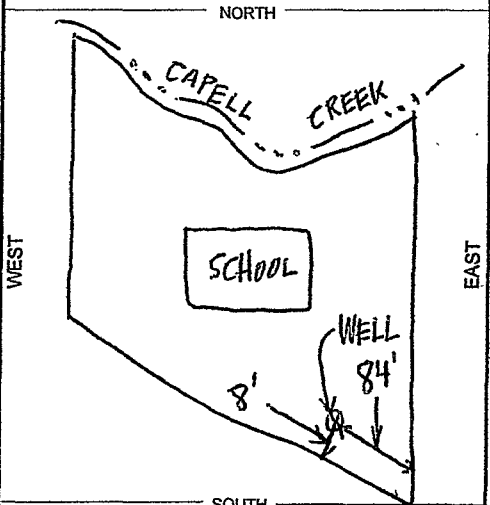
WELL OWNER

Name [redacted] Valley Unified School District
Mailing Address [redacted] Lincoln Avenue
[redacted] CA [redacted] 94558
CITY STATE ZIP

WELL LOCATION

Address 1191 Capell Valley Road
City Napa CA
County Napa
APN Book 032 Page 130 Parcel 026
Township ____ Range ____ Section ____
Latitude ____ DEG. MIN. SEC. ____ DEG. MIN. SEC.

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.**

ACTIVITY (✓)

✓ NEW WELL
MODIFICATION/REPAIR
— Deepen
— Other (Specify)
— DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG"

PLANNED USES (✓)
WATER SUPPLY
— Domestic ✓ Public
✓ Irrigation — Industrial
MONITORING —
TEST WELL —
CATHODIC PROTECTION —
HEAT EXCHANGE —
DIRECT PUSH —
INJECTION —
VAPOR EXTRACTION —
SPARGING —
REMEDIATION —
OTHER (SPECIFY) —

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 70 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 15 (Ft.) & DATE MEASURED 7/13/2006
ESTIMATED YIELD * 45 (GPM) & TEST TYPE AIR LIFT
TEST LENGTH 3 (Hrs.) TOTAL DRAWDOWN N/A (Ft.)
May not be representative of a well's long-term yield.

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	260	12								
0	70		✓				PVC F480	6	SDR-21	
70	170			✓			PVC F480	6	SDR-21	.032
170	190		✓				PVC F480	6	SDR-21	
190	250			✓			PVC F480	6	SDR-21	.032

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	5	✓			CONCRETE
5	22		✓		GROUT
22	55	✓			CEMENT
55	250			✓	#6 SAND

ATTACHMENTS (✓)

— Geologic Log
— Well Construction Diagram
— Geophysical Log(s)
— Soil/Water Chemical Analysis
— Other ____
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.
NAME HUCKFELDT WELL DRILLING, INC.
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
2110 Penny Lane Napa CA 94559
ADDRESS CITY STATE ZIP
Signed [signature] 07/14/06 439-746
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

CA Drinking Water Watch

Water System Details

Links

Water System Details

Water System Facilities

Monitoring Schedules

Monitoring Results

Monitoring Results By Analyte

Lead And Copper Sample Summary Results

Violations/Enforcement Actions

Site Visits

Consumer Confidence Reports

Return Links

Water System Search

County Map

Glossary

Water System No. :	CA2800633	**Federal Type :**	NP
Water System Name :	CAPELL VALLEY SCHOOL	**State Type :**	NC
Principal County Served :	NAPA	**Primary Source :**	
Status :	I	**Activity Date :**	02-28-1995

Water System Contacts

Type	Address	Phone	Email - Web Address
Physical Location Contact	CA2800633-CAPELL VALLEY SCHOOL		

Division of Drinking Water District / County Health Dept. Info

Name	Phone	Email	Address
LPA58 - NAPA COUNTY	707-253-4471	stacey.harrington@countyofnapa.org	1195 Third Street, Ste. 210 NAPA CA 94559

Annual Operating Periods & Population Served

Start Month	Start Day	End Month	End Day	Population Type	Population Served
1	1	12	31	T	30

Service Connections

Type	Count	Meter Type	Meter Size Measure
CB	1	UN	0

Sources of Water

Name	Type Code	Status

Service Areas

Code	Name
T	RECREATION AREA

WELL 01	WL	I

Water Purchases

Seller Water System No.	Water System Name	Seller Facility Type	Seller State Asgn ID No.	Buyer Facility Type	Buyer State Asgn ID No.

CMP Civil Engineering & Land Surveying Inc.
1607 Capell Valley Road
Napa, CA 94558
(707) 266-2559
Cameron@CMPengineering.com

Preliminary Water System Technical Report pertaining to Section 116527 of the Health and Safety Code for the Pridmore Property (Formally Capell Valley School)

1191 Capell Valley Road

Napa, CA 94558

APN: 032-130-026

Prepared By:

CMP Civil Engineering & Land Surveying Inc.

1607 Capell Valley Road

Napa, CA 94558

(707) 266-2559

Date: 7/22/2020

REGISTERED PROFESSIONAL ENGINEER
CAMERON PRIDMORE
NO. 76691
CIVIL
STATE OF CALIFORNIA

Jul 22, 2020

Table of Contents

Existing Water System General Descriptions

The existing water system, officially called the Capell Valley School Water System (CA2800633), historically supplied water to the Capell Valley Elementary School. Now that the school has been closed down we would like to use the existing water system to supply potable water to the proposed tourist lodging units on the subject site. The water source for the existing water system is an existing 45 gallon well which pumps to a 10,000 gallon water tank.

Type of Water System and Reason it is required

The type of public water system both for the existing and proposed use is a Transient Non-Community water system. The public water system is required because the proposed tourists and associated employee counts is expected to be above 25 people per day for more than 60 days per year.

Required Technical Sections per 116527 of the Health and Safety Code

1. List of Public Water Systems within 3 mile of Project along public right of ways.
   1.1. Capell Valley School Water System (CA2800633).

2. Feasibility of connecting to above listed public water systems
   2.1. We are proposing to connect to the water system listed in 1.1. Applicant owns the Capell Valley School Water System so now permissions required.
3. Actions taken to secure water from a public water system
   3.1. Applicant purchased the Capell Valley School and said onsite water system. Please see existing water system details in Attachment “A”.
4. Source(s) of domestic water for new public water system
   4.1. Well #1 is a 45 gallons per minute well located on the southeastern portion of the subject property. Please see the well location map included in Attachment “B” and the well yield test in Attachment “C”.
5. Construction and operation costs of water system
   5.1. The water system is existing so no new construction costs are expected however it is estimated that the water system would cost $40,000 to replace today if it was necessary. It is expected that the system will have a usable lifespan of 30 years. It is expected to cost $500 annually to operate, maintain and properly sample and test the water. It is expected that the system will cost roughly $62,000 to replace 30 years from now. To have this money available 30 years from now, $2134 must be set aside in a 0% annual interest rate account for the next 30 years. Thus it will cost an estimated $2634 per year to own, operate, maintain and eventually replace the subject water system. The

proposed tourist lodging operation should produce adequate funds to meet the financial demands of this water system.

6. Cost comparison, connecting to existing public system vs. create new
   6.1. A cost comparison is not applicable because the applicant is already connected to a public water system.
7. Actions taken to secure managerial and operational oversite
   7.1. Request for managerial and operational oversite is not applicable because the existing water system is already operated an managed by the applicant.
8. Twenty year water use analysis
   8.1. It is expected that this system will use a maximum of 3.20 acre feet of water per year for the next 20 years which comes to maximum of 64.0 acre feet of water required over the entire 20 years. To verify the proposed water system can provide this it must be compared to two different scenarios, the available flow of the well listed in 1.1 and the ground water recharge rate for the property(s) the well serves.
   8.2. First, the source well listed in 1.1 is rated at 45 gallons per minute which equates to 72.59 acre feet per year, which then equates to a 20 year total available water of 1451.8 acre feet. Comparing this to the above required 20 year total of 64.0 acre feet it can be seen that the well itself can provide more than enough water.
   8.3. Secondly the worst case scenario ground water recharge rate for the subject property is 7.82 acre feet per year, please see the water availability calculations located in Attachment “D” for further details. The above recharge rate equates to a 20 year total available water of 156.4 acre feet. Comparing this to the above required 20 year total of 64.0 acre feet it can be seen that the ground water recharge rate will provide more than enough water.
   8.4. The conclusion of this section is that the water supply to the existing system is more than enough for the proposed use.
9. Local Agency Formation Commission (LAFCO) documentation
   9.1. Not applicable, the public water system is existing and onsite

Overall Conclusions

The only viable option for the subject project is to use and maintain the existing Transient Non-Community Water System located onsite.

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Attachment “A”

Existing Water System Documentation

CA Drinking Water Watch

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Links

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T	RECREATION AREA

WELL 01	WL	I

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Seller Water System No.	Water System Name	Seller Facility Type	Seller State Asgn ID No.	Buyer Facility Type	Buyer State Asgn ID No.

00055 - FROM

NELAP/ORELAP Certification 4036

Caltest ANALYTICAL LABORATORY

ENVIRONMENTAL ANALYSES

CA-ELAP Certification 1664

Thursday, March 29, 2018

Gil Pridmore
Pridmore Bros. Inc.
1191 Capell VAlley
Napa, CA 94558

Re Lab Order: T030808
Project ID: CAPELL SCHOOL

Collected By: GIL PRIDMORE
PO/Contract #: PD MC $345.00

Dear Gil Pridmore:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, March 15, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Holly Long

1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

SAMPLE SUMMARY

Lab Order: T030808
Project ID: CAPELL SCHOOL

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T030808001	**CAPELL SCHOOL WELL HEAD**	Water	03/15/2018 12:07	03/15/2018 13:01

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(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

NARRATIVE

Lab Order: T030808
Project ID: CAPELL SCHOOL

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods (SM) 20th Edition except where noted (SMOL=online edition).

Caltest collects samples in compliance with 40 CFR, EPA Methods, Cal. Title 22, and Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - Non Detect - indicates analytical result has not been detected.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

E - indicates an estimated analytical result value.

B - indicates the analyte has been detected in the blank associated with the sample.

NC - means not able to be calculated for RPD or Spike Recoveries.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

ANALYTICAL RESULTS

Lab Order: T030808
Project ID: CAPELL SCHOOL

Lab ID T030808001 Date Collected 3/15/2018 12:07 Matrix Water
Sample ID CAPELL SCHOOL WELL HEAD Date Received 3/15/2018 13:01

Parameters	Result	Units	R. L.	DF	Prepared	Batch	Analyzed	Batch	Qual
pH, Electrometric Analysis	**Analytical Method:**	SM 4500-H+ B-00/-11					**Analyzed by:**	MYS	
pH	8.2	pH Units		1			03/25/18 14:48	BIO 19114	
Calculation, Hardness	**Analytical Method:**	Calculated					**Analyzed by:**	LM	
Hardness Calculation	33	mg/L	0.5	1			03/23/18 16:18	CALC	
Calculation, Total Anions	**Analytical Method:**	Calculated					**Analyzed by:**	DR	
Total Anions	4.3	meq/L		1			03/23/18 16:46	CALC	
Calculation, Total Cations	**Analytical Method:**	Calculated					**Analyzed by:**	LM	
Total Cations	4.5	meq/L		1			03/23/18 16:18	CALC	
Metals by ICPMS, Collision Mode, Total	**Prep Method:**	EPA 200.8					**Prep by:**	UKS	
	Analytical Method:	EPA 200.8					**Analyzed by:**	LM	
Arsenic	ND	mg/L	0.00080	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Boron	3.6	mg/L	0.10	10	03/22/18 00:00	MPR 15782	03/26/18 16:44	MMS 8940	
Calcium	12	mg/L	2.0	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Iron	0.20	mg/L	0.10	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Magnesium	ND	mg/L	2.0	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Manganese	0.013	mg/L	0.0020	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Potassium	ND	mg/L	4.0	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Silica (as SiO2)	15	mg/L	4.0	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Sodium	88	mg/L	4.0	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Zinc	0.13	mg/L	0.080	4	03/22/18 00:00	MPR 15782	03/23/18 16:18	MMS 8940	
Electrical Conductance Analysis	**Analytical Method:**	SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	410	umhos/cm	10	1			03/23/18 13:48	WET 9472	
Anions by Ion Chromatography	**Analytical Method:**	EPA 300.0					**Analyzed by:**	MYS	
Nitrogen, Nitrate (as N)	ND	mg/L	0.1	1			03/16/18 01:29	WIC 6217	
Fluoride	0.35	mg/L	0.1	1			03/16/18 01:29	WIC 6217	
Chloride	7.8	mg/L	1	1			03/16/18 01:29	WIC 6217	
Sulfate (as SO4)	ND	mg/L	0.5	1			03/16/18 01:29	WIC 6217	
Alkalinity, Total by Standard Methods	**Analytical Method:**	SM 2320 B-97/-11					**Analyzed by:**	DR	
Alkalinity, Total (as CACO3)	204	mg/L	10	1			03/23/18 16:46	WTI 3032	
Hydroxide (as OH)	ND	mg/L	2	1			03/23/18 16:46	WTI 3032	
Bicarbonate (as HCO3)	244	mg/L	12	1			03/23/18 16:46	WTI 3032	
Carbonate (as CO3)	ND	mg/L	6	1			03/23/18 16:46	WTI 3032	

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(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

The following information is from California Code of Regulations Title 22, Napa County Env. Health "Interpreting Drinking Water Test Results" and UC Davis Department of Land, Air, and Water Resources - Cooperative Extension. This information is provided for your convenience. Caltest does not provide consultation regarding the suitability of water for a given purpose.

Arsenic has a drinking water Maximum Contaminant Level (MCL) of 10 ug/L (ppb) or 0.010 mg/L (ppm)

Boron has an agricultural recommended limit and a state drinking water Action (Advisory) Limit of 1000 ug/L (ppb) or 1 mg/L (ppm). Boron affects the health and production of boron sensitive plants. Drinking water with greater than 10 times the Action Limit Level are recommended for removal from service.

Calcium and **Magnesium** are related to water hardness. See Hardness remarks.

Chloride has a drinking water Maximum Contaminant Level (MCL) of 600 mg/L, with a recommended level of 250 mg/L and a short-term limit of 600 mg/L.

Copper has a drinking water Maximum Contaminant Level (MCL) of 1000 ug/L (ppb) or 1 mg/L (ppm).

Electrical Conductance has a drinking water Maximum Contaminant Level (MCL) of 1,600 umhos/cm, with a recommended level of 900 umhos/cm and a short term limit of 2,200 umhos/cm. Electrical Conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25 degrees C.

Fluoride has a recommended level of 1.0 mg/L in temperate climates. Fluoride in concentrations greater than 3 mg/L can cause dental fluorosis (a brownish discoloration of the teeth).

Iron has a drinking water Maximum Contaminant Level (MCL) of 300 ug/L (ppb) or 0.3 mg/L (ppm).

Hardness is due primarily to calcium and magnesium carbonates and bi-carbonates. Up to 60 mg/L is SOFT. Between 60 to 120 mg/L is MODERATE (typically most desirable). Between 120 to 180 mg/L is HARD. Over 180 mg/L is VERY HARD.

Manganese has a drinking water Maximum Contaminant Level (MCL) of 50 ug/L (ppb) or 0.05 mg/L (ppm).

Sodium has a recommended limit of 100 mg/L. According to the American Heart Association, water containing more than 270 mg/L should not be
consumed by those on a moderately restricted sodium diet.

Nitrate as N, has a drinking water Maximum Contaminant Level (MCL) of 10 mg/L.
Nitrate as NO3 has a drinking water MCL of 45 mg/L.

Lead has a drinking water Action Limit of 15 ug/L (ppb) or 0.015 mg/L (ppm).

pH suggested level is 6.5 - 8.5.

Silica has a recommended limit of 70 mg/L. Silica in water may etch various household materials such as leaded crystal, marble, tile, windows, and porcelain.

Sulfate has a drinking water Maximum Contaminant Level (MCL) of 500 mg/L, with a recommended level of 250 mg/L and a short term limit of 600 mg/L.

Zinc has a drinking water Maximum Contaminant Level (MCL) of 5000 ug/L (ppb) or 5 mg/L (ppm).

Caltest
ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

Dear Client:

Caltest provides a variety of water analyses, but cannot provide an opinion regarding the quality of the water or its suitability for any particular use. If you would like information, please feel free to contact any of the following suggested resources listed below.

Human Health Concerns:

EPA Safe Drinking Water Hotline	800/426-4791
Napa County Environmental Health	707/253-4471
Sonoma County Environmental Health	707/565-6565

Irrigation Concerns:

University of California at Davis Department of Land, Air, and Water Resources/ Cooperative Extension. Ask for Blaine Hanson or Steve Grattan	530/752-1130

Thank you for choosing Caltest for your water testing needs. Please feel free to contact us if we can provide you with any further testing assistance.

Sincerely,
Caltest Analytical Laboratory

Todd M Albertson
Vice President

(For your information, the next page contains various regulatory limits)

Caltest ANALYTICAL LABORATORY

1885 N. KELLY ROAD • NAPA, CA 94558 • (707) 258-4000 • Fax (707) 226-1001 • www.caltestlabs.com

SAMPLE CHAIN OF CUSTODY

PAGE _____ OF _____

LAB ORDER #: T030808

PROJECT #/ PROJECT NAME: Capell School

P.O. #:

CLIENT: Pridmore Bros Inc

REPORT ATTN: Send to Pridmore office@ Email.com

ADDRESS: 1191 ~~1305~~ CITY: Capell Valley STATE: Napa Ca ZIP: 94558

BILLING ADDRESS: 1305 ~~Same~~ Capell Valley " " "

PHONE #: 2240682 FAX PHONE: 224 8104 SAMPLER (PRINT & SIGN NAME): Gil Pridmore

ANALYSES REQUESTED

Package W

TURN-AROUND TIME
☐ STANDARD
☐ RUSH

DUE DATE:

REV. 2/13

CALTEST #	DATE SAMPLED	TIME SAMPLED	MATRIX	CONTAINER AMOUNT/TYPE	PRESERVATIVE	SAMPLE IDENTIFICATION SITE	CLIENT LAB #	COMP. or GRAB	REMARKS
	3/15	1207				Capell School Wellhead			

PAID
CK. NO. MC $345.00
DATE 3/15/18

WHITE - ORIGINAL TO LABORATORY YELLOW - CLIENT COPY AS RECEIPT

By submittal of sample(s), client agrees to abide by the Terms and Conditions set forth on the reverse of this document.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	RELINQUISHED BY	DATE/TIME	RECEIVED BY
Gil Pridmore	3/15 1301				

FOR LAB USE ONLY

Samples: WC_____ MICRO_____ BIO_____ MET_____ SV_____ VOA_____ TEMP: 13.8 °C SEALED: (Y) / N INTACT: (Y) / N

BC: BIO_____ WC_____ MET_____

CC: AA_____ SV_____ VOA_____

SIL: HP_____ PT_____ QT_____ VOA_____

W/HNO$_3$_____ H$_2$SO$_4$_____ NaOH_____

PIL: HNO$_3$_____ H$_2$SO$_4$_____ NaOH_____ HCL_____

COMMENTS

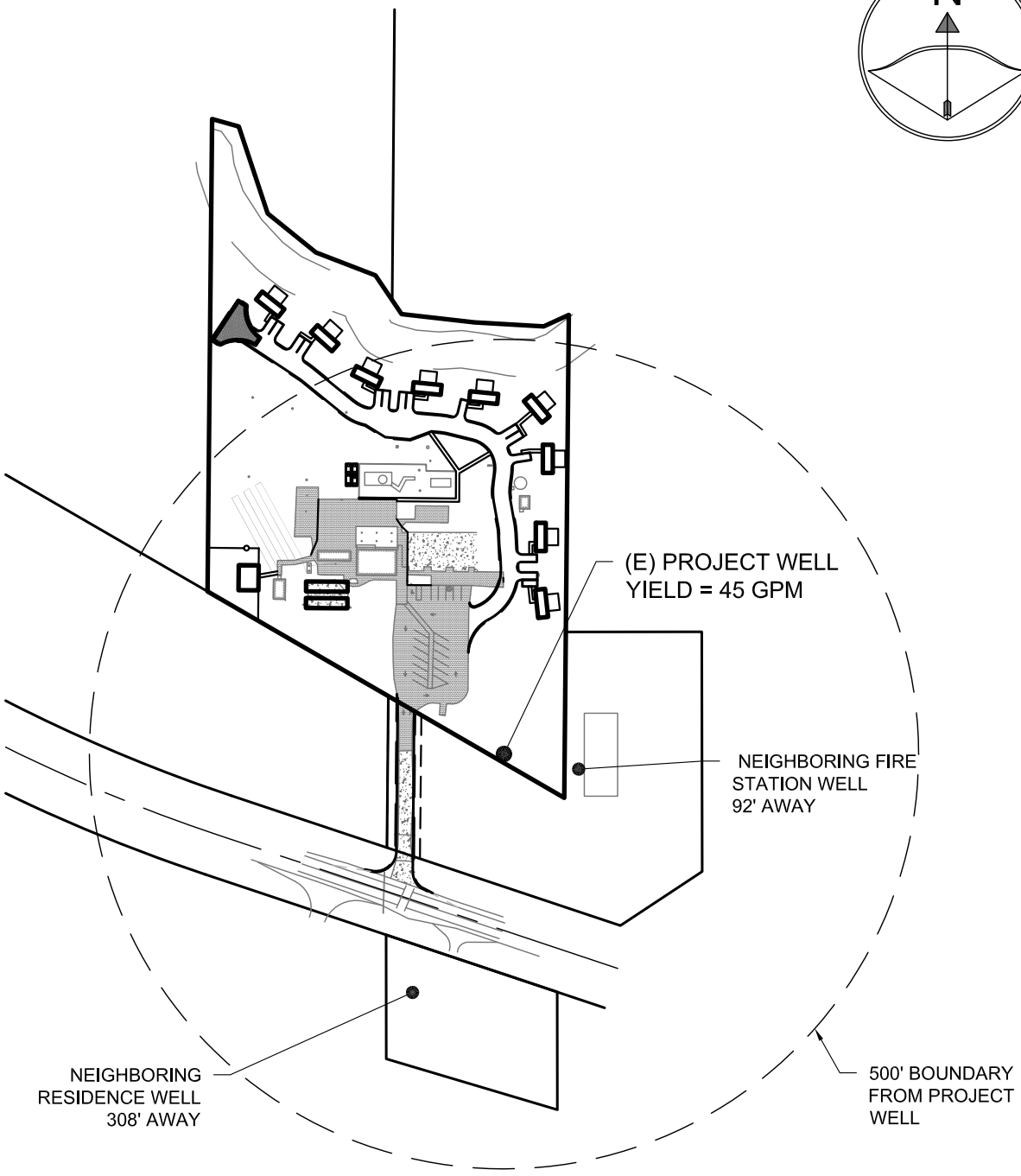
#2018 4/3 22-18

MATRIX: W = Aqueous Nondrinking Water, Digested Metals; ML = Low R.L.s, Aqueous Nondrinking Water, Digested Metals; DW = Drinking Water; SL = Soil, Sludge, Solid; FP = Free Product

CONTAINER TYPES: AL = Amber Liter; AHL = 500 ml Amber; PT = Pint (Plastic); QT=Quart (Plastic); HG = Half Gallon (Plastic); SJ = Soil Jar; B4 = 4 oz. BACT; BT = Brass Tube; VOA = 40 mL.VOA; OTC = Other Type Container

Attachment “B”

Well Location Map



0 100 200 400

SCALE: 1"=200'

WELL LOCATION MAP

SHEET: 1 OF 1

PROJECT INFO:

PRIDMORE PROPERTY
(FORMALLY CAPELL
VALLEY SCHOOL)
1191 CAPELL VALLY ROAD
NAPA, CA 94558
032-130-026

PREPARED BY:

CMP CIVIL ENGINEERING &
LAND SURVEYING INC.
1607 CAPELL VALLEY ROAD
NAPA, CA 94558
(707) 266-2559

P #: 00055 DATE: 05/13/2020

CMP
CIVIL & LAND
ENGINEERING SURVEYING

Attachment “C”

Well Yield Reports

DAVE BESS PUMP & WELL
LIC.# C-57-C-10 487027

1115 MT GEORGE AVE.
NAPA, CALIF. 94558
707-226-2539 / 253-0574

WATER WELL TEST
REPORT # W-17-039

LOCATION (well address): 1191 Capell Valley Rd Napa CA Date 05Oct2017
TEST REQUESTOR: Gil Pridmore

SURFACE INSPECTION

CASING DIA. 6" pvc EST. AGE OF WELL 12 Years (Per Well Log) DEPTH OF WELL 250' (Per Well Log)
SANITARY SEAL (functional) PIPING SYSTEM (functional) ELECTRICAL SYSTEM (functional)
PRESSURE TANKS (functional)
WELL SIZE OF PUMP 2 (HP)
OPERATING VOLTS: 239 AMPS: R: 2.8 B: 9.5 Y:P 10.0

FLOW TEST DATA

METHOD OF TEST: 2 HOUR OPEN FLOW DISCHARGE TEST USING THE INSTALLED PUMP AND EXISTING EQUIPMENT. (TEST EQUIPMENT USED), 2" FLOW METER, 2" THROTTLING DISCHARGE VALVE, 0/200 PRESSURE GAGE AND A POWERS WELL DEPTH STATIC METER.

TIME	RATE (GPM)	WATER LEVEL
14:00	50	20ft
15:20	43	56ft
15:40	43	61ft
16:00	43	61ft

STATIC LEVEL PRIOR TO TEST 20 FT STATIC LEVEL @ END OF TEST 61 FT
TOTAL DRAW DOWN DURING THIS TEST WAS 41 ft
(AVG.)GALLONS PER MIN. 44.75 FOR 2 HOURS OF TESTING.

GENERAL COMMENTS

Well and well equipment in working order @ time of testing. The well fills a storage tank and is pressurized from the storage tank with 2 Goulds Booster pumps One ¾ HP (HB707) and 1 1hp (HB2510). Pressure Tanks are showing signs of deterioration (Rusting) and should be replaced. It seems that all controls are low voltage. The water is treated with a Culligan system, it is unknown if its operational or being serviced. Some information was taken from the well completion report Dated 6/28/2006 Log #e039625. Pump Depth is unknown at this time. Flow Meter Installed after the Booster pumps reads 5155799 Gallons.

TEST CONDUCTED BY: _____ DATE: 08Oct2017
(optional) Bacteria sampled Yes __ No X Chemical sampled: Yes __ No X

Attachment “D”

Water Availability Calculations
and Supporting Documents

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

Water Availability Calculations

for the

Capell School Lodging Project

Located at:

1191 Capell Valley Road

Napa, CA 94558

Date: 7/22/2020

Project # 00055

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

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

WATER AVAILABILITY ANALYSIS- PHASE ONE STUDY

WATER USE CALCULATIONS FOR HISTORICAL USE

RESIDENTIAL	#	FACTOR	AF/YR
PRIMARY RESIDENCES=	0	0.5	0.00
SECONDARY RESIDENCES=	0	0.2	0.00
FARM LBR DWELLING (# OF PPL) =	0	0.06	0.00
		SUB TOTAL=	0.00

NON- RESIDENTIAL CALCULATIONS

AGRICULTURAL	# ACRE	FACTOR	AF/YR
VINEYARD IRRIGATION ONLY=	0	0.3	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
SCHOOL	**# GAL**	**FACTOR**	**AF/YR**
DOMESTIC WATER USE =	345379	SEE WW CALC	1.06
LANDSCAPING WATER USE =	1694310	SEE IRR. CALC	5.20
		SUB TOTAL=	6.26
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=	0.00	AF/YR
SCHOOL=	6.26	AF/YR
INDUSTRIAL=	0.00	AF/YR
COMMERCIAL=	0.00	AF/YR
OTHER USAGE (LIST BELOW)		
RECYCLED WASTE WATER =		AF/YR
		AF/YR
		AF/YR
		AF/YR
		AF/YR
TOTAL EXISTING WATER USE=	**2039688**	**G/YR**
TOTAL EXISTING WATER USE=	**6.26**	**AF/YR**

WATER AVAILABILTY CALCULATIONS FOR HISTORICAL USE			
WELL NUMBER	Q - GPM	AF/YR	
1	45	72.590	
2		0.000	
3		0.000	
4		0.000	
5		0.000	
TOTAL=	45	72.590	
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	10000	0.031	
2		0.000	
3		0.000	
4		0.000	
5		0.000	
TOTAL=	10000	0.031	
RESERVOIR #	GAL	AF	
1	0		
2	0		
3	0		
4	0		
5	0		
TOTAL=	0.000	0	
GROUND WATER RECHARGE	AF/YR/ACRE	PARCEL AC	AF/YR
See Groundwater Recharge Analysis	1.54	5.08	7.82
TOTAL AVAILABLE WATER =	**2549023.87**	**G/YR**	
TOTAL AVAILABLE WATER =	**7.82**	**AF/YR**	
TOTAL EXISTING WATER USE=	**6.26**	**AF/YR**	
REMAINING AVAILABLE WATER =	**1.56**	**AF/YR**	

WATER USE CALCULATIONS FOR PROPOSED USE				
RESIDENTIAL	**#**	**FACTOR**	**AF/YR**	
PRIMARY RESIDENCES=		0.5	0.00	
SECONDARY RESIDENCES=		0.2	0.00	
FARM LBR DWELLING (# OF PPL) =		0.06	0.00	
		SUB TOTAL=	0.00	
NON- RESIDENTIAL CALCULATIONS				
AGRICULTURAL	**# ACRE**	**FACTOR**	**AF/YR**	
VINEYARD IRRIGATION ONLY=		0.3	0.00	
VINEYARD HEAT PROTECTION=		0.25	0.00	
VINEYARD FROST PROTECTION=		0.25	0.00	
IRRIGATED PASTURE=		4	0.00	
ORCHARDS=		4	0.00	
LIVESTOCK (GOATS/CHICKENS)=	0.1	0.01	0.00	
		SUB TOTAL=	0.01	
LODGING	**# GAL**	**FACTOR**	**AF/YR**	
DOMESTIC WATER USE =	289988	SEE WW CALC	0.89	
LANDSCAPING WATER USE =	749406	SEE IRR. CALC	2.30	
		SUB TOTAL=	3.19	
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=	0.01	AF/YR
LODGING=	3.19	AF/YR
INDUSTRIAL=	0.00	AF/YR
COMMERCIAL=	0.00	AF/YR
OTHER USAGE (LIST BELOW)		
RECYCLED WASTE WATER =		AF/YR
		AF/YR
		AF/YR
		AF/YR
		AF/YR
TOTAL PROPOSED WATER USE=	**1042652**	**G/YR**
TOTAL PROPOSED WATER USE=	**3.20**	**AF/YR**

WATER AVAILABILTY CALCULATIONS FOR PROPOSED USE

WELL NUMBER	Q - GPM	AF/YR	
1	45	72.590	
2		0.000	
3		0.000	
4		0.000	
5		0.000	
TOTAL=	45	72.590	
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	10000	0.031	
2		0.000	
3		0.000	
4		0.000	
5		0.000	
TOTAL=	10000	0.031	
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
See Groundwater Recharge Analysis	1.54	5.08	7.82
TOTAL WATER AVAILABLE =	**2549023.87**	**G/YR**	
TOTAL WATER AVAILABLE =	**7.82**	**AF/YR**	
TOTAL PROPOSED WATER USE=	**3.20**	**AF/YR**	
REMAINING AVAILABLE WATER =	**4.62**	**AF/YR**	

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1607 Capell Valley Road
Napa, CA 94558
(707) 815-0988
Cameron@CMPEngineering.com
CMPEngineering.com

Ground Water Recharge Analysis

for the

Capell School Lodging Project

Located at:
1191 Capell Valley Road
Napa, CA 94558

Date: 7/22/2020

Project # 00055

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

Hit ctrl+alt+shift+F9 when finished.

GROUND WATER RECHARGE CALCULATIONS

PARCEL VARIABLES

Parcel size =	5.08	ac
Average annual rainfall (P) =	34.00	in (from napa county RSS)
Total parcel average rainfall volume =	14.39	ac-ft/yr

EVAPOTRANSPIRATION (E)

Surface Type	Area (ac)	E (ac-ft)	
Vineyard =	0.00	0.00	
Orchard =			
Hay =			
Other Crops =			
Impervous Surfaces onto Grassland =	0.72	0.00	
Totals =	0.72	0.00	
Native plants area =	4.36	ac	
Native plants estimated coefficient =	0.35	coefficient	
Plant density =	80%	percent	
Native Plant Growth Cycle Factor =	0.70	factor	
Grass refernce ETo =	47.04	in (from Zone 8 ITRC value typ yr)	
Native plant ETc =	11.52	in	
Total annual native plant E =	3.35	ac-ft	
Total annual E for parcel =	**3.35**	**ac- ft**	

RUNOFF (R)

Average runoff relief coefficient =	8%	%
Average runoff soil coefficient =	6%	%
Average runoff vegitation coefficient =	6%	%
Average runoff surface coefficient =	8%	%
Total Runoff Coefficient =	28%	%
Average annual rainfall =	14.39	ac-ft
Runoff producing rainfall =	80%	%
Total Annual Runoff (R) =	**3.22**	**ac-ft**

ANNUAL GROUND WATER RECHARGE STORAGE (S) = P-(R+E)

Total Annaul Precipitation (P) =	14.39	ac-ft
Total Annual Runoff (R) =	3.22	ac-ft
Total Annual Evapotranpiration (E) =	3.35	ac-ft
Total Annual Ground Recharge (S) =	**7.82**	ac-ft
Annual Recharge Rate Per Acre =	**1.54**	**ac-ft / yr / ac**