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Department of Public Works

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Robert J. Peterson, P.E.
Director of Public Works

MEMORANDUM

DATE: October 29, 2008

TO: Chris Cahill, Conservation Development and Planning Department

FROM: Annamaria Martinez, Assistant Engineer

SUBJECT: Inglewood Village Parcel Map, File #P08-00493

The application will allow the applicant to convert three previously approved office buildings into condominium space.

EXISTING CONDITIONS:

GROUNDWATER

1. Parcel is located in the "valley floor" region.

2. A Phase II water availability analysis was completed in March 1999.

RECOMMENDED CONDITIONS:

GROUNDWATER

1. The applicant has submitted a will serve letter from the City of St. Helena for water service for "interior portions of the approved buildings and domestic uses only," with a maximum allowed use of 1.65 AF/Year. No on site wells will be used to serve these areas of the parcel.

2. We have reviewed the Phase I and Phase II, water availability analyses for the non-interior and non-domestic uses associated with the proposed project. While the project, as originally approved, proposed to use an amount above the fair share for the property, the Phase II water availability analysis showed no significant impact to the monitoring wells used in the study (See attached Phase II Water Availability Analysis and memo dated May 11, 1999). Therefore, the projected water use for this project should not have a significant impact on static water levels of neighboring wells. No further analysis is necessary.

entered 9/3/99

PUBLIC WORKS DEPARTMENT
INTER-OFFICE MEMO

TO: Wyntress Balcher, CDPD

FROM: Myke Praul, Public Works

SUBJECT: Inglewood Village Use Permit – Phase II Water Availability Analysis

DATE: May 11, 1999

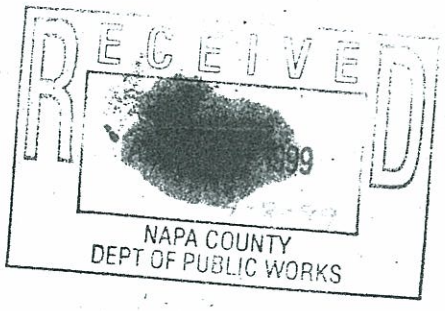
Our Department has reviewed the phase II water availability analysis for the proposed Inglewood Village use permit #96381-UP. The phase II analysis was conducted according to parameters established by the applicant's engineer and approved by this Department. The project well was pumped at about 11 GPM for 12 hours and the neighbor's (McGrath) well and a second well were monitored. **Test results show no significant impact to either of the two wells monitored.** No further analysis is necessary.

As we understand the project, a portion of the total water demand may come from the City of St. Helena water system. If this is the case, we recommend a "will serve" letter from the City and a condition of approval restricting the use of City water the amounts they allow.

Thank you for the opportunity to comment on the proposed project.

BARTELT engineering

April 8, 1999
#96-48



Mr. Myke Praul
Napa County Public Works Department
1195 Third Street, Room 205
Napa, CA 94559

Re: Inglewood Village Use Permit, Inglewood Avenue, Napa County, CA
(APN 027-120-040 & 050)

Dear Mr. Praul:

In response to the Napa County Conservation, Development & Planning Department's concern regarding ground water usage by the proposed project and concerns voiced by adjacent land owner, Don McGrath of Villa Helena Winery, an aquifer draw down and recovery test with alternate site monitoring was conducted for the main project well located at the southwest corner of Inglewood Avenue and State Route 29.

The test was conducted by McClean & Williams, Inc. beginning on Wednesday, March 17, 1999 and ending on Sunday, March 21, 1999. The format for the test was provided by my office in a letter to you dated April 3, 1998. A copy of said letter is attached for your review. Per the requirements of the test, the static water levels in the project well and the Villa Helena Winery monitoring well were monitored throughout the test. The well monitored at Villa Helena Winery serves both the residence and the vineyard. The pumping of the project well began on Friday March 19, 1999 at 6:40 am with the static water levels of each well recorded at the appropriate time intervals. Throughout the test, a constant open discharge from the project well was maintained with the flow rate at approximately 15 gallons per minute for the first 10 minutes and then approximately 10 to 12 gallons per minutes for the remainder of the test. During the testing period approximately 7,630 gallons of water were pumped from the project well which translates to an average of 10.59 gallons per minute throughout the 12 hour test.

After the pumping phase of the test was completed, the project well and the Villa Helena Winery well were monitored to observe water level recovery in each well. The project well was closely monitored for four (4) hours, during which time the well quickly recovered to a level close to that observed during the initial draw down of the well. The static water levels of the monitoring well was also observed throughout the recovery monitoring period of the project well. An additional well located on the Villa Helena Winery parcel which to date has not been in service was monitored at sporadic intervals as a courtesy to Don McGrath of Villa Helena Winery.

civil engineering
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A complete tabulation of the results of the Phase II water test showing water levels during the well draw down and well recovery period has been provided by McClean & Williams, Inc. and is attached herewith.

It is our belief that this test has shown the strength of the project well over a long period of pumping with minimal effect on adjacent property wells. Based on the results of this test, we feel that we have complied with the Napa County Conservation, Development & Planning Department's Environmental Review request for development of Inglewood Village.

If I can be of any further assistance or provide any other information regarding the test or the testing procedures please feel free to contact me.

Sincerely,

Paul N. Bartelt, P.E.
Principal

PNB:sd
enclosures

cc: Phillip Smith
Don McGrath

BARTELT engineering

April 6, 1998
#96-48

Myke Praul
County of Napa Public Works Department
1195 Third Street, Room 205
Napa, CA 94558

Re: Inglewood Village Use Permit, Inglwood Avenue, Napa County, APN 027-120-040 & 050.

Dear Mr. Praul:

In response to the Napa County Conservation Development & Planning Department concerns regarding ground water usage by Inglewood Village and ground water levels within the entire Inglewood Avenue area, an aquifer draw down and recovery test with alternate site monitoring will be conducted for the Inglewood Village project site located at the southwest corner of Inglewood Avenue and State Route 29. The test will be conducted by Oakville Pump Service or McClean and Williams, Inc., well drilling and pump service. The date of the test has yet to be determined.

For this calculation I have estimated water use demand using the City of Napa "Schedule of Water Use Factors" dated February 28, 1991 and the revised septic system feasibility study prepared by Bartelt Engineering dated March 31,1998.

Water Use Demand (from the City of Napa "Schedule of Water Use Factors")

	Size (sf)	Annual Use (ac/1,000 sf)	Annual Use (acre-feet)	Average Daily Use (gallons)
Restaurant	5,000	0.82	4.10	3,660
Retail Sales	16,000	0.035	0.57	510
Landscaping (per McCaslin consulting see attached)			2.40	2,142
Total	21,000	0.855	7.07	6,312

From 1991 to 1992 water use factors increased by 26% according to Table 3-12 "Unit Demand Factors by Customer Class" of the City of Napa "Water System Optimization and Master Plan" Volume II prepared by West Yost & Associates dated January 1996; therefore,

Average daily water use = (6,312 gallons per day) (1.26) = 7,953 gallons per day

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Water Use Demand (from the revised septic system feasibility study prepared by Bartelt Engineering)

Sanitary Waste

Sanitary waste flow for the facility can be broken into the following categories:

Retail store employees:

19 full time employees (20 gpd per employee) = 380 gpd

Retail store visitors:

1,122 visitors per day (3.5 gpd per visitor) (10% visitor usage) = 393 gpd

Restaurant

300 meals per day (14 gal per meal per day) = 4,200 gpd

Service Station

The service station is located on APN 027-120-051 at the southwest corner of State Route 29 and Inglewood Avenue and is served by City of St. Helena water; therefore, no well water service is needed.

Total peak flow = 380 gpd + 393 gpd + 4,200 gpd = 4,973 gpd.

To determine peak water usage, conservatively assume a peak daily demand duration of twelve (12) hours and use 7,953 gallons per day water usage (the higher and more conservative water use demand estimation).

Peak daily demand (gal/min) =

$$(7{,}953\ gal/day)\left(\frac{1\ day}{12\ hours}\right)\left(\frac{1\ hour}{60\ min}\right) = 11.05\ gal/min.$$

The format for the test will be as follows:

1. Throughout the test a constant pumping rate of 10 to 12 gallons per minute will be maintained on the project well. During the testing period 7,200 to 8,640 gallons of water will be pumped from the project well. A meter will be installed on the discharge line to confirm the pump discharge rate.

2. The project well and all monitoring wells will be shut down 24 hours prior to the test. The monitoring wells should not be operated at any time during the test.

3. Measure static levels from top of casings in the project well and all monitoring wells

48 and 24 hours prior to the test. The water levels should be measured to 0.01 foot from the top of well casing.

4. Start pumping of project well and adjust flow rate. Measure water levels of project well and monitoring wells, from top of casing, at elapsed times of:
   a. 0 (static), 1, 2, 3, 4, 5, 10, 15, 30, 45, 60, 80, 100 minutes
   b. 2, 4, 6, 8, 10, 12 hours (maximum)
   c. Just prior to pump shutdown.

5. Immediately after pump shutdown, measure water level recovery in the wells at the same intervals listed above. If wells recover close to the initial static water level faster than the 12 hour interval, the monitoring may be concluded at the direction of the engineer.

The project well will be located in the southwest corner of the project site behind and to the left of Building B (see attached site plan). The location of a potential monitoring well will be determined at a later date and monitored upon approval of the well owner. Potential monitoring well sites include the Villa Helena parcel (APN 027-120-016) located southwest of the site and the two vineyard parcels south of the site (APN 027-120-018 & 027-120-020).

Well water discharged during the test will be directed to the swale that runs along the southern property line north of the Turner Moving and Storage building on the Turner Moving and Storage parcel. The water will flow in the swale easterly along the property line to an existing 12" culvert crossing under the northern Turner Moving and Storage driveway entrance which outfalls into a ditch that flows southerly along the west side of State Route 29.

If I can be of any further assistance or offer you any further information please feel free to contact me.

Sincerely,

Paul N. Bartelt, P.E.
Principal

PNB:sd

enc

cc: Phillip Smith

FLOW TEST & RECOVERY AT INGLEWOOD PROJECT: AP#27-120-40

DATE	TIME	STATIC W-L	FLOW	WATER COLOR
3-17-99	6:30am	25.32		
3-18-99	6:30am	25.20		cloudy
3-19-99	6:40am	25.50	approx. 15gpm	cloudy
	6:41am	38.64		
	6:42am	47.67		
	6:43am	56.00		
	6:44am	62.94		
	6:45am	68.98		
	6:50am	71.34	adj.to approx.10gpm	cloudy
	6:55am	68.47		
	7:10am	67.41		
	7:25am	67.99		
	7:40am	69.19		
	8:00am	69.77		
	8:20am	70.41		
	8:40am	70.98	approx.10gpm	little cloudy
	10:40am	73.00		
	12:40pm	74.00		clear
	2:40pm	74.75		
	4:40pm	75.47		
	6:40pm	75.86	end of test shut down	
	6:41pm	74.79	start recovery	
	6:42pm	67.19		
	6:43pm	62.33		
	6:44pm	57.13		
	6:45pm	53.24		
	6:46pm	50.15		
	6:51pm	39.74		
	7:01pm	35.14		
	7:11pm	33.84		
	7:31pm	32.56		
	7:51pm	31.80		
	8:40pm	30.57		
	10:40pm	29.35		
3-20-99	6:40am	27.52		
3-21-99	6:42am	26.31		

3-19-99 6:40am start test with Paul Bartelt. 3-19-99 12:50pm give update on test to Paul Bartelt.
3-19-99 7:55pm contact Paul Bartelt through Curt Bates to get instructions on recovery.
3-21-99 6:48am last water level reading recorded as per Paul Bartelts instructions.

1) all measurements are to the 0.01 of a foot. 2) all measurements were taken to the top of well casing using the same water level indicator corresponding to that well.

Total gallons pumped during the test based on water meters:
Meter# 8970939: beginning of test 29240 gallons, end of test 36870 gallons = 7630 gallons
7630 gallons divided by 12 hours = 635.83gph divided by 60 minutes = 10.59gpm
averaged 10.59gpm. Water from test was delivered to Highway 29 drain
approximately 450' from well site.

This well was drilled 01/28/99, it was cased to 600 feet with 6" F480 PVC casing, it yielded 18.gpm after four hours testing.

GONZALO SALINAS/vice-president
McLean & Williams, Inc.

RECOVERY ON 1455 INGLEWOOD (neighbors)

DATE	OLD WELL TIME	STATIC W-L	NEW WELL TIME	STATIC W-L
3-17-99	6:36am	22.24	6:39am	23.16
3-18-99	6:35am	21.80	6:40am	21.02
3-19-99	6:40am	21.44	6:38am	22.86
	6:41am	21.44		
	6:42am	21.45		
	6:43am	21.45		
	6:44am	21.45		
	6:45am	21.45		
	6:50am	21.45	6:51am	21.86
	6:55am	21.45		
	7:10am	21.46	7:11am	21.86
	7:25am	21.46	7:26am	21.86
	7:40am	21.50	7:46am	21.87
	8:00am	21.53	8:01am	21.87
	8:20am	21.53	8:21am	21.89
	8:40am	21.61	8:42am	21.89
	10:40am	21.84	10:42am	22.11
	12:40pm	22.00	12:42pm	22.27
	2:45pm	22.17	2:48pm	22.37
	4:45pm	22.21	4:47pm	22.46
Shutdown	6:40pm	22.31	6:40pm	22.50
Recovery	6:41pm	22.31		
	6:42pm	22.30		
	6:43pm	22.30		
	6:45pm	22.29		
	6:46pm	22.29		
	6:51pm	22.29	6:56pm	22.50
	7:01pm	22.29	7:03pm	22.50
	7:11pm	22.29	7:12pm	22.50
	7:31pm	22.29	7:33pm	22.50
	7:51pm	22.29	7:52pm	22.51
	8:40pm	22.24	8:41pm	22.51
	10:40pm	22.14	10:42pm	22.52
3-20-99	6:45am	21.91	6:48am	22.32
3-21-99	6:48am	22.62	6:51am	22.39

*New well was first measured on 3-17-99, the next day casing appeared to be cut down, we asked owner, he said his pump service company had worked on it & trimmed casing.

This well was monitored as a courtesy, it was not included in original work description.

New Well Info:
casing size 6" pvc, well depth approximately 470 feet, there was no equipment inside well at time of monitoring.

Old Well Info:
casing size approximate 8" steel, well depth approximately 221 feet, well depth may not be accurate, seems well had an existing working pump in it.

GONZALO SALINAS/vice-president
McLean & Williams, Inc.