

TO: Water Rights Section SEPT 26, 199 2001
 FROM: Groundwater/Hydrology Section IVAN GALL
 Reviewer's Name
 SUBJECT: Application G- 15336

GROUNDWATER/SURFACE WATER CONSIDERATIONS

1. PER THE _____ Basin rules, one or more of the proposed POA's is/is not within _____ feet/mile of a surface water source (_____) and taps a groundwater source hydraulically connected to the surface water.
2. BASED UPON OAR 690-09 currently in effect, I have determined that the proposed groundwater use
 - a. ___ will, or _____ have the potential for substantial interference with the nearest
 - b. will not _____ surface water source, namely WILLIAMS CR; or
 - c. ___ will if properly conditioned, adequately protect the surface water from interference:
 - i. ___ The permit should contain condition #(s) _____;
 - ii. ___ The permit should contain special condition(s) as indicated in "Remarks" below;
 - iii. ___ The permit should be conditioned as indicated in item 4 below; or
 - d. ___ will, with well reconstruction, adequately protect the surface from substantial interference.

GROUNDWATER AVAILABILITY CONSIDERATIONS

3. BASED UPON available data, I have determined that groundwater for the proposed use
 - a. ___ will, or _____ likely be available in the amounts requested without injury to prior rights
 - b. ___ will not _____ and/or within the capacity of the resource; or
 - c. will if properly conditioned, avoid injury to existing rights or to the groundwater resource:
 - i. The permit should contain condition #(s) 7B, 7E;
 - ii. ___ The permit should contain special condition(s) as indicated in "Remarks" below;
 - iii. ___ The permit should be conditioned as indicated in item 4 below; or
4.
 - a. ___ THE PERMIT should allow groundwater production from no deeper than _____ ft. below land surface;
 - b. ___ The permit should allow groundwater production from no shallower than _____ ft. below land surface;
 - c. The permit should allow groundwater production only from the BEDROCK AQUIFER. ~~groundwater reservoir between approximately _____ ft and _____ ft below land surface;~~
 - d. ___ Well reconstruction is necessary to accomplish one or more of the above conditions.
 - e. ___ One or more POA's commingle 2 or more sources of water. The applicant must select one source of water per POA and specify the proportion of water to be produced from each source.

REMARKS: _____

(Well Construction Considerations on Reverse Side)

G-15336

WELL CONSTRUCTION (If more than one well doesn't meet standards, attach an additional sheet.)

5. THE WELL which is the point of appropriation for this application does not meet current well construction standards based upon:
- a. ___ review of the well log;
 - b. ___ field inspection by _____;
 - c. ___ report of CWRE _____;
 - d. ___ other: (specify) _____
6. THE WELL construction deficiency:
- a. ___ constitutes a health threat under Division 200 rules;
 - b. ___ commingles water from more than one groundwater reservoir;
 - c. ___ permits the loss of artesian head;
 - d. ___ permits the de-watering of one or more groundwater reservoirs;
 - e. ___ other: (specify) _____
7. THE WELL construction deficiency is described as follows: _____
8. THE WELL
- a. ___ was, or constructed according to the standards in effect at the time of
 - b. ___ was not original construction or most recent modification.
 - c. ___ I don't know if it met standards at the time of construction.

RECOMMENDATION:

- A. ___ I recommend including the following condition in the permit:
"No water may be appropriated under terms of this permit until the well(s) has been repaired to conform to current well construction standards and proof of such repair is filed with the Enforcement Section of the Water Resources Department."
- B. ___ I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Enforcement Section of the Water Resources Department.
- C. ___ REFER this review to Enforcement Section for concurrence.

THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

I concur in G/H's recommendation A or B above relating to conditioning or withholding the permit
_____, 199__.

(Signature)

I do not concur in G/H's recommendation A or B above relating to conditioning or withholding the permit for the following reasons: _____

_____, 199__.

(Signature)

**Water Right Conditions
Tracking Slip**

Groundwater/Hydrology Section

FILE ## G-15336

ROUTED TO: WATER RIGHTS

TOWNSHIP/

RANGE-SECTION: 38 S / 5W-34

CONDITIONS ATTACHED? Yes No

REMARKS OR FURTHER INSTRUCTIONS:

Reviewer: IKG



Oregon

John A. Kitzhaber, M.D., Governor

Water Resources Department

942 SW 6th Street
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Grants Pass, OR 97526
(541) 471-2886
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WATER RESOURCES DEPARTMENT MEMORANDUM

RECEIVED

SEP 21 2001

WATER RESOURCES DEPT.
SALEM, OREGON

Date: September 18, 2001
To: Groundwater/Hydrology
From: *IKB*
Ivan Gall – Southwest Region Hydrogeologist, Grants Pass
Subject: GW Application G-15336

Applicant: Three Rivers School District – Williams Elementary
Seek: 14.5 gpm for 1.8 acres; 4.5 acre-feet
From: Two drilled wells, Williams Creek sub-basin, Rogue Basin
Proposed Use: Domestic (year-round, school), Irrigation (April 1 – October 31) of lawns and sport fields
Quad Name: Williams

Well # 1 **(JOSE 12404)**
38S/05W-34da (NE of the SE), Tax Lot 2100 Josephine County
Well elevation at site is ~1,405 feet (NGVD 1929)
Well is located 1,260 feet South and 1,085 feet West of the ¼ corner of Section 34 (from application)
Williams Creek elevation is ~1,380 feet (NGVD 1929)
Well is ~1,100 feet northwest from Williams Creek
Well is 275 feet deep (deepened from 135 feet), cased to 63 feet (unknown data source for casing depth; provided on application), unknown seal depth
“Aquifer” from 205-206 and 261-263 feet
SWL: 5-29-1981 25 feet bgs (from well log)

Well # 2 **(JOSE 2125)**
38S/05W-34da (NE of the SE), Tax Lot 2100 Josephine County
Well elevation at site is ~1,405 feet (NGVD 1929)
Well is located 1,175 feet South and 1,085 feet West of the ¼ corner of Section 34
Williams Creek elevation is ~1,380 feet (NGVD 1929)
Well is ~1,200 feet northwest from Williams Creek
Well is 140 feet deep, cased to 97 feet, sealed to 25 feet
“Aquifer” from 107-118 feet
SWL: 10-23-1975 25 feet bgs (from well log)



Evaluation Summary

The subject property is located at 20691 Williams Highway, Williams, Oregon. Topography is relatively subdued, generally sloping to the east/northeast towards Williams Creek. Land use is rural residential, with irrigation in the area occurring primarily from Williams Creek and some wells.

The applicant is applying for a primary right of 14.5 gallons per minute (gpm) with a total duty of 4.5 acre-feet for year-round domestic use and seasonal irrigation of lawns and sport fields. The well logs indicate that the two wells produce only 12.5 gpm (4 gpm from Well #1 and 8.5 gpm from Well #2).

The bedrock geology in the area is composed of quartz diorite (and related rocks) and metasedimentary rocks of the Applegate Group. A variable thickness of alluvium overlies the bedrock in this area. Based on the two well logs at the Williams School site, it appears that the wells are completed into fractured metasedimentary rocks of the Applegate Group, with the material being logged as "basalt". The original log for Well #1 is not available, and no alluvium thickness is provided on the deepening log. The log for Well #2 indicates 85 feet of alluvium. The water-bearing zones for Well #1 are identified as occurring from 205-206 and 261-263 feet bgs, with no information above 135 feet bgs. However, the one hour air test suggests that very little water was contributed from above the two water-bearing zones. For Well #2, the water-bearing zone is listed on the log as 107-118 feet bgs.

Because of the depth of the water-bearing zones in the fractured bedrock in Well #1, and the relatively low yield, it is unlikely that substantial interference with surface water flows would occur from the proposed use of Well #1. The seal depth of Well #1 is unknown, and based on the relative age of the well, is not likely to exceed 25-30 feet bgs. The water-bearing zone in Well #2 occurs at a shallower depth, beginning at approximately 22 feet below the contact between the bedrock and overlying alluvium. Although Well #2 is cased to 97 feet bgs, the seal depth only extends to 25 feet bgs.

Based on the approximate elevations of the well heads, the static water levels in the wells, and the approximate elevation of Williams Creek near the wells, the similarity in the ground water and surface water elevations suggest some degree of hydraulic connection. It should be recognized that the alluvium and the underlying fractured bedrock aquifer could be hydraulically connected. Ground water use in the bedrock aquifer could cause or increase downward movement of shallow ground water. Shallow (in the unconfined alluvial aquifer) ground water in this area is likely hydraulically connected, or will eventually discharge, to Williams Creek.

GRID lists approximately 87 well logs for section 34. Eight of these well logs are listed as deepenings. "Reliable" ground water occurrence in the area appears to be adequate for domestic use, with more than half of the wells in section 34 producing greater than 5 gpm. Reported well yields go up to over 50 gpm for eleven wells in section 34. No well interference complaints have been recently received from this area.

No long-term water level data from state observation wells exist for this specific area. Some long-term water level data from a state observation well (#261, Steve Miller Shop Well) exist for this area (hydrograph is attached). This well is located approximately 3.5 miles south from the subject wells. Water level data collected at well #261, from approximately 1981 to present, indicate a seasonal fluctuation of approximately four to six feet, with no long-term water level declines. Unfortunately, this data is of limited value due to the distance between the subject wells and well #261, and the uncertainty of a well log for well #261.

The latest chemical test results (attached) for the Williams School well(s) were reviewed from the Oregon Health Division's Drinking Water Program web page. None of the detected constituents clearly indicate whether the source of ground water was from the deeper, fractured bedrock aquifer, or the overlying alluvial aquifer.

Recommendation:

The ground water resource appears to be available at this location to support irrigation of 1.8 acres and year-round domestic use for the school without the potential for substantial interference with neighboring wells or nearby surface water (Williams Creek). The permit should include the following conditions:

7B, 7F

Additionally, a condition shall be added to specify the two sources of appropriated ground water. For example, "Ground water shall be appropriated from only two drilled wells, Well #1 (JOSE 12404) located approximately 1,260 feet South and 1,085 feet West of the ¼ corner of Section 34, and Well #2 (JOSE 2125), located 1,175 feet South and 1,085 feet West of the ¼ corner of Section 34. Both wells are completed in the fractured bedrock aquifer."

References:

1. WRD GRID well log database.
2. USGS topographic map, Williams, OR 1:24,000 sheet.
3. Geology and Mineral Resources of Josephine County, Oregon. Oregon Department of Geology and Mineral Industries, Bulletin 100, 1979.
4. Oregon Health Division Drinking Water Program web page. Chemical Test – Latest Results for PWS ID: 91899, Williams Elementary, Co. Unit.



Oregon Health Division

Drinking Water Program

[Introduction](#) [Data Search Options](#) [WS Name Look Up](#) [WS ID Look Up](#) [DWP Home Page](#)

This Website will have a new address after the New Year of "159.121.24.16". Please make a note of this and adjust your bookmarks. Or get here through the [Drinking Water main web site](#) at "http://www.ohd.hr.state.or.us/dwp/welcome.htm".

Chemical Test -- Latest Results

PWS ID: 91899 WILLIAMS ELEMENTARY, CO.UNIT

Date	Chemical	Results	MCL
Jun 02, 1997	1,1,1,2-Tetrachloroethane	0.0000	
Jun 02, 1997	1,1,1-Trichloroethane	0.0000	0.2000
Jun 02, 1997	1,1,2,2,-Tetrachloroethane	0.0000	
Jun 02, 1997	1,1,2-Trichloroethane	0.0000	0.0050
Jun 02, 1997	1,1-Dichloroethane	0.0000	
Jun 02, 1997	1,1-Dichloroethylene	0.0000	0.0070
Jun 02, 1997	1,1-Dichloropropene	0.0000	
Jun 02, 1997	1,2,3-Trichloropropane	0.0000	
Jun 02, 1997	1,2,4-Trichlorobenzene	0.0000	0.0700
Jun 02, 1997	1,2-Dibromo-3-Chloropropane (DBCP)	0.0000	0.0002
Jun 02, 1997	1,2-Dichloroethane	0.0000	0.0050
Jun 02, 1997	1,2-Dichloropropane	0.0000	0.0050
Jun 02, 1997	1,3-Dichloropropane	0.0000	
Jun 02, 1997	1,3-Dichloropropene	0.0000	
Jun 02, 1997	2,2-Dichloropropane	0.0000	
Jun 02, 1997	2,4,5-T	0.0000	
Jun 02, 1997	2,4,5-TP Silvex	0.0000	0.0500
Jun 02, 1997	2,4-D	0.0000	0.0700
Jun 02, 1997	3-Hydroxycarbofuran	0.0000	
Jun 02, 1997	Adipates (Di(2-Ethylhexyl))	0.0000	0.4000
Jun 02, 1997	Alachlor (Lasso)	0.0000	0.0020
Jun 02, 1997	Aldicarb	0.0000	

Jun 02, 1997	Aldicarb Sulfone	0.0000	
Jun 02, 1997	Aldicarb Sulfoxide	0.0000	
Jun 02, 1997	Aldrin	0.0000	
Jun 02, 1997	Antimony Total	0.0000	0.0060
Jun 02, 1997	Arsenic	0.0007	0.0500
Jun 02, 1997	Atrazine	0.0000	0.0030
Jun 02, 1997	Barium	0.0000	2.0000
Jun 02, 1997	Benzene	0.0000	0.0050
Jun 02, 1997	Benzo (A) Pyrene	0.0000	0.0002
Jun 02, 1997	Beryllium Total	0.0000	0.0040
Jun 02, 1997	BHC-gamma (Lindane)	0.0000	0.0002
Jun 02, 1997	Bromobenzene	0.0000	
Jun 02, 1997	Bromodichloromethane	0.0000	
Jun 02, 1997	Bromoform	0.0000	
Jun 02, 1997	Bromomethane	0.0000	
Jun 02, 1997	Butachlor	0.0000	
Jun 02, 1997	Cadmium	0.0000	0.0050
Oct 14, 1983	Calcium	17.9000	
Jun 02, 1997	Carbaryl	0.0000	
Jun 02, 1997	Carbofuran	0.0000	0.0400
Jun 02, 1997	Carbon Tetrachloride	0.0000	0.0050
Jun 02, 1997	Chlordane	0.0000	0.0020
Oct 14, 1983	Chloride	122.460	
Jun 02, 1997	Chloroethane	0.0000	
Jun 02, 1997	Chloroform	0.0000	
Jun 02, 1997	Chloromethane	0.0000	
Jun 02, 1997	Chromium	0.0020	0.1000
Jun 02, 1997	Cis-1,2-Dichloroethylene	0.0000	0.0700
Oct 14, 1983	Copper	0.0000	1.3000
Jun 02, 1997	Cyanide	0.0000	0.2000
Jun 02, 1997	Dalapon	0.0000	0.2000
Jun 02, 1997	Dibromochloromethane	0.0000	
Jun 02, 1997	Dibromomethane	0.0000	
Jun 02, 1997	Dicamba	0.0000	
Jun 02, 1997	Dichloromethane (Methylene Chloride)	0.0000	0.0050
Jun 02, 1997	Dieldrin	0.0000	
Jun 02, 1997	Dinoseb	0.0000	0.0070
Jun 02, 1997	Diquat	0.0000	0.0200

Jun 02, 1997	Endothall	0.0000	0.1000
Jun 02, 1997	Endrin	0.0000	0.0020
Jun 02, 1997	Ethylbenzene	0.0000	0.7000
Jun 02, 1997	Ethylene Dibromide (EDB)	0.0000	0.0001
Jun 02, 1997	Fluoride	0.2000	4.0000
Jun 02, 1997	Glyphosate	0.0000	0.7000
Oct 14, 1983	Hardness, Total (as CaCO ₃)	48.0000	
Jun 02, 1997	Heptachlor	0.0000	0.0004
Jun 02, 1997	Heptachlor Epoxide	0.0000	0.0002
Jun 02, 1997	Hexachlorobenzene (HCB)	0.0000	0.0010
Jun 02, 1997	Hexachlorocyclopentadiene	0.0000	0.0500
Oct 14, 1983	Iron	0.2200	
May 05, 1983	Lead	0.0030	0.0150
Jun 02, 1997	M-Dichlorobenzene	0.0000	
Oct 14, 1983	Manganese	0.0000	
Jun 02, 1997	Mercury	0.0000	0.0020
Jun 02, 1997	Methomyl	0.0000	
Jun 02, 1997	Methoxychlor	0.0000	0.0400
Jun 02, 1997	Metolachlor	0.0000	
Jun 02, 1997	Metribuzin	0.0000	
Jun 02, 1997	Monochlorobenzene (Chlorobenzene)	0.0000	0.1000
Jun 02, 1997	Nickel	0.0000	0.1000
Mar 21, 2000	Nitrate	0.0000	10.0000
Aug 27, 1993	Nitrate-Nitrite	0.6200	10.0000
Jun 02, 1997	Nitrite	0.0000	1.0000
Jun 02, 1997	O-Chlorotoluene	0.0000	
Jun 02, 1997	O-Dichlorobenzene	0.0000	0.6000
Jun 02, 1997	P-Chlorotoluene	0.0000	
Jun 02, 1997	P-Dichlorobenzene	0.0000	0.0750
Jun 02, 1997	Pentachlorophenol	0.0000	0.0010
Oct 14, 1983	Ph	7.6500	
Jun 02, 1997	Phthalates (Di(2-Ethylhexyl))	0.0000	0.0060
Jun 02, 1997	Picloram	0.0000	0.5000
Jun 02, 1997	Propachlor	0.0000	
Oct 14, 1983	Residue, Total-Fixed	283.000	
Jun 02, 1997	Selenium	0.0000	0.0500
May 05, 1983	Silver	0.0000	0.1000
Jun 02, 1997	Simazine	0.0000	0.0040

Jun 02, 1997	Sodium	75.0000	
Jun 02, 1997	Styrene	0.0000	0.1000
Jun 02, 1997	Sulfate	0.2000	
Jun 02, 1997	Tetrachloroethylene	0.0000	0.0050
Jun 02, 1997	Thallium Total	0.0000	0.0020
Jun 02, 1997	Toluene	0.0000	1.0000
Sep 15, 1997	Total Polychlorinated Biphenyls (PCB)	0.0000	0.0005
Jun 02, 1997	Total Xylenes	0.0000	10.0000
Jun 02, 1997	Toxaphene	0.0000	0.0030
Jun 02, 1997	Trans-1,2-Dichloroethylene	0.0000	0.1000
Jun 02, 1997	Trichloroethylene	0.0000	0.0050
Jun 02, 1997	Vinyl Chloride	0.0000	0.0020
Jun 02, 1997	Vydate (Oxamyl)	0.0000	0.2000
Oct 14, 1983	Zinc	0.0900	

A blank or a 0 in the MCL column indicates that a MCL has not been set for that chemical
 This list represents the latest test results for *all* sources and entry points the system has. For systems with multiple sources the list will probably be a mix of results from all sources. But these are the latest results.

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