

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date September 21, 2007
 FROM: Ground Water/Hydrology Section Michael Zwart
Reviewer's Name
 SUBJECT: Application G- 16865 Supersedes review of N/A
Date of Review(s)

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review ground water applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation.**

A. GENERAL INFORMATION: Applicant's Name: City of Walla Walla, Tom Krebs County: Umatilla

- A1. Applicant(s) seek(s) 1.114 cfs from one well(s) in the Umatilla Basin,
Mill Creek (within Walla Walla) subbasin Quad Map: Big Meadows
- A2. Proposed use: Gp. Dom/Irrig. 54.6 acres Seasonality: Year round/March 1 to October 31
- A3. Well and aquifer data (attach and number logs for existing wells; mark proposed wells as such under logid):

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	UMAT 6461	1	CRB	1.114	6N/38E-20 NW-NW	985' S, 1186' E fr NW cor S 20
2						
3						
4						
5						

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	2195	62	-35	10/27/85	132	0-52.5	0-52.5	42-132	62-132	1000	?	Air

Use data from application for proposed wells.

A4. **Comments: Artesian flow of 500 gpm reported. There are a fair number (14) of basalt wells in the vicinity and many flow. This is one of two local high-production wells.**

A5. **Provisions of the Umatilla** Basin rules relative to the development, classification and/or management of ground water hydraulically connected to surface water are, or are not, activated by this application. (Not all basin rules contain such provisions.)
 Comments: _____

A6. Well(s) # _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
 Name of administrative area: _____
 Comments: _____

B. GROUND WATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data**, I have determined that ground water* for the proposed use:

- a. is over appropriated, is not over appropriated, or **cannot be determined to be** over appropriated during any period of the proposed use. * This finding is limited to the ground water portion of the over-appropriation determination as prescribed in OAR 690-310-130;
- b. will not or will likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the ground water portion of the injury determination as prescribed in OAR 690-310-130;
- c. will not or will likely to be available within the capacity of the ground water resource; or
- d. **will, if properly conditioned**, avoid injury to existing ground water rights or to the ground water resource:
 - i. The permit should contain condition #(s) 7N _____;
 - ii. The permit should be conditioned as indicated in item 2 below.
 - iii. The permit should contain special condition(s) as indicated in item 3 below;

- B2.
- a. **Condition** to allow ground water production from no deeper than _____ ft. below land surface;
 - b. **Condition** to allow ground water production from no shallower than _____ ft. below land surface;
 - c. **Condition** to allow ground water production only from the basalt ground water reservoir;
 - d. **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Ground Water Section.

Describe injury --as related to water availability-- that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): _____

B3. **Ground water availability remarks:** This is a rather remote area, but the basalt resource has been developed for domestic and group domestic purposes, probably for seasonal homes and a camp. I believe that a measurement condition is necessary to protect the senior users of ground water and of local springs, some of which are permitted.

C. GROUND WATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C1. 690-09-040 (1): Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	Basalt of the Columbia River Basalt Group	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: In this area, the basalt aquifers typically are confined except where shallow water-bearing zones may be in hydraulic connection with an overlying unconfined alluvial aquifer. That condition does not occur at this well, with dense basalt overlying the water-bearing zone.

C2. 690-09-040 (2) (3): Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1a	Mill Creek	2230	2180	500	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	1b	Mill Creek upstream and downstream	2230	2085-2275	5200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: At the closest reach, the creek is not incised into the water-bearing zone of the well. Also the disparate head relationship suggests poor local hydraulic connection. Given the gradient of the creek and the considerable relief in the area, it is very likely that the basalt aquifer is in hydraulic connection with either a downstream or upstream reach of the creek or with one of several nearby springs. However, where hydraulic connection occurs is very dependent upon the local dip of the basalt, which is not known. It appears probable but not certain that this occurs within one mile of the well.

Water Availability Basin the well(s) are located within: Mill Creek > Walla Walla R at mouth (70572).

C3a. 690-09-040 (4): Evaluation of stream impacts for each well that has been determined or assumed to be hydraulically connected and less than 1 mile from a surface water source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% natural flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference (@ 30 days (%))	Potential for Subst. Interfer. Assumed?
1	1b	<input type="checkbox"/>	<input type="checkbox"/>	70572	31.0	<input checked="" type="checkbox"/>	41.1	<input checked="" type="checkbox"/>	<25%	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells.** Otherwise same evaluation and limitations apply as in C3a above.

	SW #	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference (@ 30 days (%))	Potential for Subst. Interfer. Assumed?
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

Comments: _____

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
	Well Q as CFS												
	Interference CFS												
Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
	Well Q as CFS												
	Interference CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
	Well Q as CFS												
	Interference CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
	Well Q as CFS												
	Interference CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
	Well Q as CFS												
	Interference CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
	Well Q as CFS												
	Interference CFS												
	(A) = Total Interf.												
	(B) = 80 % Nat. Q												
	(C) = 1 % Nat. Q												
	(D) = (A) > (C)												
	(E) = (A / B) x 100	%	%	%	%	%	%	%	%	%	%	%	%

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

Basis for impact evaluation: _____

C4b. **690-09-040 (5) (b)** The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.

C5. If properly conditioned, the surface water source(s) can be adequately protected from interference, and/or ground water use under this permit can be regulated if it is found to substantially interfere with surface water:
i. The permit should contain condition #(s) _____;
ii. The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions** _____

References Used: Local well logs; regional geologic maps, esp. Walker, 1973, Recon. Geologic Map of the Pendleton Quadrangle. _____

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: 1 Logid: UMAT 6461

D2. **THE WELL 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) _____

D3. **THE WELL construction deficiency:**

- a. constitutes a health threat under Division 200 rules;
- b. commingles water from more than one ground water reservoir;
- c. permits the loss of artesian head;
- d. permits the de-watering of one or more ground water reservoirs;
- e. other: (specify) _____

D4. **THE WELL construction deficiency is described as follows:** _____

- D5. **THE WELL** a. **was, or** **was not** constructed according to the standards in effect at the time of original construction or most recent modification.
- b. I don't know if it met standards at the time of construction.

D6. **Route to the Enforcement Section.** I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Enforcement Section and the Ground Water Section.

THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

D7. Well construction deficiency has been corrected by the following actions: _____

_____, 200_____
(Enforcement Section Signature)

D8. **Route to Water Rights Section (attach well reconstruction logs to this page).**



7/25/2007



Water Resources Department

Water Availability

WATER AVAILABILITY TABLE
 Water Availability as of 9/20/2007 for
 MILL CR > WALLA WALLA R AT MOUTH

Watershed ID #: 70572 Basin: UMATILLA Exceedance Level: 80
 Time: 15:55 Date: 09/20/2007

Select an Item Number for More Details

Item #	Watershed ID #	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sto
1	70572	NO	NO	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	YES

STREAM NAMES
 Water Availability as of 9/20/2007 for
 MILL CR > WALLA WALLA R AT MOUTH

Watershed ID #: 70572 Basin: UMATILLA Exceedance Level: 80
 Time: 15:55 Date: 09/20/2007

Item	Watershed ID	Stream Name
1	70572	MILL CR > WALLA WALLA R AT MOUTH

LIMITING WATERSHEDS
 Water Availability as of 9/20/2007 for
 MILL CR > WALLA WALLA R - AT MOUTH

Watershed ID #: 70572 Basin: UMATILLA Exceedance Level: 80
 Time: 15:55 Date: 09/20/2007

Mnth	Limiting Watershed	Stream Name	Water Avail?	Net Water Available
1	70572	MILL CR > WALLA WALLA R - AT MOUTH	NO	-7.3
2	70572	MILL CR > WALLA WALLA R - AT MOUTH	NO	-2.2
3	70572	MILL CR > WALLA WALLA R - AT MOUTH	YES	5.7
4	70572	MILL CR > WALLA WALLA R - AT MOUTH	YES	5.0
5	70572	MILL CR > WALLA WALLA R - AT MOUTH	YES	4.5
6	70572	MILL CR > WALLA WALLA R - AT MOUTH	NO	-7.8
7	70572	MILL CR > WALLA WALLA R - AT MOUTH	NO	-12.5
8	70572	MILL CR > WALLA WALLA R - AT MOUTH	NO	-17.9
9	70572	MILL CR > WALLA WALLA R - AT MOUTH	NO	-17.9
10	70572	MILL CR > WALLA WALLA R - AT MOUTH	NO	-17.2
11	70572	MILL CR > WALLA WALLA R - AT MOUTH	NO	-13.9
12	70572	MILL CR > WALLA WALLA R - AT MOUTH	NO	-4.7
Stor	70572	MILL CR > WALLA WALLA R - AT MOUTH	YES	14700.0

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION
 Water Availability as of 9/20/2007 for
 MILL CR > WALLA WALLA R AT MOUTH

Watershed ID #: 70572 Basin: UMATILLA Exceedance Level: 80
 Time: 15:55 Date: 09/20/2007

Month	Natural Stream Flow	Consumptiv Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Require-ments	Net Water Available
1	64.70	28.00	36.70	0.00	44.00	7.31
2	78.80	28.00	50.80	0.00	53.00	-2.21
3	96.70	28.00	68.70	0.00	63.00	5.69
4	119.00	28.00	91.00	0.00	86.00	4.99
5	96.50	28.00	68.50	0.00	64.00	4.49
6	59.20	28.00	31.20	0.00	39.00	7.82
7	47.50	28.00	19.50	0.00	32.00	-12.50
8	41.10	28.00	13.10	0.00	31.00	-17.90
9	41.10	28.00	13.10	0.00	31.00	-17.90

10	42.80	28.00	14.80	0.00	32.00	-17.20
11	49.10	28.00	21.10	0.00	35.00	-13.90
12	60.30	28.00	32.30	0.00	37.00	-4.71
Stor-50*	65300	20311	45000	0	33000	14700

DETAILED REPORT OF CONSUMPTIVE USES AND STORAGES

Water Availability as of 9/20/2007 for
MILL CR > WALLA WALLA R AT MOUTH

Watershed ID #: 70572 Basin: UMATILLA Exceedance Level: 80
Time: 15:55 Date: 09/20/2007

Mo	Storage	Irrig	Munic	Ind/Man	Commer	Domest	Agricul	Other	Total
1	0.00	0.00	28.00	0.00	0.00	0.01	0.00	0.00	28.00
2	0.00	0.00	28.00	0.00	0.00	0.01	0.00	0.00	28.00
3	0.00	0.00	28.00	0.00	0.00	0.01	0.00	0.00	28.00
4	0.00	0.00	28.00	0.00	0.00	0.01	0.00	0.00	28.00
5	0.00	0.00	28.00	0.00	0.00	0.01	0.00	0.00	28.00
6	0.00	0.00	28.00	0.00	0.00	0.01	0.00	0.00	28.00
7	0.00	0.01	28.00	0.00	0.00	0.01	0.00	0.00	28.00
8	0.00	0.01	28.00	0.00	0.00	0.01	0.00	0.00	28.00
9	0.00	0.00	28.00	0.00	0.00	0.01	0.00	0.00	28.00
10	0.00	0.00	28.00	0.00	0.00	0.01	0.00	0.00	28.00
11	0.00	0.00	28.00	0.00	0.00	0.01	0.00	0.00	28.00
12	0.00	0.00	28.00	0.00	0.00	0.01	0.00	0.00	28.00

DETAILED REPORT OF RESERVATIONS FOR CONSUMPTIVE USE

Water Availability as of 9/20/2007 for
MILL CR > WALLA WALLA R AT MOUTH

Watershed ID #: 70572 Basin: UMATILLA Exceedance Level: 80
Time: 15:55 Date: 09/20/2007

APP #	0	0	0	0	0	0	0	0	TOTAL
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

DETAILED REPORT OF INSTREAM REQUIREMENTS

Water Availability as of 9/20/2007 for
MILL CR > WALLA WALLA R AT MOUTH

Watershed ID #: 70572 Basin: UMATILLA Exceedance Level: 80
Time: 15:55 Date: 09/20/2007

APP #	IS 70572	MF 540	0	0	0	0	0	0	MAXIMUM
1	44.00	44.00	0.00	0.00	0.00	0.00	0.00	0.00	44.00
2	53.00	53.00	0.00	0.00	0.00	0.00	0.00	0.00	53.00
3	63.00	63.00	0.00	0.00	0.00	0.00	0.00	0.00	63.00
4	86.00	86.00	0.00	0.00	0.00	0.00	0.00	0.00	86.00
5	64.00	64.00	0.00	0.00	0.00	0.00	0.00	0.00	64.00
6	39.00	39.00	0.00	0.00	0.00	0.00	0.00	0.00	39.00
7	24.60	32.00	0.00	0.00	0.00	0.00	0.00	0.00	32.00
8	17.70	31.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
9	18.80	31.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
10	23.30	32.00	0.00	0.00	0.00	0.00	0.00	0.00	32.00
11	35.00	35.00	0.00	0.00	0.00	0.00	0.00	0.00	35.00
12	37.00	37.00	0.00	0.00	0.00	0.00	0.00	0.00	37.00

Big
Meadows

