



PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 06/10/2016  
 FROM: Groundwater Section Phillip I. Marcy  
 SUBJECT: Application G- 18284 Reviewer's Name Supersedes review of  
 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 groundwater 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: Stan Tamiyasu/Greenridge Agronomy County: Washington

A1. Applicant(s) seek(s) 0.0077 cfs from 1 well(s) in the Willamette Basin,  
Dairy Creek subbasin

A2. Proposed use Nursery Seasonality: Year-round (365.25 days)

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	WASH 6976	1	Basalt	0.0077	2N/2W-20 NW-NW	1112'S, 756'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	813	25	115	02/08/1974	145	0-42	0-145	NA	125-145	3.5	20	Air

Use data from application for proposed wells.

A4. **Comments:** Proposed POA well produces from sandstone beneath 84' of clay as reported on driller's log.

A5.  **Provisions of the** Willamette (690-502-0020) Basin rules relative to the development, classification and/or management of groundwater 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. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070**

B1. Based upon available data, I have determined that groundwater\* 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 groundwater 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 groundwater 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 groundwater resource; or
- d.  will, if properly conditioned, avoid injury to existing groundwater rights or to the groundwater resource:
  - i.  The permit should contain condition #(s) 7C; "Large Water Use Reporting";
  - 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 groundwater production from no deeper than \_\_\_\_\_ ft. below land surface;
- b.  Condition to allow groundwater production from no shallower than \_\_\_\_\_ ft. below land surface;
- c.  Condition to allow groundwater production only from the \_\_\_\_\_ groundwater reservoir between approximately \_\_\_\_\_ ft. and \_\_\_\_\_ ft. below land surface;
- 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 Groundwater 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. **Groundwater availability remarks:** Little water level data exists for local wells in this aquifer system. The POA well (WASH 6976) produces from sands and silts with poor yield (3.5 GPM). The well is located on top a small ridge, with the sands and silts of the production zone incised by local stream valleys.

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

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

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
<b>1</b>	<b>Weathered Basalt</b>	<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"/>

**Basis for aquifer confinement evaluation:** Clay layers reported on well log are incised by local stream valleys within a few hundred feet of the proposed POA location. In addition, head elevation reported on the driller's log is well below the depth at which water was first reported.

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
<b>1</b>	<b>1</b>	<b>East Fork McKay Creek</b>	<b>698</b>	<b>398</b>	<b>1200</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>1</b>	<b>2</b>	<b>Unnamed trib to McKay Creek</b>	<b>698</b>	<b>457</b>	<b>1500</b>	<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"/>

**Basis for aquifer hydraulic connection evaluation:** Any possible lithological barrier to hydraulic connection with local streams is incised by stream valleys on either side of the ridge the POA well is located on. According to our conceptual model of the hydrogeologic framework, local streams receive discharge in the form of springs and seeps from water-bearing lithologic units that are also incised by stream channels.

**Water Availability Basin the well(s) are located within:** McKay Creek > Dairy Creek – At Mouth (30201003)

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?
<b>1</b>	<b>1</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<b>0.72</b>	<input checked="" type="checkbox"/>	*	<input checked="" type="checkbox"/>
<b>1</b>	<b>2</b>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<b>4.36</b>	<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:** \*Use of stream depletion models is not appropriate for this situation, as effects of depletion would occur at point discharges in the form of seeps and springs above local streams.

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:** This section does not apply.

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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 groundwater 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:** If a permit is issued, it shall contain the conditions specified in section B1 (d).

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**References Used:**

Gannett and Caldwell, 1998, Geologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-A

Woodward, Gannett and Vaccaro, 1998, Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-B

Conlon and Others, 2005, Ground-Water Hydrology of the Willamette Basin, Oregon, Scientific Report 2005-5168, USGS.

Local well log reports, application file G-18284.

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**D. WELL CONSTRUCTION, OAR 690-200**

D1. Well #: \_\_\_\_\_ Logid: \_\_\_\_\_

D2. **THE WELL does not appear to 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 or other comment is described as follows:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

D4.  **Route to the Well Construction and Compliance Section for a review of existing well construction.**

**Water Availability Tables**

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

Watershed ID #: 30201003 MCKAY CR > DAIRY CR - AT MOUTH Exceedance Level: 80  
 Time: 3:55 PM Basin: WILLAMETTE Date: 06/10/2016

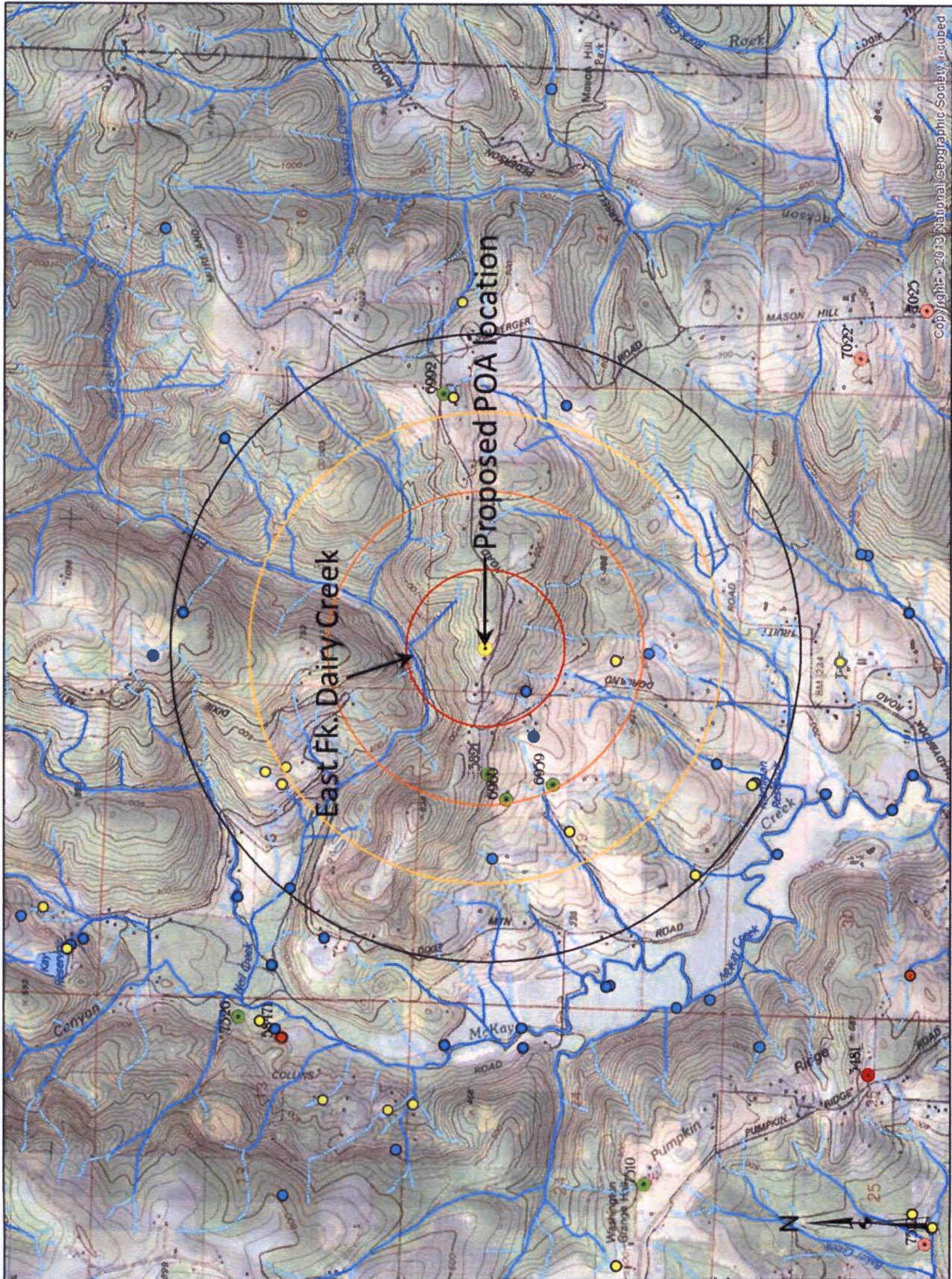
Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net water Available
Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft.						
JAN	99.10	8.06	91.00	0.00	0.00	91.00
FEB	129.00	8.34	121.00	0.00	0.00	121.00
MAR	103.00	7.77	95.20	0.00	0.00	95.20
APR	56.00	7.36	48.60	0.00	0.00	48.60
MAY	25.50	7.57	17.90	0.00	0.00	17.90
JUN	13.50	8.43	5.07	0.00	0.00	5.07
JUL	5.05	10.20	-5.13	0.00	0.00	-5.13
AUG	4.61	9.29	-4.68	0.00	0.00	-4.68
SEP	4.36	6.80	-2.44	0.00	0.00	-2.44
OCT	6.38	4.36	2.02	0.00	0.00	2.02
NOV	9.48	4.46	5.02	0.00	0.00	5.02
DEC	63.90	8.04	55.90	0.00	0.00	55.90
ANN	72,300	5,470	67,200	0	0	67,200

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

Watershed ID #: 95 E FK MCKAY CR > MCKAY CR - AT MOUTH Exceedance Level: 80  
 Time: 9:41 AM Basin: WILLAMETTE Date: 06/13/2016

Month	Natural Stream Flow	Consumptive use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net water Available
Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft.						
JAN	12.20	0.07	12.10	0.00	0.00	12.10
FEB	15.30	0.07	15.20	0.00	0.00	15.20
MAR	11.90	0.06	11.80	0.00	0.00	11.80
APR	6.68	0.04	6.64	0.00	0.00	6.64
MAY	3.52	0.07	3.45	0.00	0.00	3.45
JUN	2.00	0.08	1.92	0.00	0.00	1.92
JUL	1.01	0.09	0.92	0.00	0.00	0.92
AUG	0.76	0.08	0.68	0.00	2.00	-1.32
SEP	0.72	0.06	0.66	0.00	2.00	-1.34
OCT	1.21	0.03	1.18	0.00	0.00	1.18
NOV	2.23	0.03	2.20	0.00	0.00	2.20
DEC	10.50	0.07	10.40	0.00	0.00	10.40
ANN	8,230	45	8,180	0	242	8,070

Well Location Map



1:24,000

Miles  
0 0.125 0.25 0.5 0.75 1



**Water-Level Trends in Nearby Wells**

No comparable water level data exists for this area/aquifer system.