

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date February 9, 2011

FROM: Ground Water/Hydrology Section Josh Hackett
Reviewer's Name

SUBJECT: Application G- 17426 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 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: Edward Seagraves County: Clackamas

A1. Applicant(s) seek(s) 0.97 cfs from 2 well(s) in the Willamette Basin,
Clackamas subbasin Quad Map: Redland

A2. Proposed use: Irrigation Seasonality: March 1 – 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	Proposed Well #1	1	Alluvium	0.97	2S/3E-34 SW-NW	1580' S, 880' E fr NW cor S 34
2	Proposed Well #2	2	Alluvium	0.97	2S/3E-34 SE-NW	1580' S, 1760' E fr NW cor S 34
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	460		10 est.		170 est.	0-60 est.	0-110 est.		100-170 est.			
2	470		10 est.		170 est.	0-60 est.	0-110 est.		100-170 est.			

Use data from application for proposed wells.

A4. Comments: _____

A5. ☒ **Provisions of the** Willamette 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: The applicant's proposed wells are not within ¼ mile of the nearest surface water source, so the pertinent basin rules do not apply.

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

[illegible]

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	Alluvium	☐	☒
2	Alluvium	☐	☒
		☐	☐

Basis for aquifer confinement evaluation: Ground water in the immediate area is probably unconfined to partially confined. Well logs for nearby wells with similar construction to the applicant's proposed wells show static water levels that occur within the coarse alluvium, and do not indicate significant fine-grained confining beds.

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	1	Foster Creek	430	300-330	3700	☒	☐	☐	☐	☒
2	1	Foster Creek	430	300-330	3000	☒	☐	☐	☐	☒
1	2	Spring 1 (tributary to Foster Creek)	430	400	3000	☒	☐	☐	☐	☒
2	2	Spring 1 (tributary to Foster Creek)	430	400	2350	☒	☐	☐	☐	☒
1	3	Spring 2 (tributary to Foster Creek)	430	350	3300	☒	☐	☐	☐	☒
2	3	Spring 2 (tributary to Foster Creek)	430	350	2600	☒	☐	☐	☐	☒
1	4	Spring 3 (tributary to Foster Creek)	430	350	3300	☒	☐	☐	☐	☒
2	4	Spring 3 (tributary to Foster Creek)	430	350	2700	☒	☐	☐	☐	☒
1	5	Clear Creek	430	250	6700	☒	☐	☐	☐	☒
2	5	Clear Creek	430	250	6800	☒	☐	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: The static water levels in local shallow wells are above the elevation of the nearby surface water sources in the area. The springs near the applicant's proposed wells are tributary to Foster Creek, and discharge water from the terrace deposits at elevations below groundwater levels in the aquifer.

Water Availability Basin the well(s) are located within: 80 CLACKAMAS R > WILLAMETTE R – AT MOUTH; 82 CLEAR CR > CLACKAMAS R - AT MOUTH, 80 CLACKAMAS R > WILLAMETTE R - AT MOUTH

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	1	☐	☐	SY90206A	1000.00	☐	822.00	☐	<25%	☐
2	1	☐	☐	SY90206A	1000.00	☐	822.00	☐	<25%	☐
1	2	☐	☐	N/A	N/A	☐	822.00	☐	<25%	☐
2	2	☐	☐	N/A	N/A	☐	822.00	☐	<25%	☐
1	3	☐	☐	N/A	N/A	☐	822.00	☐	<25%	☐
2	3	☐	☐	N/A	N/A	☐	822.00	☐	<25%	☐
1	4	☐	☐	N/A	N/A	☐	822.00	☐	<25%	☐
2	4	☐	☐	N/A	N/A	☐	822.00	☐	<25%	☐

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?
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐

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													
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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: Impacts to Clear Creek were not calculated because the system is not confined, so impacts are likely to propagate slowly toward the creek. There is not enough data readily available about the hydraulic properties of the terrace gravel in the immediate area to make a more accurate estimate.

- 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: Trimble, Donald E., Geology of Portland, Oregon and Adjacent Areas, Geological Survey Bulletin 1119, 119 p., 1 pl. (1963)

Oregon Water Resources Department online water rights mapping

USGS Redland 7.5-minute topographic quadrangle, 1961, photorevised 1985

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: _____ Logid: _____

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 PERSONNELD7. ☐ 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).**

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

Water Availability as of 6/14/2005 for

CLEAR CR > CLACKAMAS R - AT MOUTH

Watershed ID #:

82

Basin: WILLAMETTE

Exceedance Level: 80

Time: 13:06

Date: 06/14/2005

Month	Natural Stream Flow	CU + Stor Prior to 1/1/93	CU + Stor After 1/1/93	Expected Stream Flow	Reserved Stream Flow	Instream Water Rights	Net Water Available
1	126.00	1.07	0.07	125.00	0.00	0.00	125.00
2	128.00	0.99	0.06	127.00	0.00	0.00	127.00
3	128.00	0.60	0.05	127.00	0.00	0.00	127.00
4	131.00	0.73	0.05	130.00	0.00	0.00	130.00
5	111.00	2.31	0.08	109.00	0.00	0.00	109.00
6	48.10	3.37	0.01	44.70	0.00	40.00	4.72
7	19.00	5.89	0.01	13.10	0.00	40.00	-26.90
8	8.02	4.79	0.01	3.22	0.00	20.00	-16.80
9	5.65	1.99	0.01	3.65	0.00	20.00	-16.40
10	6.23	0.73	0.01	5.50	0.00	0.00	5.50
11	21.50	0.70	0.03	20.80	0.00	0.00	20.80
12	103.00	1.13	0.08	102.00	0.00	0.00	102.00
Stor	99100	1480	28	97500	0	7260	93400

DETAILED REPORT OF INSTREAM REQUIREMENTS

Water Availability as of 6/14/2005 for

CLEAR CR > CLACKAMAS R - AT MOUTH

Watershed ID #:

82

Basin: WILLAMETTE

Exceedance Level: 80

Time: 13:06

Date: 06/14/2005

--ISWRs--								
APP #	82A	0	0	0	0	0	0	MAXIMUM
Status	Cert.							
1	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
3	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
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	40.00	0.00	0.00	0.00	0.00	0.00	0.00	40.00
7	40.00	0.00	0.00	0.00	0.00	0.00	0.00	40.00
8	20.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
9	20.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
10	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
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

Water Availability as of 6/14/2005 for

CLACKAMAS R > WILLAMETTE R - AT MOUTH

Watershed ID #: 80 Basin: WILLAMETTE Exceedance Level: 80
 Time: 13:06 Date: 06/14/2005

Month	Natural Stream Flow	CU + Stor Prior to 1/1/93	CU + Stor After 1/1/93	Expected Stream Flow	Reserved Stream Flow	Instream Water Rights	Net Water Available
1	2670.00	254.00	103.00	2310.00	0.00	1000.00	1310.00
2	2900.00	290.00	103.00	2510.00	0.00	1000.00	1510.00
3	2800.00	259.00	102.00	2440.00	0.00	1000.00	1440.00
4	3010.00	327.00	102.00	2580.00	0.00	1000.00	1580.00
5	2740.00	326.00	102.00	2310.00	0.00	1000.00	1310.00
6	1620.00	298.00	124.00	1200.00	0.00	1000.00	198.00
7	980.00	298.00	123.00	559.00	0.00	1000.00	-441.00
8	822.00	284.00	123.00	416.00	0.00	890.00	-474.00
9	833.00	272.00	113.00	448.00	0.00	890.00	-442.00
10	882.00	252.00	91.10	539.00	0.00	1000.00	-461.00
11	1630.00	253.00	101.00	1280.00	0.00	1000.00	276.00
12	2650.00	256.00	103.00	2290.00	0.00	1000.00	1290.00
Stor	2110000	203000	77900	1830000	0	711000	1180000

DETAILED REPORT OF INSTREAM REQUIREMENTS

Water Availability as of 6/14/2005 for

CLACKAMAS R > WILLAMETTE R - AT MOUTH

Watershed ID #: 80 Basin: WILLAMETTE Exceedance Level: 80
 Time: 13:06 Date: 06/14/2005

--ISWRs--								
APP #	-90206A	80A	0	0	0	0	0	MAXIMUM
Status	SWW	Cert.						
1	1000.00	640.00	0.00	0.00	0.00	0.00	0.00	1000.00
2	1000.00	640.00	0.00	0.00	0.00	0.00	0.00	1000.00
3	1000.00	640.00	0.00	0.00	0.00	0.00	0.00	1000.00
4	1000.00	640.00	0.00	0.00	0.00	0.00	0.00	1000.00
5	1000.00	640.00	0.00	0.00	0.00	0.00	0.00	1000.00
6	1000.00	640.00	0.00	0.00	0.00	0.00	0.00	1000.00
7	1000.00	400.00	0.00	0.00	0.00	0.00	0.00	1000.00
8	890.00	400.00	0.00	0.00	0.00	0.00	0.00	890.00
9	890.00	640.00	0.00	0.00	0.00	0.00	0.00	890.00
10	1000.00	640.00	0.00	0.00	0.00	0.00	0.00	1000.00
11	1000.00	640.00	0.00	0.00	0.00	0.00	0.00	1000.00
12	1000.00	640.00	0.00	0.00	0.00	0.00	0.00	1000.00

Well Location Map

G-17426, Seagraves

1:24,000

