Groundwater Application Review Summary Form

Application # G- 18 633	, 1 - 1
GW Reviewer Phi Marcy Date	Review Completed: 6/22/2018
Summary of GW Availability and Injury Review:	
[] Groundwater for the proposed use is either over appropamounts requested without injury to prior water rights, OR capacity of the groundwater resource per Section B of the a	will not likely be available within the
Summary of Potential for Substantial Interference Reviews	
M There is the potential for substantial interference per Se	ction C of the attached review form.
Summary of Well Construction Assessment:	
[] The well does not appear to meet current well construct review form. Route through Well Construction and Complian	
This is only a summary. Documentation is attached and sho basis for determinations and for conditions that may be nec	

WATER RESOURCES DEPARTMENT June 22 ,20 18 MEMO Application G- 18633 TO: FROM: **SUBJECT: Scenic Waterway Interference Evaluation** YES The source of appropriation is within or above a Scenic Waterway NO X YES Use the Scenic Waterway condition (Condition 7J) X NO Per ORS 390.835, the Groundwater Section is able to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below. Per ORS 390.835, the Groundwater Section is unable to calculate ground water interference with surface water that contributes to a scenic waterway; therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway.

DISTRIBUTION OF INTERFERENCE

Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is unable to make a Preponderance of Evidence finding.

Exercise of this permit is calculated to reduce monthly flows in ______ Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date <u>06/22/2</u>									e <u>06/22/201</u>	8				
FROM	:	Grou	ndwater S	ection		Phillip I. Marcy Reviewer's Name								
SUBJE	CT:	Appl	ication G-	18633		Supersedes review of								
SCBIL				10000		Date of Review(s)								
OAR 69 welfare, to determ the press	90-310-1 safety as mine who umption	30 (1) and head ether the criteria	The Departs th as describe e presumpt	ibed in ORS ion is establi ew is based	resume tha 537.525. D ished. OAR upon avai l	t a propos Department 1 690-310- Lable infor	ed groundw t staff review 140 allows r mation an	ater use will as groundwate the proposed dagency police	er application use be modi icies in place	s under OA fied or cond e at the time	R 690-31 itioned to e of evalu	0-140 meet ation.		
A1.	Applica	nt(s) se	eek(s) <u>0.2</u> 2	22 cfs from	n3	well	(s) in the	Powder				_Basin,		
						subb	asin							
A2.	Propose	ed use _	Cor	nmercial		Seas	sonality: _Y	ear-round						
A3.	Well an	d aquif	er data (att	ach and nu	mber logs	for existin	ng wells; ma	ark proposed	wells as su	ch under lo	gid):			
Well	Logic	i	Applicant	s Propos	ed Aquifer*		osed	Location		ocation, met				
1	MALH 54		Well #		lluvium	0.2	e(cfs)	(T/R-S QQ 15S/45E-5 SE		250' N, 1200 2331'S, 4790				
2	PROPOS	ED	2	Al	lluvium	0.2	222	15S/45E-5 SE	E-NE	1727'S, 4335'E fr NW cor S 5				
3 4	PROPOS	SED	3	A	lluvium	0.2	0.222 15S/45E-5 SE		E-NE	1489'S, 4123'E fr NW cor S 5				
5														
* Alluviu	ım, CRB,	Bedroc	k											
Well 1 2 3	Well Elev ft msl 2114 2119 2117	First Water ft bls 40 NA NA	ft bls	SWL Date 10/31/2017 NA NA	Well Depth (ft) 62 100 100	Seal Interval (ft) 0-18 0-25 0-25	Casing Intervals (ft) 0-45 0-50 0-50	Liner Intervals (ft) NA Unk Unk	Perforation Or Screen (ft) 45-49 35-100 35-100	1	Draw Down (ft) 29 NA NA	Test Type Air NA NA		
Llea data	faces com	liantion	for proposed											
A4.	Commo unlikely typicall success	ents: Properties to gain	Proposed we n significan ted between clay (up to	ells 2 and 3 a t increases to 20-60' belo	o yield sinc ow land sur feet) below	e the only face. Well v the prod	known pro l logs from o uctive alluv	ater depths th ductive aquifo deeper wells o ium targeted	er at this local drilled in this by this appli	ation are san area report cation. Ther	ds and gr thick efore no	avels		
A5. 🛚	manage (Not all	ment o basin i	ules contai	ter hydraulio n such provi	cally conne sions.)	cted to sur	face water	ules relative t ☐ are , or ∑	are not, ac	tivated by th	nis applic	ation.		
A6. 🗌	Name o	f admii	nistrative ar	ea:				ap(s) an aquifo						

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

B1.	Bas	ed upon available data, I have determined that groundwater* for the proposed use:
	a.	is over appropriated, is not over appropriated, <i>or</i> 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.	\square will not or \boxtimes 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) 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):
В3.	effic The	bundwater availability remarks: The existing POA well (MALH 54422), and the two proposed wells appear to have an cient connection to the Snake River, facilitated by coarse-grained sediments that are incised by the river channel. refore, nearby groundwater users and the productive alluvial aquifer system are unlikely to be affected by pumping at the posed rates, locations, and depths.

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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
1	Unconsolidated sands and gravels		\boxtimes
2	Unconsolidated sands and gravels		\boxtimes
3	Unconsolidated sands and gravels		\boxtimes

Basis for aquifer confinement evaluation: There does not exist any substantial confining bed above the proposed aquifer
within the proposed POA wells. In addition, the proposed production lithology is likely incised by the nearby Snake River.

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? YES NO ASSUMED	Potential for Subst. Interfer. Assumed? YES NO
1	1	Snake River	2071	2073	1290		
2	1	Snake River	~2071	2073	1680		
3	1	Snake River	~2071	2073	1800		
	,						

Basis for aquifer hydraulic connection evaluation: The productive zone within the well is likely efficiently connected to the Snake River as the river incises through these coarse-grained sediments.

Water Availability Basin the well(s) are located within: NA (The proposed POA locations do not lie within any WAB)

C3a. **690-09-040** (4): Evaluation of stream impacts for <u>each well</u> 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 \boxtimes box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < 1/4 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	\boxtimes					~7500*		28%	\boxtimes
2	1						~7500*		19%	
3	1						~7500*		17%	

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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?
Comme	nts: <u>T</u>	This section	does not	apply.						,

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-Di	istributed	Wells											
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfer	ence CFS												
Distrib	uted Well	l-											
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well C	as CFS				,,,			,,,		7.0		,,,	
	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS									-			
Interfer	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
	as CFS												
Interfere	ence CFS												
(A) = To	tal Interf.												
	% Nat. Q												
	% Nat. Q												
(D) = ((A) > (C)	V	V	V	-	-	V	V	V	7	V	V	
	/B) x 100	%	%	%	%	%	%	%	%	%	%	%	%
$(\mathbf{L}) - (\mathbf{A})$, D) A 100	70	70	/0	/0	70	/0	/0	/0	/0	/0	/0	70

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The permit should contain special condition(s) as indicated in "Remarks" below; C6. SW / GW Remarks and Conditions: The proposed POA well locations are not located within any WAB, therefore water availability determinations cannot be made as a part of this review. The construction of existing well MALH 54422 and the two proposed POA wells will likely render them in efficient hydraulic connection to the Snake River. However, there is not sufficient evidence that a deeper productive aquifer exists in this area that would support economically feasible production of groundwater. **References Used:** Local well log reports; Application G-18633; Application review LL-1729. Brooks, H.C., McIntyre, J.R., Walker, G.W., 1976. Geology of the Oregon Part of the Baker 1⁰ by 2⁰ Quadrangle. Oregon Department of Geology and Mineral Industries Geological Map Series 7.

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D. WELL CONSTRUCTION, OAR 690-200

D1.	Well #:	Logid:
D2.	a.	LL does not appear to meet current well construction standards based upon: eview of the well log; eld inspection by eport of CWRE ther: (specify)
D3.		LL construction deficiency or other comment is described as follows:
D4. [Route to t	the Well Construction and Compliance Section for a review of existing well construction.

Water Availability Tables

NA

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Well Location Map

