# **Groundwater Transfer Review Summary Form**

## Transfer/PA # T- <u>14394 (RA)</u>

GW Reviewer <u>Aaron Orr / Travis Brown</u> Date Review Completed: <u>8/8/2024</u>

### Summary of Same Source Review:

The proposed change in point of appropriation is not within the same aquifer as per OAR 690-380-2110(2).

## Summary of Injury Review:

The proposed transfer will result in another, existing water right not receiving previously available water to which it is legally entitled or result in significant interference with a surface water source as per 690-380-0100(3).

### Summary of GW-SW Transfer Similarity Review:

□ The proposed SW-GW transfer doesn't meet the definition of "similarly" as per OAR 690-380-2130.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations.

	OREGON WATER RESOURCES DEPARTMENT Oregon Water Resources Department 725 Summer Street NE, Suite A Salem, Oregon 97301-1271 (503) 986-0900 www.wrd.state.or.us		Ground Water Review Form: Water Right Transfer Permit Amendment GR Modification Other		
Application: T- <u>14394</u>				Applicant Name: City of Junction City	
Proj	posed Changes		⊠ APOA □ POU	□ SW→GW □ OTHER	RA
Reviewer(s):   Aaron Orr / Travis Brown   Date of					Date of Review: <u>8/8/2024</u>
				Date Re	turned to WRSD: <u>8/8/2024</u>
<ul> <li>The information provided in the application is insufficient to evaluate whether the proposed transfer may be approved because:</li> <li>The water well reports provided with the application do not correspond to the water rights affected by the transfer.</li> </ul>					
	The application does not include water well reports or a description of the well construction details sufficient to establish the ground water body developed or proposed to be developed				
	Other				
1.	Basic description of the changes proposed in this transfer: <u>Applicant proposes to add an</u> additional point of appropriation (APOA) to Certificates 46412 and 65071. The APOA will be at the proposed "Bailey Park Well." <b>LANE 6385</b> is the From-POA associated with Certificate 46142 and <b>LANE 6371</b> is the From-POA associated with Certificate 65071. The combined maximum allowable rate is 2.03 cfs.				
2.	Will the proposed POA develop the same aquifer (source) as the existing authorized POA? Yes Do Comments: <u>The proposed APOA will source water from the same</u> <u>aquifer as the authorized POAs (Willamette Aquifer, Lower Sedimentary Unit)</u>				

b) If yes, estimate the portion of the right supplied by each of the sources and describe any limitations that will need to be placed on the proposed change (rate, duty, etc.):  $\underline{N/A}$ 

4. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with another ground water right?
☑ Yes □ No Comments: <u>The maximum allowed combined rate of Certificates 46412</u> and 65071 is 2.03 cfs (911 gpm). The closest water well (LANE 7798) is 970 feet from the proposed POA. Modeling with conservative hydraulic parameters indicated drawdown at LANE 7798 would likely be less than 10 feet when pumping the proposed To-POA at the maximum allowable rate of 2.03 cfs.

b) If yes, would this proposed change, at its maximum allowed rate of use, likely result in another groundwater right not receiving the water to which it is legally entitled?

☐ Yes ⊠ No If yes, explain: <u>The modeled interference is unlikely to result in injury</u> for a fully penetrating, reasonably efficient neighboring well. LANE 7798 and other neighboring wells do not fully penetrate the aquifer.

5. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another surface water source**?

 $\Box$  Yes  $\boxtimes$  No Comments: <u>No significant increase in interference with another surface</u> water source is expected.

b) If yes, at its maximum allowed rate of use, what is the expected change in degree of interference with any **surface water sources** resulting from the proposed change?

Stream: \_\_\_\_\_

□ Minimal □ Significant

Stream:

☐ Minimal ☐ Significant

Provide context for minimal/significant impact:

6. For SW-GW transfers, will the proposed change in point of diversion affect the surface water source similarly (as per OAR 690-380-2130) to the authorized point of diversion specified in the water use subject to transfer?

 $\Box$  Yes  $\Box$  No Comments: <u>N/A</u>

- 7. What conditions or other changes in the application are necessary to address any potential issues identified above: N/A
- 8. Any additional comments:

## **References**

- Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and Hinkle, S.R., 2005, Ground-water hydrology of the Willamette Basin, Oregon, Scientific Investigations Report 2005-5168: U. S. Geological Survey, Reston, VA.
- Woodward, D.G., Gannett, M.W., and Vaccaro, J.J., 1998, Hydrogeologic framework of the Willamette Lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-B, 82 p.

## Well Location Map



T-14394

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community Copyright:© 2013 National Geographic Society, i-cubed

#### **Theis Interference Analysis**

**Hydraulic Conductivity**: Values ranged from 25 ft/day (LANE 8061 pump test, assuming 82-foot aquifer thickness) to 220 ft/day (Conlon et al., 2005). The final transmissivity estimates of 8,823, 20,230, and 29,750 were the 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> quartiles from 200-model runs using a range of the previously stated hydraulic conductivity values.

Storativity: 0.0003 to 0.07 (Woodward et al., 1998; Conlon et al., 2005, Table 1).

#### Time: 365 days.

Rate: 2.03 cfs (maximum rate) for the To-POA; 0.67 cfs (one-third maximum rate) for the To-POA

#### Distance: 970 feet from the To-POA to LANE 7798.

 
 Theis Time-Drawdown Workshee
 v.5.00

 Calculates Theis nonequilibrium drawdown and recovery at any arbitrary radial distance, r, from a pumping well for 3 different T values and 2 different S values.

 Written by Karl C. Wozniak September 1992. Last modified December 17, 2019
 Theis Drawdown and Recovery at r = 970 ft From Pumping Well Pump on = 525600 m ies = 365.00 day 0.00 0.50 Input Data: Total pumping time Radial distance from pumped well Pumping rate Hydraulic conductivity Auruifar thistopage 1.00 Var Name Scenario 1 Scenario 2 Scenario 3 Units feet 1.50 2.00 Drawdown. Q conversion 911.06 gpm 2.03 cfs 2.50 ft/day 3.00 Aquifer thickness Storativity 121.80 cfm b ft 3.50 175,392.00 cfd S 1 0.01 4.00 4.03 af/d Transmissivity Conversion T\_f2pd T\_ft2pm 4.50 ft2/day ft2/min Recalculate 5.00 0.100 Lino 10.000 100.000 1000.000 1000 gpd/ft gpdpft Use the Recalculate button if recalculation is set to manual Elapsed Time Since Pumping Started, days Theis Drawdown and Recovery at r = 970 ft From Pumping Well wn and Recovery at r = 970 ft From Pumping Wel Theis Dra Theis Drawdown and Recovery at r = 970 ft From Pumping Well Pump on = 525600 minutes = 365.00 days Pump on = 525600 minutes = 365.00 days = 525800 = 365.00 days 0.00 0.00 0.00 1.00 1.00 1.00 2.00 2.00 2.00 feet feet 3.00 4.00 3.00 feet 3.00 4.00 down, 4.00 5.00 5.00 5.00 Drawd 6.00 6.00 6.00 Drav Dra 7.00 7.00 3S1 2S2 2S1 1S2 13S1 12S2 T3S1 T2S2 T2S1 T2S1 T1S2 T1S1 7.00 = 8.00 8.00 = 8.00 9.00 9.00 9.00 10.00 10.00 10.0 1000000 2000000 3000000 1000 10000 100000 100000100 10 100 10 1000 10000 100000 10000 100 Elapsed Time Since Pumping Started, minutes Elapsed Time Since Pumping Started, minutes t/t down and Recovery at r = 970 ft From Pumping Well Pump on = 525800 minutes = 385.00 days Theis Drawdown and Recovery at r = 970 ft From Pumping Well Pump on = 525600 minutes = 365.00 days Theis Drawdown and Recovery at r = 970 ft From Pumping Well Pump on = 525800 minutes = 365.00 days Theis Dra 0.00 0.00 0.00 1.00 1.00 1.00 2.00 2.00 2.00 feet feet feet 3.00 3.00 3.00 4.00 4.00 4.00 Drawdown, lown. 5.00 5.00 5.00 6.00 7.00 6.00 6.00 Drav Dra 7.00 3S1 2S2 2S1 7.00 T3S1 T2S2 T2S1 8.00 8.00 \_\_ 8.00 9.00 T1S2 T1S1 9.00 9.00 10.00 10.00 10.00 100.000 200.000 300.000 0.100 10.000 100.000 1000.000 1000 1000 10000 t/ť Elapsed Time Since Pumping Started, days Elapsed Time Since Pumping Started, days

Figure 1. Estimated time-drawdown at maximum allowable rate.

## Ground Water Review Form



Figure 2. Estimated time-drawdown at one-third maximum allowable rate.