Groundwater Transfer Review Summary Form

Transfer/PA # T- _14686 (RA)_

GW Reviewer _Steve Ahlquist_ Date Review Completed: _9/4/2025_

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 Water Level Decline Condition Review:

☐ Water levels at the original point(s) of appropriation have exceeded the allowed decline threshold defined by conditions in the originating water right.

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.

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Ground Water Review Form:

☒ **Water Right Transfer**
☐ **Permit Amendment**
☐ **GR Modification**
☐ **Other**

Application: T-14686 Applicant Name: City of Hubbard

Proposed Changes: ☐ POA ☒ APOA ☐ SW→GW ☒ RA
☐ USE ☐ POU ☐ OTHER

Reviewer(s): Steve Ahlquist Date of Review: 9/4/2025

Date Returned to WRSD: 9/12/2025

The information provided in the application is insufficient to evaluate whether the proposed transfer may be approved because:

☐ The water well reports provided with the application do not correspond to the water rights affected by the transfer.

☐ 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 _____

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1. Basic description of the changes proposed in this transfer: Applicant proposes to add two additional points of appropriation (APOA) to Certificate 84092 and one APOA to Certificate 90750.

   Certificate 84092 currently authorizes a maximum rate of 1.56 cfs from three points of appropriation (POA): MARI 56602 (Well 1), MARI 923 (Well 2), and MARI 955 (Well 3). The proposed transfer would add MARI 55251 (Well 4) and a new well to be drilled (Well 1A) as APOAs for Certificate 84092.

   Certificate 90750 currently authorizes a maximum rate of 0.668 cfs for municipal use from one POA: MARI 55251(Well 4). The proposed transfer would add a proposed well to be drilled (Well 1A) as APOA for Certificate 90750.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
   ☒ Yes ☐ No Comments: The authorized POAs and the APOAs will produce water from the Willamette alluvial aquifer system (Gannett and Caldwell, 1998).

3. a) Is the existing authorized POA subject to a water level decline condition?
   ☒ Yes ☐ No Comments: MARI 55251 (Well 4) is subject to a water level decline condition as a POA for Certificate 90750 and Permit G16138.

b) If yes, for each POA identify the reference level, most recent spring-high water level, and whether an applicable permit decline condition has been exceeded: The reference level for MARI 55251 is 66.00 feet below land surface, as stipulated in the water use impact plan for Certificate 90750 that was approved on October 12, 2001. The most recent spring-high water level was measured at 51.00 ft bls on February 20, 2025. Permit decline conditions for the authorized POAs have not been exceeded.

4. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
☐ Yes ☒ No Comments: The authorized POAs all obtain water from the Willamette alluvial aquifer system.

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.): N/A

5. 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: MARI 55251 is closer to MARI 941 than the authorized POAs under Certificate 84092. MARI 941 is a POA under Certificate 38364 which authorizes irrigation of 8.3 acres at a maximum rate of 0.10 cfs. The well log for MARI 941 reports a well depth of 255 feet and a static water level of 35 feet on March 22, 1967. MARI 55251 is located approximately 812 feet northeast of MARI 941, whereas MARI 56602 is approximately 1700 feet northeast from MARI 941. The reduced intervening distance will likely result in an increase in interference with this groundwater right.

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: To assess potential injury at MARI 941 due to the proposed use, drawdown resulting from pumping at MARI 55251 was estimated using the Theis (1935) solution for drawdown in a confined aquifer (see attached Theis Drawdown Analysis). MARI 55251 is an authorized POA for municipal use on Certificate 90750 (0.668 cfs) and Permit G16138 (0.223 cfs). To be conservative, the total combined maximum rate under all authorized and proposed use at MARI 55251 (2.451 cfs) was used for the Thies analysis. Results of the Theis analysis indicate that pumping at the maximum allowed rate of use at MARI 55251 would likely result in less than 50 feet of drawdown at MARI 941. The reported well yield for MARI 941 is less than half of the maximum allowed rate of use so the actual interference at MARI 941 is expected to be much less than 50 feet. The proposed use is not expected to result in substantial or undue interference with MARI 941 or other nearby groundwater rights.

6. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another surface water source**?
☒ Yes ☐ No Comments: MARI 55251 would be closer to Mill Creek and an unnamed tributary to Mill Creek than the authorized POA locations. The reduced intervening distance could result in an increase in interference with these surface water sources.

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: Unnamed tributary to Mill Creek ☒ Minimal ☐ Significant

Stream: Mill Creek ☒ Minimal ☐ Significant

Provide context for minimal/significant impact: The proposed change is unlikely to cause a significant increase in interference with nearby surface water sources because nearby streams do not fully penetrate the Willamette silt unit so the connection between surface water and the underlying aquifer is inefficient. Approximately 80 feet of fine-grained sediments underlying the streams will diffuse impacts over a larger area and longer period.

7. 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?
   ☐ Yes ☐ No Comments: N/A
8. What conditions or other changes in the application are necessary to address any potential issues identified above: N/A
9. Any additional comments: N/A

References Used:

Application File: T-14686

Certificates: 84092, 84093, 90750

Permit: G-16138

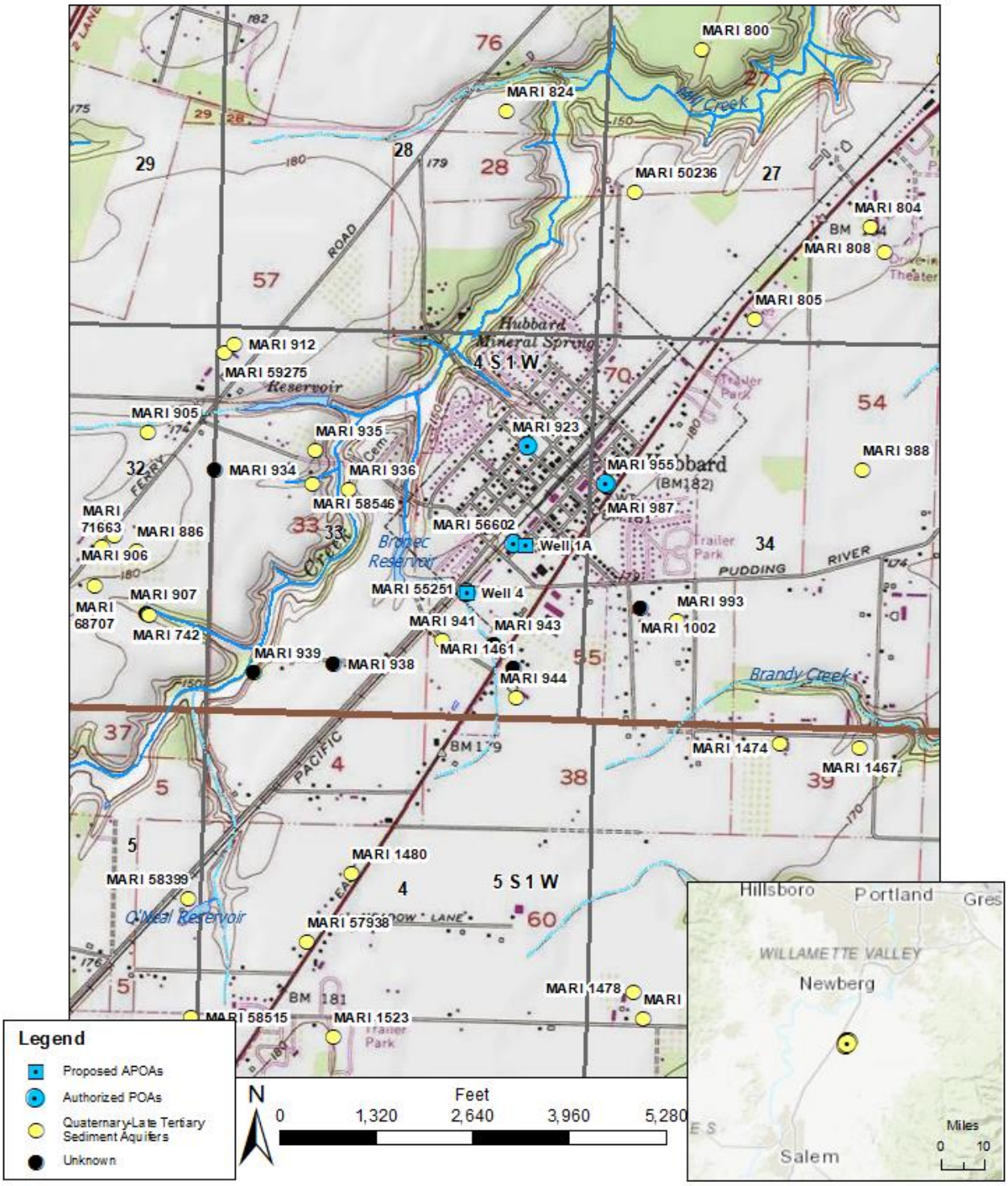
Pump Tests: MARI 905, MARI 1017, MARI 2011, MARI 17630, MARI 50236, MARI 55251, MARI 58399, MARI 58546

Theis, C.V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage, American Geophysical Union Transactions, vol. 16, p. 519-524.

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

T14686 City of Hubbard



Theis Drawdown Analysis – MARI 55251 Interference with MARI 941

Theis Time-Drawdown Worksheet 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 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

Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units	
Total pumping time	t		365		d	
Radial distance from pumped well:	r		812		ft	Q conversions
Pumping rate	Q		2.451		cfs	1,100.01 gpm
Hydraulic conductivity	K	51.875	87.5	129.625	ft/day	2.45 cfs
Aquifer thickness	b		40		ft	147.06 cfm
Storativity	S_1		0.001			211,766.40 cfd
	S_2		0.0001			4.86 af/d
Transmissivity Conversions	T_f2pd	2075	3500	5185	ft2/day	
	T_ft2pm	1.440972	2.430556	3.600694	ft2/min	Recalculate
	T_gpdpft	15521	26180	38783.8	gpd/ft	

Use the Recalculate button if recalculation is set to manual