

Groundwater Transfer Review Summary Form

Transfer/PA # T- 14072

GW Reviewer Dennis Orlowski Date Review Completed: 11/17/2023

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
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-14072 Applicant Name: Fairview Addition LLC – Cascadia Canyon LLC

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

Reviewer(s): Dennis Orlowski

Date of Review: 11/17/2023

Date Reviewed by GW Mgr. and Returned to WRSD: 11/17/2023

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 _____

1. Basic description of the changes proposed in this transfer: This application relates to GR-2088 (certificate GR-2006), which authorizes the use of groundwater from a single POA (MARI 11348) for primary irrigation (40.0 acres) and domestic uses.

This GR modification application proposes the following changes to GR-2088: (1) change of POA; (2) change in POU; (3) change in character of use.

This groundwater technical review focuses only on the proposed change of POA. The application proposes changing from the currently-authorized POA, MARI 11348, to two existing wells: MARI 12553 (“Well 1) and MARI 70337 (“Well 2”).

Note: both the authorized and proposed POA locations are within the South Salem Hills Groundwater Limited Area (GWLA). Groundwater in the basalt aquifers in the South Salem Hills GWLA is classified for exempt uses, irrigation, and rural residential fire protection systems only. Permits may be issued, for a period not to exceed five years, for fire protection and for drip or equally efficient irrigation (OAR 690-502-0200). However, these GWLA limitations are likely not applicable to this application due to the different groundwater sources for the authorized and proposed POA, as discussed in the next section.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
☐ Yes ☒ No Comments: Markedly-different well elevations, locations, static water levels and geologic descriptions indicate that the two proposed POA will not develop the same source aquifer as the existing authorized POA.

The authorized POA, MARI 11348, is located approximately 3.5 miles north of both proposed POA locations. MARI 11348 is 375 feet deep, and obtains groundwater from water-bearing interflow zones in the Columbia River Basalt Group (CRBG) aquifer system (Gannet and Caldwell, 1998; Conlon and others, 2005; Smith and Roe, 2015). The ground surface elevation at MARI 11348 is approximately 210 ft msl, and the bottom of the well is at about elevation -165 ft msl (see attached map and cross-section).

In addition to being located several miles away, the ground surface elevations at the two proposed POA, MARI 12553 and MARI 70337, are hundreds of feet higher than at MARI 11348, at about elevation 375 ft msl for MARI 12553 and 495 ft msl for MARI 70337. Furthermore, both proposed POA are *significantly* shallower than MARI 11348, at only 68 feet deep for MARI 12553 and 94 feet deep for MARI 70337 (an original log is not available for MARI 70337, but the application indicates a total depth of 94 feet (see Table 3 of application); MARI 70337 is not shown on the attached cross section due to the lack of lithologic information). These conditions place the *bottoms* of both proposed POA wells *about 100 to 200 feet above the ground surface elevation at the authorized POA (MARI 11348) location*; the water-producing zones in MARI 11348 are even more vertically-displaced, ranging from about 350 to 450 feet below the bottoms of both proposed POA. Consequently, the static water-level elevations between the authorized and two proposed POA are also necessarily much different (by at least 100 feet, and perhaps much more), further indicating different aquifer sources at the two locations.

In addition to grossly dissimilar static water levels, the formation description on the MARI 12553 log does not show the presence of basalt; it instead shows clay underlain by “hard blue shale” and “gray limestone” or “limy shale.” Given its location and completion details, MARI 12553 obtains groundwater not from the CRBG aquifer but instead from the Tertiary Marine Volcanics and Sedimentary Rock aquifer system. This particular source aquifer has also been identified in other nearby wells, including MARI 56912 and MARI 12320. Although a lithologic description is not available for MARI 70337, a nearby well log (MARI 12555) shows the presence of clay, basalt, and shale over roughly the same depth intervals, all of which are consistent descriptors for the Marine Volcanics and Sedimentary Rock aquifer system.

From these facts it is concluded that the two proposed POA, MARI 12553 and MARI 70337, do not obtain groundwater from the same source aquifer tapped by the authorized POA MARI 11348.

3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
☐ Yes ☒ No Authorized POA MARI 11348 obtains groundwater only from the CRBG 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
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: Not relevant. Because the authorized and proposed POA are several miles apart and obtain groundwater from distinctly-different source aquifers, it is not relevant to consider potential changes in injury due to this proposed change.
- 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: N/A

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**?

☐ Yes ☐ No Comments: Not relevant. Because the authorized and proposed POA are several miles apart and obtain groundwater from distinctly-different source aquifers, it is not relevant to consider potential changes in stream interference due to this proposed change.

- 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: N/A

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?

☐ Yes ☐ No Comments: N/A

7. What conditions or other changes in the application are necessary to address any potential issues identified above: None.

8. Any additional comments: None.

References

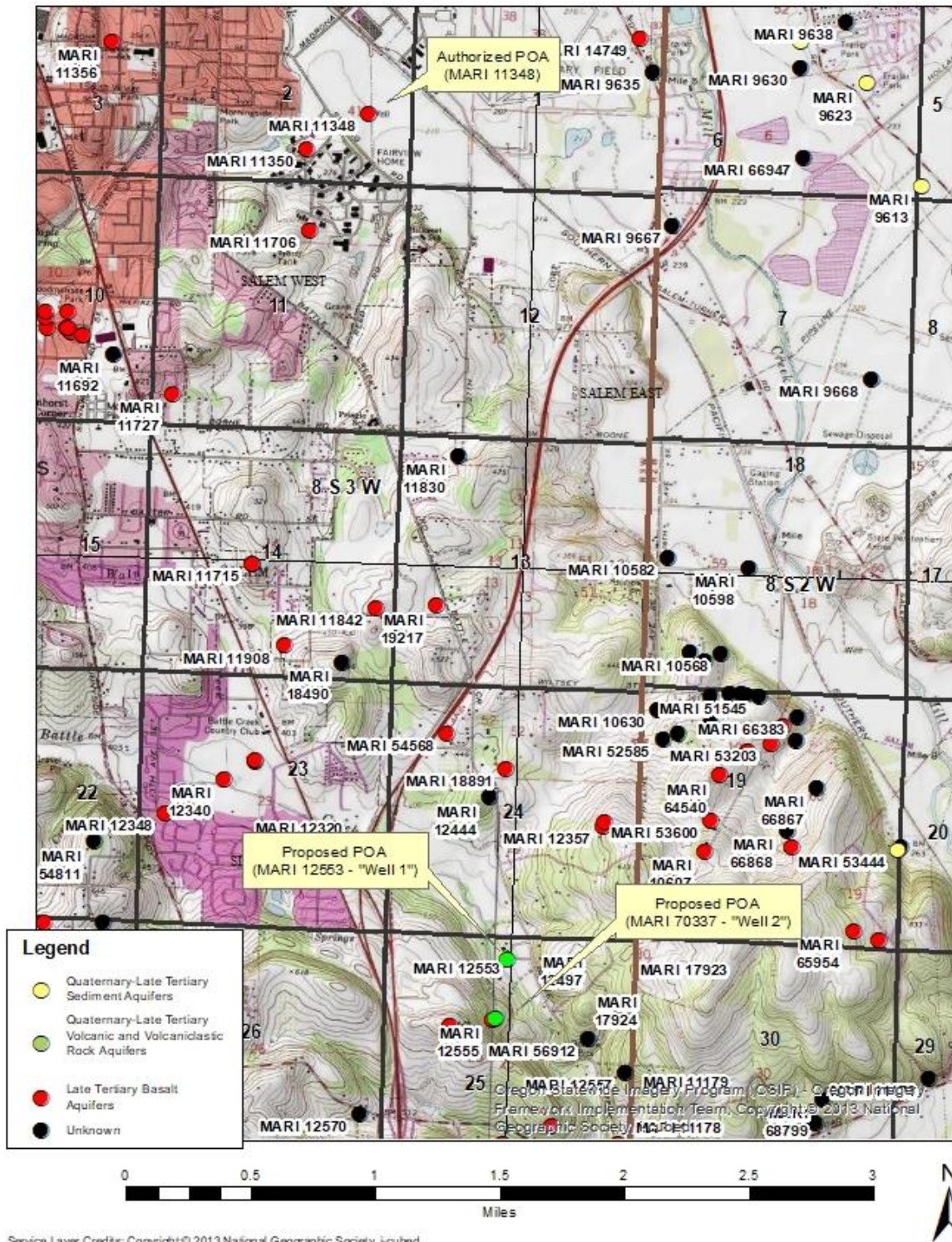
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Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and Hinkle, S.R., 2005, *Ground-water hydrology of the Willamette Basin, Oregon*, Scientific Investigations Report 2005-5168: U. S. Geological Survey, Reston, VA.

Gannett, M.W. and Caldwell, R., 1998, *Geologic framework of the Willamette Lowland aquifer system, Oregon and Washington*, Professional Paper 1424-A, 32 p: U. S. Geological Survey, Reston, VA.

Smith, R.L. and Roe, W.P., 2015, *Geologic Map of Oregon, OGDC-6*, Oregon Geologic Data Compilation, Release 6, Oregon Department of Geology and Mineral Industries.

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Cross Section showing FROM-POA MARI 11348 and TO-POA MARI 12553

