

Tina Kotek, Governor

November 15, 2024 - Revised

Anne Boutwell
Project Coordinator
AKS Engineering & Forestry, LLC
Via email: boutwella@aks-eng.com

**Re: Well #2 (PR#62-2024)
Al's Garden Centers & Greenhouses (PWS ID#95673)
Conditional Approval**

Dear Anne:

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of additional plan review information for the Well #2 project for Al's Garden Centers & Greenhouses. On October 21, 2024, our office received a GSI Technical Memorandum, including a well log and sample data, along with a pump performance worksheet and engineered plans. A request for a waiver from construction standards was also submitted.

A regional geologist reviewed the well log construction details and noted the following:

- The below-ground well construction meets current construction standards. The well was constructed to a depth of 424 feet. The casing extends from the surface to the bottom of the hole and is sealed to a depth of 209 feet. The casing seal is completed 19 feet into a competent basalt layer of low permeability.
- The well draws water from a deep confined basalt aquifer. The first water-bearing zone below the casing seal is reported to be 240 feet below ground level. Water in the aquifer is under pressure, rising roughly 207 feet above the water-bearing zone.
- Results from a sensitivity analysis indicates that the well construction has a low sensitivity to local land use practices and the aquifer is not highly sensitive to nearby land use practices.

Since the well is drilled into a confined aquifer, the roadway/parking lot issue is considered resolved.

The plans are approved with the following conditions:

- A raw water sample tap is required close to the well head, prior to any storage or

treatment.

- Piping arrangements must include provisions for pumping the total flow from the well to waste.
- A method of determining the total output of the well must be provided (typically a flowmeter is used for this purpose).
- A casing vent must be provided and the return bend must be fitted with a screen. For a pitless adapter, the cap must be vented.
- A coliform bacteria sample result (using the presence/absence method) must be submitted. This sample must be obtained from the well head raw water sample tap.
- Additional item added, discussed during call with Spencer Blizzard this morning: An RP or air gap is required to protect the potable source from the non-potable Tualatin River source. On the plans, there appear to be Double Check Valves noted, and this particular piping situation requires an RP or airgap. The device (or air gap) should likely be along the piping from the well before it meets other piping. Feel free to discuss/verify the placement via email if needed.

Until we receive verification that the conditions have been met and final approval has been issued, the facility is not approved for use. Upon completion of the project, the engineer must verify in writing that construction was completed according to the submitted plans. If substantial changes are made, a set of as-built drawings must be submitted. Documentation demonstrating how the above conditions were met should reference Plan Review #62-2024 and can be emailed to me at Carrie.L.Gentry@oha.oregon.gov

Note that the waiver from construction standards has been approved, and the link to that approval will be emailed with the link to this letter.

If you have any questions, please feel free to call me at (971) 201-9794.

Sincerely,



Carrie Gentry, PE
Regional Engineer
OHA-Drinking Water Services
Carrie.L.Gentry@oha.oregon.gov

cc: Steve Wong, REHS, Oregon Department of Agriculture
Sarah Schwab, REHS, Oregon Department of Agriculture
Mark Bigej, Al's Garden Centers & Greenhouses