



March 14, 2019

Ted Ressler, RG, CWRE
GSI Water Solutions, Inc.
55 SW Yamhill Street, Suite 300
Portland, OR 97204

**Re: Polk Well #4 (PR#38-2019)
City of Independence (PWS ID#41-00399)
Site Plan Approval**

Dear Mr. Ressler,

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of plan review information for the proposed Polk Well #4 for the City of Independence. On March 4, 2019, our office received your letter, site plan, well drilling specifications, land use compatibility statement, water right authorization, and the \$3,300 plan review fee payment. A description of the project is included on page 3 of this letter.

A regional geologist in our program, Tom Pattee, reviewed the proposed well construction and noted the following, which should be shared with the well driller:

- Proposed construction appears to meet WRD [Water Resources Department] construction standards.
- Nearby well logs suggest the water-bearing zone is roughly 20-ft below ground, therefore, the proposed casing seal depth is reasonable.
- Based on nearby Independence Water System wells, it is likely that the water-bearing zone will be unconfined.
- A determination regarding the potential of groundwater under the influence of surface water (GWUDI) from the Willamette River cannot be made until the well has been constructed and the well log submitted for review. However, based on what is currently known about the site, the aquifer is likely to be unconfined and composed of sands and gravels. Unconfined aquifers are considered to be highly sensitive to nearby potential contaminant sources. The setback for coarse sand and gravel is 200-ft and the estimated distance from the well to the Willamette River is 268-ft, thereby minimizing GWUDI concerns.

Additionally, I noted that it is anticipated that a "temporary surface completion" will be in place with bentonite initially used for the upper 5-ft of the well casing seal until a pitless adapter unit is installed as part of the permanent well pump system. Please ensure that a Special Standard is

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either not required or approval is obtained from WRD for this interim construction phase as indicated in Section 2.5 of the *Scope of Work* of the *Well Drilling Specifications* document received as part of this submittal.

The project is granted site plan approval. Once construction of the well is complete, please submit:

1. The well driller's report (well log).
2. Well pumping test information including static water level, pumping rate, drawdown and rate of recover.
3. Pump information.
4. Raw (Untreated) water quality data including coliform bacteria, nitrate, nitrite, arsenic, IOC, VOC, SOC, gross alpha, uranium, and radium 226/228. These are to be taken from the new well's raw water sample tap at the wellhead. Subsequent monitoring will depend upon the results of this initial round of sampling.
5. Engineered plans that show the above-ground structure detail including the well house, concrete slab, drainage, pump-to-waste piping and plans and specifications for connection of the new well to the water system. This information should clearly indicate if this source is to be designated as SRC-BE under Entry Point E (EP-E) or if the well is to be added as its own entry point to the distribution system. For more examples of source designations, see our data-online page at:
<https://yourwater.oregon.gov/inventory.php?pwsno=00399&show=Y>
6. A copy of the Water Right Permit (permanent or limited use) from WRD.

The above items should reference Plan Review #38-2019 and can be emailed to me at evan.e.hofeld@state.or.us or mailed to:

Attn: Evan Hofeld
OHA-Oregon Drinking Water Program
PO Box 14450
Portland, OR 97293-0450

If you have any questions, please feel free to call me at 971-673-0419.

Sincerely,



Evan Hofeld, PE
Regional Engineer
Drinking Water Services

cc: Matt Carpenter, City of Independence, PO Box 7 Independence, OR 97351

Project Description – Polk Well #4

Purpose and location:

The project includes drilling a new well (Polk Well #4) to increase the redundancy, resiliency, and overall capacity of the City of Independence water system. The well is planned for construction in the summer of 2019 within the City’s existing Polk Wellfield adjacent to the Willamette River on Tax Lot 2009 (T8S, R4W, Section 21), approximately 268-ft west of the Willamette River as shown in Figure 1. The proposed site allows for a 100-ft radius of control and setback from roadways and other hazards.

Proposed Construction:

Construction of the well is proposed as shown in Figure 2 will eventually be completed as a pitless adapter with the 12-inch OD steel casing extending from a completed depth of 60-ft below ground surface and terminating 2-ft above the 100-ft flood level. The well will be completed like the City’s existing Polk Wells #2 and #3.

Water Right:

Polk Well #4 is anticipated to be added to the City’s existing 2.0 CFS water right permit, Permit G-12134, priority date 12/19/1991; initially as a limited licensed use to allow near-term use and eventually as a long-term permanent use.



Figure 1. 50-, 100-, 200-, and 500-ft radii shown around proposed well location

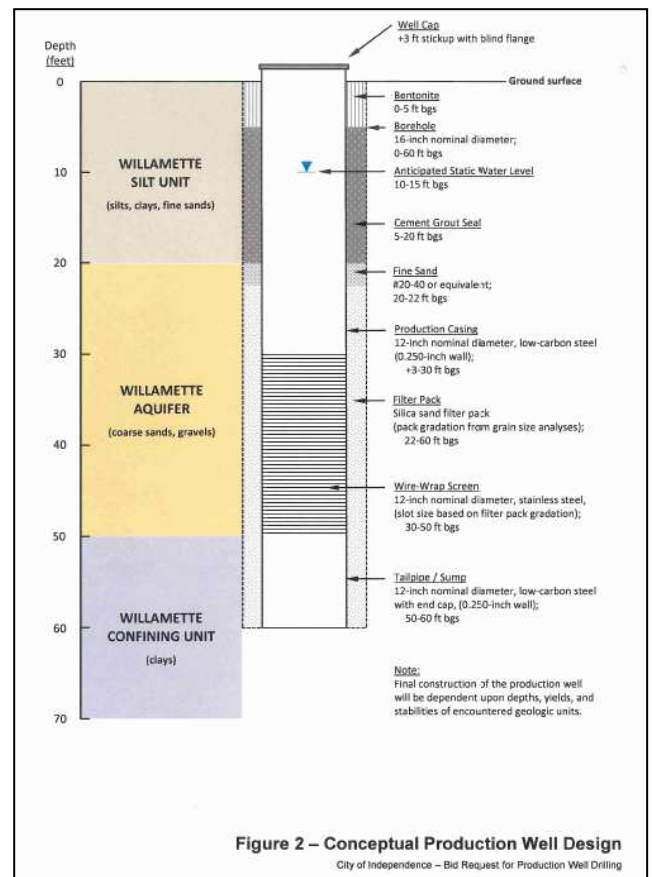


Figure 2 – Conceptual Production Well Design
City of Independence – Bid Request for Production Well Drilling