PUBLIC HEALTH DIVISION
Drinking Water Services
Tina Kotek, Governor

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February 16, 2024

Matthew S. Burgess, EI
Staff Engineer
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Via email: MBurgess@boegerassociates.com

Re: Taylors Grove Water System Improvements (PR#11-2024)
Taylors Grove Water Works (PWS ID#05782)
Site Plan Evaluation for Proposed Well
Conditional Approval for Reservoir, Waterlines and Pump Station

Dear Matt:

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of plan review information for the Water System Improvements project for Taylor Grove Water Works. On January 19, 2024, our office received plans, a land use compatibility statement, a geotechnical report and a plan review fee of $825.

The project includes drilling a well to an estimated depth of approximately 205 feet below ground surface (bgs). The water system does not own the 100' radius of control around the well and does not appear to have restrictive easements with the three nearby landowners. A public roadway is within 100 feet of the proposed well site. A surface water source appears to be within 500 feet of the proposed well, which could present a groundwater under the direct influence of surface water (GWUDI) concern. I could not determine if the well is located in a 100-year flood plain.

Also included in the project are new 2" and 3" PVC waterlines and associated appurtenances, a pump station, and a 12,000-gallon bolted steel reservoir.

This letter includes a site plan evaluation for the well along with conditional approval for the remaining items (waterlines, pump station and reservoir). Note that by utilizing the combined fee for multiple projects, only one final approval letter can be issued.

Site Plan Evaluation for Well:

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

- Based on nearby well logs (MARI70342 and MARI70470), the proposed well site occurs in an area that is underlain by unconsolidated sediments to a depth of 35 to 40 feet. Consolidated claystone/siltstone lies below the unconsolidated sediments. Water-bearing zones exist in both the unconsolidated materials and the deeper consolidated materials. The water-bearing zone within the consolidated materials appears to occur between 80 and 120 feet below ground level.
- The proposed casing seal depth of 60 feet appears reasonable based on the nearby well logs that suggest the upper surface of the consolidated materials that the well will be designed to capture water from occurs at a depth of 35 to 40 feet.
- The proposed well construction appears adequate as the well will be cased and sealed through the shallow water-bearing zone present in the unconsolidated sediments and more than 5 feet into consolidated materials. The deeper water-bearing zone appears to be confined. Therefore, an adequately constructed well at this location is less likely to have a GWUDI concern.

As noted above, the water system does not have ownership of the required 100' radius of control, does not have a permanent restrictive easement with the nearby property owners and the proposed site is not further than 100 feet from a roadway. Setbacks to hazards such as septic systems, chemical use and storage, and vehicle storage are not provided. If any of these hazards also exist, then they should be disclosed so that this letter can be updated. A waiver for the radius of control, any sanitary hazards within the 100-foot setback, and the roadway within 100 feet cannot be approved prior to drilling a well. If the well is properly drilled into a confined aquifer, then OHA/DWS may be able to waive the requirement. If the well is not drilled into a confining aquifer, then OHA/DWS may not be able to approve the well for use by the water system.

Due to these issues **the site plan/location cannot be approved at this time.** If a properly constructed confined aquifer well is drilled, please submit:

1. The well driller's report (well log).
2. A waiver request for the above noted setback issues, as appropriate.
3. Well pumping test information including static water level, pumping rate, drawdown and rate of recover.
4. Pump information.

5. Raw (Untreated) Water Quality Data including coliform bacteria, IOCs (including nitrate, nitrite and arsenic), SOCs, VOCs and radionuclides. These are to be taken from the new well's raw water sample tap at the wellhead.
6. A copy of the Water Right Permit from WRD, if a water right permit is required.
7. If the well is located on a site that is subject to flooding, the design of the casing must be altered to extend at least 2 feet above the anticipated 100-year flood level.
8. Information must be submitted on the generator that appears to be within 100 feet of the proposed well site. Any above-ground fuel storage tanks associated with the generator must have secondary containment that will accommodate 110 percent of the fuel tank storage.

In addition to the above, I have the following comments:

- An analysis of the potential for GWUDI will not be finalized until a well log has been submitted for review. Note that GWUDI determination includes a year of raw water coliform sampling followed by at least one round of Microscopic Particulate Analysis. If the well ends up being determined to be GWUDI, then surface water treatment would be required.
- If this well is granted final approval at the end of the plan review process, the water system will be required to conduct increased lead and copper sampling consisting of two 6-month rounds at the original 5 sample sites with the new well in use.

Conditional approval for Waterlines, Pump Station and Reservoir

The plans for the waterlines, pump station and reservoir are approved with the following conditions:

Waterlines

- All items in contact with potable water must meet NSF Standard 61 or equivalent.
- The design must allow for 20 psi to be maintained at all service meters.
- Air-relief valves, if needed, must be installed at high points where air can accumulate. The breather tube on air-relief valves must be extended above ground surface and provided with a screened, downward facing elbow.
- Disinfection of the waterline must be completed according to AWWA C651. Results from the coliform sampling must be provided to our office.

Pump Station

- All items in contact with potable water must meet NSF Standard 61 or equivalent.
- The pump station must be located above the maximum anticipated 100-year (1 percent) flood level.

Reservoir

- Steel reservoirs must be constructed in conformance with the AWWA Standards D100 and D103.
- Screened vents must be provided above the highest water level to permit circulation of air above the water in finished water storage facilities.
- An access manhole must be provided to permit entry to the interior for cleaning and maintenance. When the access manhole is on the roof of the reservoir there must be a curbing around the opening and a lockable watertight cover that overlaps the curbing.
- A silt stop must be provided at the outlet pipe.
- Disinfection of the reservoir prior to use must be accomplished according to AWWA Standard C652. Coliform bacteria sample result(s) must be submitted after disinfection of the reservoir is complete.

The above items should reference Plan Review #11-2024 and can be emailed to me at Carrie.L.Gentry@oha.oregon.gov.

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

Carrie Gentry, PE
Regional Engineer
Drinking Water Services

cc: Chantal Wikstrom, REHS, OHA/DWS
Greg DeBlase, REHS, Marion County Health Department
Dale Murray, Taylors Grove Water Works, Dale.Murray@garmin.com
Tommy Laird, Well Construction Program Coordinator, Oregon Water Resources