

Re-store N Station Phase II Amendment SP2015 – 00032

Existing Well Summary

Prepared by Old Dominion Engineering - 2/18/16



The existing well was permitted to IIIB Standards (private individual well) but constructed to IIB Standards (public water supply) to allow for conversion to a public water supply in the future.

To convert this well to a public water supply the owner will need to:

- Submit an application to the Office of Drinking Water VDH (ODW VDH) in Lexington, VA.
- Provide laboratory testing of water quality samples as required by ODW VDH.
- Perform a well drawdown test.

The installation of the well was supervised and logged by an Old Dominion Engineering (ODE) Geologist and the grouting was inspected by both ODE and The Virginia Department of Health (VDH). The well was drilled to 425' primarily in Granodirite (Blue Ridge Complex). The well had two water bearing zones with blown yields of:

- 6 gpm at 100' to 105'
- 50+ gpm at 400' to 425'

The well is a very strong water producing well for the area and its blown yield exceeds the average yield in similar formations (56+gpm versus 9.6 gpm).

The well withdrawal rate was limited by a Dole Control Valve to 1.03 gpm or 1,483 gpd. The Dole Control Valve flow rate was verified and certified by ODE on 8/24/15.

The water storage tank fill cycle was set to 8" or 532 gallons. The fill rate at 1.03 gpm is 532 minutes. The capacity percentage of water withdrawn to blown capacity yield is 1.8%. The capacity percentage of allowable water withdrawal per day (1,625 gpd) to blown capacity yield (80,640 gpd) is 2.0%.

Since the capacity of the well vastly exceeds the actual (and planned) pumping rate, the static water level in the well (40') is reduced only to a minor extent if any during pumping. Furthermore it is highly unlikely that water withdrawal affects any of the neighboring wells.