

June 17, 2003

Brad Stebleton
Sandoval County
P.O. Box 40
Bernalillo, NM 87004

CERTIFIED MAIL
RETURN RECEIPT
REQUESTED

Reference: Pinon Ridges

Dear Mr. Stebleton:

The Office of the State Engineer has re-reviewed the subdivision proposal for the referenced subdivision pursuant to the Sandoval County Subdivision Regulations. A positive opinion was withheld by this office in a review dated March 26, 2003. The hydrologist representing the developer has submitted additional information in order respond to this review. It is the opinion of this office that the subdivider's water supply proposal still does not comply with the county's subdivision regulations. In accordance, a **negative** opinion is hereby issued.

The Pinon Ridges proposal is a request to develop a 16.5-acre lot into a 11-lot residential subdivision. It is located in the Placitas area, on the South side of Highway 165, in Section 31 of T13N, R5E, N.M.P.M.. This proposal was reviewed pursuant to the Sandoval County Subdivision Regulations, and the New Mexico Subdivision Act.

In the letter dated May 28, 2003 from the hydrologist, Dr. William Turner of AGW Consultants states that the developer intends to supply water to this development via shared wells. There was confusion about this, as, in the executive summary of the geohydrologic report, he stated that several wells will be drilled to create a water system to supply this development; on page 1, he stated that one domestic well will supply the entire subdivision. These contradictory statements have not been corrected.

The developer has still failed to calculate the maximum annual water requirements, pursuant to Article 8, Section 8.1.1 of the Sandoval County Subdivision Regulations. Water requirements should be separated into indoor and outdoor uses. Restrictions on irrigated area specified in the disclosure statement and the covenants should be consistent with the water requirement calculations to ensure that residents will not exceed the water available for each parcel. It is suggested that the developer refer to the Office of the State Engineer Technical Report No. 48 and Appendix A, Section 3.H. of the County Regulations to calculate indoor and outdoor water requirements.

The Sandoval County Subdivision Regulations require the developer to supply a geohydrologic report (Article 8, Section 8.6.3). Appendix A of the code details the minimum requirements for this

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report if the development proposed is in the Placitas area (as in this case). The report submitted included one well log, graphic drawdown and recovery well test data, and results of 50-year schedule of effects calculation. Geologic cross-sections, water level contours, estimated thickness of aquifer based on other well logs, and historical data were missing. These items are required in Article 8, Section 8.6.4. The letter by Dr. Turner included only water level contours. His letter referred to geologic cross sections attached, but I did not find them in the submittal. A disk with pump test data was referenced in the report, but was not found in the submittal.

The requirements of Appendix A should be reviewed by the hydrologist, as several requirements were not adhered to in the pumping and evaluation phases of creating his report. An observation well should have been monitored to determine storativity and transmissivity of the aquifer, as required in Section 4.B.2.e. and 4.B.2.f. The construction of the well pumped should have been documented, to determine compliance with Section 4.B.2.b. The requirement of Section 4.B.2.g, that the well tested shall be monitored until 90% recovery was not met; as of May 28, 2003, it had not recovered 90%.

In evaluating the pump test data, the developer failed to accurately estimate transmissivity, storativity, specific yield, aquifer thickness, or hydraulic conductivity, as required in Section 3.B.3.a. Local hydraulic conditions were not accounted for, as required in Section 3.B.3.b. The hydrologist also failed to evaluate the effects this development would have on wells and surface bodies (if any), as per Section 4.B.3.c and d. Calculations of groundwater available will need to be redone to reflect corrected data evaluation, as required in Section 4.B.3.c and f.

Of primary concern to this office was the inability of the well tested to recover. This lack of recovery implies that the aquifers drilled into were partially dewatered. The hydrologist has still not provided an explanation for this failure of the aquifer. Appendix A, Figure 5, showing recovery, was not correctly evaluated. Well drawdown data was not included, and should have been evaluated. Had late-time data been used, an extremely low transmissivity would have been found. The hydrologist should create a model of the aquifer, which, when run as per the specifics of the pump test, yields similar results. Once this correlation is achieved, he should run the pump test for the fifty -year period prescribed by the county. The model runs should be submitted with the results.

If you have any questions regarding this opinion, please feel free to call me at (505) 827-6790.

Sincerely,

Patrick J. Romero
Water Resource Engineer

Cc: Brian C. Wilson, P.E., Water Use and Conservation Bureau