May 22, 2007

Billy Aymar
County Manager, Catron County
P.O. Box 507
Reserve, NM 87830

CERTIFIED MAIL
RETURN RECEIPT
REQUESTED

Re: Ponderosa Views Subdivision Phase II

Dear Mr. Aymar:

The Water Use & Conservation/Subdivision Review Bureau of the Office of the State Engineer has reviewed the referenced subdivision proposal pursuant to the Catron County Subdivision Regulations and the New Mexico Subdivision Act.

Based on the information provided, this office cannot determine that the subdivider can furnish water sufficient in quantity to fulfill the maximum annual water requirements of the subdivision, including water for indoor and outdoor domestic uses, and that the subdivider can fulfill the proposals in his disclosure statement concerning water, excepting water quality. Accordingly, a **negative** opinion is issued.

A staff memorandum providing specific comments is attached for your information. If you have any questions, please call Jerry Keller at 505-827-3845.

Sincerely,

John W. Longworth, P.E.
Water Use & Conservation/Subdivision Review Bureau Chief

Encl.

cc: OSE Water Rights Division, Albuquerque Office

JK:jk

MEMORANDUM
New Mexico Office of the State Engineer
Water Use and Conservation Bureau

DATE: May 21, 2007
TO: John Longworth, P.E., Water Use and Conservation Bureau Chief
FROM: Jerry Keller, Senior Water Resource Specialist
SUBJECT: Ponderosa Views Subdivision Phase II, Catron County

SUMMARY

On April 25, 2007 the Office of the State Engineer (OSE) received a request to review the proposal for Ponderosa Views Subdivision, Phase II, a Type four subdivision. The first phase was not reviewed by OSE and was apparently approved under the Catron County summary review procedures. Phase II is a proposal to subdivide 1168.1 acres into 83 residential lots ranging in size from 10.3 acres to 31.3 acres. The proposed water supply for the subdivision is individual 72-12-1 domestic wells. The property is located approximately 12 miles northeast of Pie Town, within Sections 20 and 21, Township 3 North, Range 11 West, NMPM.

The water supply documents submitted to this office consist of a Disclosure Statement, Covenants, Conditions, and Restrictions (CCR's), and a Geohydrologic Investigation Report.

This proposal was reviewed pursuant to the Catron County Subdivision Regulations (Regulations) and the New Mexico Subdivision Act (Act). Based on the information provided, the water supply proposal is not in compliance with the requirements of Article 8, of the Regulations and the Sections 47-6-11 F (1) and 47-6-17 of the Act. Accordingly, a **negative** opinion is recommended.

WATER DEMAND ANALYSIS AND WATER CONSERVATION

The Disclosure Statement does not contain the minimum information required by Article 8 of the Regulations and Section 47-6-17 of the Act. The following information must be provided:

- A statement describing the maximum annual water requirements of the subdivision, including water for indoor and outdoor domestic uses and describing the availability of water to meet the maximum annual water requirements.
- The average depth to water within the subdivision if water is available only from subterranean sources.

Article 8, paragraph A on page 197, of the Regulations states that should a subdivider limit the maximum area of irrigated landscape and prohibit other outdoor uses, the subdivider may calculate the maximum annual water requirements for both indoor and outdoor purposes by multiplying the number of parcels by a factor of 0.35 acre-feet. Water conservation measures and water restrictions are not included in the Disclosure Statement or the CCR's.

This office recommends that mandatory water conservation measures be developed and included in the Disclosure Statement and the CCR's. Indoor conservation measures should require the installation of water saving fixtures. With regard to outdoor use, this office recommends that the subdivider limit irrigation to 800 square feet per parcel. This restriction may be stated as follows: "*The total irrigated area shall not exceed 800 square feet per lot. The 800 square feet may be planted in any combination of trees, shrubs, annuals and perennials, grasses, and garden. Grasses should be selected that are well adapted to local climatic conditions, and non-native grasses are discouraged. Low-water use landscaping techniques applying the principles of xeriscape shall be utilized. Drip irrigation is encouraged whenever possible*". Finally, this office suggests that other outdoor uses such as swimming pools, hot tubs, water fountains, and decorative ponds be restricted.

WATER AVAILABILITY ASSESSMENT

The proposed water supply for the subdivision is individual 72-12-1 domestic wells to be constructed by the lot owners.

The subdivider submitted a Geohydrologic Investigation Report (GIR), as required by Article 8 of the Regulations.

Two wells were drilled and tested within the subdivision boundary. Well No. G-2582 is located in Section 20 in the northwest region and well No. G-2592 is located in Section 21 in the northeast region.

Well G-2582 was drilled to a depth of 660 feet. The static water level reported on the well record was 150 feet. The GIR reports the static water level before the pump test as 201.85 feet. The well was pumped for a period of 22 ½ hours at an average rate of 1.6 gpm. A drawdown of 379.1 feet was reached at the end of the test. The likely yield of this well is estimated as "*in excess of 1 gpm*". The water level continued to decline at a rate of over 3 feet per hour although the flow rate had decreased to approximately 1.2 gpm.

Well G-2592 was drilled to a depth of 440 feet. The static water level reported on the well record was 160 feet. The well was pumped for a period of 24 ½ hours at an average rate of 1.8 gpm. A drawdown of 52.8 feet was reached at the end of the test. The likely yield for this well is estimated at 5 to 10 gpm.

The GIR concludes that the maximum yields are expected to be about 2 to 10 gpm although typical yields of 1 to 5 gpm are more likely.

The GIR utilizes an annual water use demand of 0.35 acre-feet per lot and 29.1 acre-feet for the development to calculate water availability. As noted above, this estimated demand is acceptable only at such time as water conservation measures and water restrictions are not included in the

Disclosure Statement or the CCR's that restrict outdoor use. However, based on the above criteria, the GIR calculates that adequate water supply is available and can be practically recovered to supply the water requirements of the subdivision for 20 years.

The GIR includes an analytical model to calculate onsite and offsite effects of pumping the subdivision wells for periods of 20 and 40 years. The model predicts that drawdown within the subdivision wells after 20 years will reach a maximum of 150.3 feet. Allowing for a 20% safety factor the drawdown is 180.4 feet, which equates to approximately 45% of the available water column of a properly constructed well. The calculated effect after 40 years of pumping is 182.4 feet does not include the 20% safety factor. Although the drawdown is significant, it is within acceptable limits.

The GIR recommends that wells penetrate the entire thickness of the sandstone beds in the aquifer to a total depth of at least 650 feet. Depths of 800 feet of more are indicated if the deeper sandstone beds are to be encountered. Wells completed as recommended will have a minimum water column of 400 feet. These minimum well construction recommendations should be included in the Disclosure Statement.

The aquifer identified to provide the water supply for the subdivision is the Crevasse Canyon Formation. This formation is known to produce low yielding wells. The GIR predicts yields of 1 to 5 gpm. The OSE does not dispute the finding presented in the GIR. However, it is important to note that the estimated yields may be less than generally preferred for domestic well production. Given these less than ideal physical limitations, lot purchasers should be made aware that, depending on their own well's characteristics, it may be advisable to install water storage tanks. These tanks will provide storage to meet instantaneous water demands.