October 10, 2006

Mr. Thomas F. Stewart
County Manager, Lincoln County
P.O. Box 711
Carrizozo, NM 88301-0711

CERTIFIED MAIL
RETURN RECEIPT
REQUESTED

Re: Vista Rio Bonito Subdivision

Dear Mr. Stewart:

The Water Use & Conservation/Subdivision Review Bureau of the Office of the State Engineer has reviewed the referenced subdivision proposal pursuant to the Lincoln County Subdivision Ordinance, the New Mexico Subdivision Act and the OSE Rules and Regulations Governing the Appropriation and Use of Ground Water In New Mexico.

Based on the information provided, this office cannot determine if 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, Roswell Office

JK:jk

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

DATE: October 10, 2006
TO: John Longworth, P.E. Water Use & Conservation Bureau Chief
FROM: Jerry Keller, Senior Water Resource Specialist
SUBJECT: Vista Rio Bonito Subdivision in Lincoln County

SUMMARY

On July 6, 2006, the Office of the State Engineer (OSE) received a request to review the Preliminary Plat for Vista Rio Bonito, a Type-Two Subdivision. The proposal is a request to subdivide a 621-acre parcel into 37 residential lots ranging in size from 10.00-acres to 59.58-acres each. The proposed water supply is individual 72-12-1 domestic wells. The property is located north of Ruidoso within Sections 31 and 32, Township 9 South, Range 14 East, and Sections 4 through 9, Township 10 South, Range 14 East, NMPM.

The water supply documents submitted to this office consist of a Water Supply Plan, Declaration of Covenants, Conditions, and Restrictions (Covenants), Disclosure Statement, Geohydrologic Investigation Report (GIR) and Plat Map.

The proposal was reviewed pursuant to the Lincoln County Subdivision Ordinance (Ordinance) and the New Mexico Subdivision Act (Act) The water supply proposal is not in compliance with the requirements of Section 17.4.C of the Ordinance and Section 47-6-11-F (1) (b) of the Act. Accordingly, a **negative** opinion should be issued.

WATER DEMAND ANALYSIS AND WATER CONSERVATION

The proposal contains a detailed Water Demand Analysis within the GIR, as required by Section 18.2.A of the Ordinance.

The analysis substantially reflects the assumptions presented in OSE Technical Report 48 (Wilson, 1996). The annual indoor water use estimate of 0.206 acre-feet is based on 2.34 persons per dwelling unit, reverse osmosis treatment, and no evaporative cooling. The annual outdoor demand is estimated at 0.043 acre-feet for 800 square feet of Kentucky Blue Grass. The total estimated annual demand is 0.24 acre-feet per lot. An additional annual subdivision water requirement for livestock is estimated 3.4 acre-feet based on 240 animals at 13 gallons per day per animal. However, Section 3.09 of the Covenants limits the number of animals to a maximum of 5 per lot, or 185 for the subdivision. The total annual subdivision demand estimated as 12.7 acre-feet.

The analysis assumes that ornamental ponds, water gardens, and swimming pools will not be permitted within the subdivision and evaporative cooling will not be used. The water quantities and conservation measures established in the Water Demand Analysis are the basis for the water

availability assessment contained in the GIR. All conservation measures used to development the water budget and the water conservation measures required by Section 18.1 of the Ordinance must be summarized in the Disclosure Statement and the Covenants.

WATER AVAILABILITY ASSESSMENT

The proposed water supply for the subdivision is individual 72-12-1 domestic wells.

The subdivider submitted a GIR in accordance with the requirements of Sections 17.4.C and 17.5 of the Ordinance. OSE Hydrology Bureau, as well as the Water Uses and Conservation Bureau, reviewed the GIR. The Hydrology Bureau's comments are summarized below:

- Section 17.4.C.3 of the Ordinance does not specifically require on-site test wells and aquifer performance testing. The developer has not submitted site-specific test-pumping for analysis with this submittal, although the closest, Tertiary/Cretaceous aquifer system testing in the vicinity of the project area (Table 2) suggests consideration of low transmissivity and storage coefficient values for 40-year demand simulations. Recent test-pumping results for H-3754, two miles west (report; Table 2), appear to reflect very low transmissivity values nearby; more than an order of magnitude less than the value of transmissivity used in the 40-year demand simulations.

- The geology in the area of the subdivision is complex. Drilling and testing of onsite wells would yield the most valuable information and provide project-specific characterization of transmissivity. Specific capacity testing of at least two existing wells within the project area (such as H-3042, H-3250, H-2987, or H-2964) may also provide additional information as to conditions expected to be encountered within the proposed subdivision.

Due to the lack of onsite pump testing, OSE recommends that the 40-year simulations be re-run with a transmissivity of approximately 500 gpd/ft, and storage coefficients of 0.001 and 0.0005, and be re-submitted with discussion of the H-3754 test for further OSE evaluation. Based on the results of the more conservative model, OSE will evaluate the necessity of onsite aquifer testing.

While the well recommendations under Item W of the Disclosure Statement are in agreement with the conclusions and recommendations presented in the GIR, OSE will re-evaluate potential aquifer decline, following review of resubmitted 40-year demand simulations and/or onsite test-pumping results.