November 1, 2006

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

CERTIFIED MAIL
RETURN RECEIPT
REQUESTED

Re: Copper Mountain Subdivision Units 1-8

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 Use Of Public Underground Waters For Household Or Other Domestic Use.

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: November 1, 2006
TO: John Longworth, P.E. Water Use & Conservation Bureau Chief
FROM: Jerry Keller, Senior Water Resource Specialist
SUBJECT: Copper Mountain Subdivision in Lincoln County

SUMMARY

On October 3, 2006, the Office of the State Engineer (OSE) received a request to review the Preliminary Plat for Copper Mountain, Units 1-8, a Type-Two Subdivision. The proposal is a request to subdivide a 1046.76-acre parcel into 85 residential lots ranging in size from 10.00-acres to 38.48-acres each. The proposed water supply is individual 72-12-1 domestic wells. The property is located north of Ruidoso near Angus, within Sections 1 and 12, Township 10 South, Range 13 East, and Sections 6 and 7, 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 Sections 17.4.C and 18.1 of the Ordinance and Section 47-6-11-F (1) 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. An additional annual water requirement for horses is estimated at 0.043 acre-feet based on 3 animals per lot at 13 gallons per day per animal. The total estimated annual demand is 0.292 acre-feet per lot and 24.82 acre-feet for the subdivision.

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 Covenants recommend “careful consideration” of any use of hot tubs, swimming pools and water gardens but does not prohibit their use. Evaporative coolers are not addressed. The Covenants also allow guesthouses and servants’ quarters on each lot. No estimated quantities for these uses are

included in the water demand analysis. 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.

Item R of the Disclosure Statement states that a 72-12-1 domestic well permit is limited to a diversion of three acre-feet per annum. Updated rules and regulations on 72-12-1.1 domestic well permits were adopted on August 15, 2006 and filed under Title 19, Chapter 27, Part 5 of the New Mexico Administrative Code (19.27.5 NMAC). The updated rules and regulations replaced Articles 1-15 through 1-15.5, 1-15.7, 1-15.8, and 1-16 of the existing Rules and Regulations Governing the Drilling of Wells and the Appropriation and Use of the Ground Water in New Mexico. Under Section 19.27.5.9.D.1 of the regulations the maximum permitted diversion of water from a 72-12-1.1 domestic well permitted to serve one household shall not exceed 1.0 acre-foot per annum.

Reference to the maximum allowable diversion under a 72-12-1 permit is confusing and is in conflict with the maximum estimated water use established in the water demand analysis.

WATER AVAILABILITY ASSESSMENT

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

The subdivider submitted a GIR as required by Sections 17.4.C and 17.5 of the Ordinance. Three test wells (H-3882, H-3883, 3884) were completed within the proposed subdivision. A 24-hour pump test was conducted at each well. OSE Hydrology Bureau, as well as the Water Uses and Conservation Bureau, reviewed the GIR. The Bureau's comments are summarized below:

- The GIR indicates a 40-year supply of ground water is available to the proposed Copper Mountain Subdivision based on an evaluation of the local hydrogeology that includes their recently derived values of local transmissivity and a semi-confined storage coefficient of 0.005. It has been the Hydrology Bureau's practice to use a conservative storage coefficient of approximately 0.0005 for aquifer simulations in the local Tertiary/Cretaceous aquifer to evaluate long-term drawdown conditions. It is requested that the applicant's 40-year simulations be re-run with storage coefficients of 0.001 and 0.0005, and be re-submitted, along with digital files of the time-drawdown data from the three onsite tests, plus either digital or paper copies of discharge measurements taken during testing for OSE review.

- The author of the GIR has verbally related to OSE that Table 2 errantly identifies the location of the test-pumping of well H-3754 to have occurred in T10S-R13E-Section 02.214, which would otherwise suggest very low local transmissivity zonation in the

immediate proximity of the Copper Mountain area. It is suggested that a revised Table 2 be submitted for the record.

- Figure 7 was noted to misidentify USGS 332946105402201 as USGS 333241105341101, and vice versa. It is suggested that a revised Figure 7 be submitted for the record.

- On page 12 conservative estimates for well diameter and well depth required to obtain an adequate domestic supply are 5 inches and 1,500 feet, respectively, which conflicts with the recommended well depth of 1,000 on page 19.

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.