

February 4, 2010

Ms. Vicki Lucero  
Development Review Team Leader  
Santa Fe County  
P.O. Box 276  
Santa Fe, NM 87504-5102

**CERTIFIED MAIL**  
**RETURN RECEIPT**  
**REQUESTED**

**Re: Saddleback Ranch Subdivision**

Dear Ms. Lucero:

The Water Use & Conservation/Subdivision Review Bureau of the Office of the State Engineer has reviewed the referenced subdivision proposal pursuant to the Santa Fe County Land Development Code and the New Mexico Subdivision Act.

Based on the information provided, this office has determined 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 **positive** 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, Santa Fe Office

JK:jk

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

**DATE:** February 3, 2010  
**TO:** John Longworth, P.E., Water Use and Conservation Bureau Chief  
**FROM:** Jerry Keller, Senior Water Resource Specialist  
**SUBJECT:** Saddleback Ranch Subdivision, Santa Fe County

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**SUMMARY**

On January 14, 2010 the Office of the State Engineer (OSE) received additional/revised information for the Preliminary Plat for Saddleback Ranch Estates, a type five subdivision. The proposal is a request to subdivide a 960 acre tract into 24 residential lots of 40 acres each. The proposed water supply is by individual or shared 72-12-1 domestic wells. The property is located northeast of Galisteo on the east side of State Road 41 within Sections 8, 17, 18, 19, 20, 21, and 29, Township 14 North, Range 10 East, N.M.P.M.

This office issued a negative opinion for this subdivision on January 11, 2010 for the reason that the minimum supporting documentation required by the Santa Fe County Subdivision Land Development Code and the New Mexico Subdivision Act was not provided.

The revised water supply documents submitted to this office consist of a Disclosure Statement and a Water Resources Report.

The revised proposal was reviewed pursuant to the Santa Fe County Land Development Code (Code) and the New Mexico Subdivision Act (Act). Based on the information provided, the water supply proposal is in substantial compliance with the requirements of the Code and the Act. Accordingly, a **positive** opinion should be issued.

**WATER DEMAND ANALYSIS AND WATER CONSERVATION**

Under Item No. 17 of the Disclosure Statement the subdivider has stated the subdivision annual water requirement is 0.25 acre-feet per year per lot (6.0 acre-feet for the subdivision). A detailed water demand analysis is not included in the proposal.

Section 6.6.2 of the Code lists minimum water conservation measures required to reduce the annual water budget to 0.25 acre-feet per lot. The applicant must adopt covenants or to take other measures necessary to ensure, with reasonable prospects of success, that the estimated water budget will be achieved. The Disclosure Statement makes reference to Saddleback Ranch CCR's; however, the CCR's are not included in the proposal. The CCR's should summarize the required conservation measures and specifically prohibit the use of the domestic wells for intensive agricultural and livestock purposes.

## **WATER AVAILABILITY ASSESSMENT**

The proposed water supply is by individual or shared 72-12-1 domestic wells to be constructed by the buyer.

The developer submitted a Water Resources Report (Report) in accordance with Sections 6.4.5, 6.4.2, and Table 7.4 of the Code. The Report was reviewed by this office and the OSE Hydrology Bureau. The Hydrology Bureau's comments are summarized in the attached memorandum.

Section 47-6-17.B.16 of the Act requires that the developer disclose *the average depth to water within the subdivision if water is available only from subterranean sources*. Under Item No. 19 of the Disclosure Statement the subdivider states *"This is a several thousand acre property with many varying natural characteristics. Due to this physical fact no general recommendation can be made for an "average" well depth or "average" yield."* At a minimum, the subdivider should provide this information based on the groundwater contours, cross sections, and topography contained in the Report.

Only OSE comments contained in this review should be summarized Under Item No. 22 of the Disclosure Statement.

Based on the water demand of 0.25 acre-feet per lot per annum, the minimum lot size calculation indicates sufficient groundwater in storage beneath the subdivision to support the proposed development.

## **PROPOSED DOMESTIC WELLS**

Domestic wells are permitted under Section 72-12-1.1 NMSA 1978 which states:

*A person, firm or corporation desiring to use public underground waters described in this section for irrigation of not to exceed one acre of noncommercial trees, lawn or garden or for household or other domestic use shall make application to the state engineer for a well on a form to be prescribed by the state engineer. Upon the filing of each application describing the use applied for, the state engineer shall issue a permit to the applicant to use the underground waters applied for; provided that permits for domestic water use within municipalities shall be conditioned to require the permittee to comply with all applicable municipal ordinances enacted pursuant to Chapter 3, Article 53 NMSA 1978.*

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.

On July 10, 2008 a decision issued by Judge J. C. Robinson of the Sixth Judicial District Court in Silver City held that the Domestic Well Statute (72-12-1.1) is unconstitutional, is an impermissible exception to the state doctrine of prior appropriation, and that the State Engineer should be required to administer applications for domestic well permits in the same manner as all other applications to appropriate water.

Statutes enacted by the legislature are given the presumption of constitutionality; therefore, the State Engineer has appealed the decision to the New Mexico Court of Appeals. **The appeal stays enforcement of the decision, therefore, the State Engineer will continue to accept and act on domestic well applications pending a ruling by the appellate court.**

**MEMORANDUM**  
**OFFICE OF THE STATE ENGINEER**  
*Hydrology Bureau*

**DATE:** February 3, 2010

**TO:** Jerry Keller, Water Use and Conservation Bureau

**FROM:** Mike Sully, Hydrology Bureau *MS*

**THROUGH:** Mike Johnson, Chief, Hydrology Bureau *MJD*

**SUBJECT:** Comments on Water Resources Report Saddleback Ranch by Corbin Consulting, Inc., January 4, 2010.

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**Introduction**

This memo provides comments on the report entitled "Water Resources Report Saddleback Ranch", prepared by Corbin Consulting, Inc., dated January 4, 2010. The Saddleback Ranch subdivision near Galisteo in Santa Fe County will consist of 24 40 acre lots.

These comments are prepared to fulfill Sections 47-6-11.F (1) a-b NMSA which authorize the State Engineer to determine:

1. Whether the subdivider can furnish sufficient water for the subdivision, and
2. Whether the subdivider can fulfill the proposals in his disclosure statement.

The determination for Item 1 above is made in accordance with Santa Fe County Land Development Code Sections 6.2.1, 6.4, and 10. These regulations generally describe the requirements for demonstrating that sufficient water is available to serve the subdivision.

**Water Supply**

Water for the subdivision will come from individual wells located on each of the 24 lots. The report states that each lot will be restricted to a water use of 0.25 acre-feet per year (af/y) measured by a water meter located at the well. The source of groundwater for the subdivision was inferred from geologic logs evaluated from 5 wells within the development and 1 well near the development's western edge. These 5 wells range in depth from 300 feet to 700 feet (ft) but are located on the edges of the subdivision boundary and provide limited information about

conditions across the subdivision. Other wells drilled more central to the subdivision are of limited depth ranging from approximately 60 ft to 65ft.

This report provides a geologic cross-section from west to east in the Galisteo Basin just north of the northern boundary of the subdivision taken from a geologic map prepared by Lisenbee (1999). The report author states, "The bulk of the Saddleback Ranch's geology appears to be directly south of and may be represented by the second block from the left in Figure 5 which shows several hundred to possibly a thousand feet or more of the Galisteo Formation present." The thick section of Galisteo Formation represented in this cross-section, however, is not characteristic of conditions at Saddleback Ranch subdivision. The location of the "second block from the left" of the cross-section is approximately 2.8 miles northwest of the center of the subdivision, on the other side of a major fault zone, not near Saddleback Ranch.

Geologic cross-sections developed by Lisenbee (1999) extend from east to west just north of the northern boundary of the subdivision, from northwest to southeast along the eastern boundary, and from northwest to southeast across the southwestern corner of the subdivision. Although none of the cross-sections traverse the interior of the subdivision, these cross-sections along with outcrop mapping and the logs from the deeper holes suggest that the western side of the subdivision is characterized by sedimentary rocks of the Diamond Tail Formation while the upper 500 ft to 700 ft of the eastern side is shown to be the Sandstone member of the Mancos Group. The Diamond Tail formation may range in thickness from 150 ft to 700 ft and consists of sandstone, mudstone, conglomerate, and limestone. The Sandstone member of the Mancos is underlain by Mancos Shale. The Mancos Shale is considered to be a poor source of water. The complexity of the geology in this area indicates that water availability will be highly variable across the subdivision.

The depth of water below the subdivision ranges between 16 ft and 85 ft below land surface. Reported yields of the wells, where available, ranged from 1.6 af/y to 89 af/y, all in excess of the proposed 0.25 af/y.

Aquifer tests were conducted in wells RG-81402 and RG-81162 by Hydrosience Associates Inc., during March of 2004. These wells are located in the northern portion of the development and are 300 ft and 600 ft deep respectively. Drawdown was measured during a 48 hour pumping period. After pumping was stopped, recovery water levels were measured for a 12 hour period at which time the water levels were within a few feet of being fully recovered. Transmissivity values were calculated from the recovery data. An aquifer test was conducted in 1993 in well RG-55853 located near the southwestern boundary of the development. This was a 96-hour test using a nearby well as an observation well.

### **Water Availability**

Water availability was evaluated by Corbin Consulting Inc. based on assumptions of domestic well depth of 600 ft, a lot size of 40 acres, and an annual demand of 0.25 af. Calculations of

groundwater storage demonstrated that the subdivision wells as proposed would be capable of producing more than the full annual demand for at least 100 years.

Drawdown effects on the development's pumping wells after 100 years based on project groundwater withdrawals were evaluated by Corbin Consulting Inc. using an analytical groundwater model. The criterion for allowable drawdown was chosen to be 70 percent of the initial water column. The analysis used conservative aquifer parameters determined from the aquifer tests described above and demonstrated that expected future water level declines in the project production wells at 100 years would be within the limits of allowable drawdown.

### **Disclosure Statement**

Information in the disclosure statement regarding expected well depths, depth to water, well yields, allowed annual water amount, and metering requirements are consistent with information provided in the geohydrologic investigation report. Expected maximum and minimum wells depths are described in the Statement as ranging from 600 ft to 1200 ft. Planned well depths, however, should be evaluated on a site by site basis as drilling too deeply and entering the Mancos Shale would incur unnecessary drilling costs and may have adverse effects on well performance.

Section 22 of the disclosure statement refers to an agreement between the New Mexico State Engineer's Office and Santa Fe County that resulted in a favorable opinion from the New Mexico State Engineer's Office on water availability for the development. Hydrology Bureau is not aware of any such agreement.

### **Other Comments**

The report contains all of the analyses described above, geologic maps and cross-sections, and maps and cross-sections showing depth-to-water, water level contours, flow directions, and estimated saturated thickness.

### **Conclusions**

- Sufficient water appears to be available to supply the subdivision, however, well depths and well production are expected to be highly variable between lots.
- The results of data collection and analysis described in the report indicate that the subdivider will be able to fulfill the proposals in his Disclosure Statement. We recommend that the Disclosure Statement includes a statement regarding the expected variability of well depth and well production between lots.

- Planned wells depths should be evaluated on a site by site basis as drilling too deeply and entering the Mancos Shale may incur unnecessary drilling costs and have adverse effects on well performance.
- Section 22 of the disclosure statement refers to an agreement between the New Mexico State Engineer's Office and Santa Fe County that resulted in a favorable opinion from the New Mexico State Engineer's Office on water availability for the development. Hydrology Bureau is not aware of any such agreement.

### **References**

Lisenbee, A.L. 1999. Geology of the Galisteo 7.5-Minute Quadrangle. Scale 1:24,000. Open-File Geologic Map-30. New Mexico Bureau of Geology and Mineral Resources. New Mexico Institute of Mining and Technology. Socorro, NM.