APPENDICES

Appendix A

References and Resources

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Appendix B

Glossary of Terms

Alternative Wastewater Disposal System - Any on-site wastewater system consisting of treatment and/or disposal components other than those described in the definition of "conventional system". Some examples of alternative systems are: Wastewater Disposal Systems; Split-Flow System with a Holding Tank; Split-Flow System with Septic Tank and Evapotranspiration Beds; Recirculating Sand Filters; Evapotranspiration Beds; Composting Toilets; Incinerating Toilets; Sequencing Batch Reactors; Lagoon Constructed Wetlands.

Aquifer – A formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield economical quantities of water to wells and springs.

Aquifer Test - A test involving the withdrawal of a measured quantities of water from, or addition of water to, a well. The test typically includes a period of water level measurements prior to initiating the test portion and the measurement of resulting changes in head in the aquifer both during and after the period of discharge or addition. Also referred to as a pumping test.

Archeological Sites – Any geographical location where there exists material evidence of repeated or patterned human activities that has the potential, through the application of appropriate archeological methods, techniques, and analyses, of yielding information important to understanding the prehistory, history, culture, or lifestyles of a particular region or group of inhabitants in New Mexico.

Bikeway – Any road, path, or way in which some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Building Envelope - The portion of a lot upon which development and site disturbance may take place (site disturbance may take place outside the building envelope only for driveway, well, septic, and other required infrastructure construction).

Buffer Areas - Those areas around the perimeter of a development that are identified as permanent open space.

Cluster Development – A mechanism to cluster detached single-family homes on smaller lots in conjunction with permanent open space provisions through dedication or approved conservation easements. Density is the same but views, wildlife corridors, and native vegetation can be better protected

Community Level Wastewater Treatment – A self-contained collection and treatment system handling more than one household. Community-level waste- water treatment systems may be developed to treat septic tank effluent only (replacing the individual disposal fields)

Conservation Easement - An action of placing a condition on property to restrict development. The title to the easement may be held by a land trust organization, by a residential association, or by a public entity. A conservation easement must be referenced on all subdivision plats and typically includes a deed restriction against further subdivision on large lots.

Conventional Wastewater Disposal System - An individual wastewater disposal system that is a below grade soil absorption system with an excavated depth no deeper than four (4) feet from the ground surface. Some examples of conventional disposal systems are absorption trenches and seepage beds.

Defensible Space - The area within thirty feet of permanent structures in which thinning of existing vegetation is recommended for fire protection purposes. Adequate thinning is reached when contiguous brush is removed and trees or small clusters of tree crowns are separated from the structure and each other by ten feet.

Design Guidelines - Acceptable formula for scale and styles of buildings for rural areas. These guidelines address the compatibility with the natural environment, focusing on the physical and visual accessibility in, to and from the building.

Development - Any construction (new, existing, or proposed) of buildings, structures, and infrastructure, or the application of a Change of Zone from the "Official Maps", or an application to change an existing land use, or any proposal to subdivide or resubdivide land within the boundaries of Bernalillo County.

Development Intensity - a measurement of how a particular development contributes to traffic generation, its affect on and need for infrastructure and facilities, its depth of impacts on the terrain, and its compatibility with adjacent land use.

Drawdown - The distance between the static water level and the surface of the cone of depression caused by well pumpage. The drawdown is at it's maximum at the well, and decreases with distance from the well.

East Mountain Area - That portion of Bernalillo County between the eastern limit of the County and the eastern limit of the City of Albuquerque, which also can be described as that portion of Bernalillo County east of longitude 106 degrees 30 degrees west.

EPA – United States Environmental Protection Agency

Forested Areas- Areas characterized by tree cover. Tree canopy accounts for 25-100 percent of the cover.

Gray Water- Untreated household wastewater that has not come in contact with toilet waste and includes wastewater from bathtubs, showers, washbasins, clothes washing machines and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers or laundry water from the washing of material soiled with human excreta, such as diapers

Ground Water - Water in a saturated zone or stratum beneath the surface of land or water.

Habitat Areas - Areas that include but are not limited to riparian areas, wetlands, migration corridors, or other food source or nesting place as recognized by Bernalillo County, the State of New Mexico, or the Federal Government.

Hydraulic Conductivity – One of several of an aquifer's physical properties. It is the rate of flow of water through a unit cross-sectional area of an aquifer under a unit hydraulic gradient.

Hydrogeologic Report - An assessment of a region's 70-year or 100-year groundwater availability and the effects of groundwater withdrawals on the region's groundwater. Pumping tests are required to determine performance characteristics of well(s) and the hydraulic parameters of the aquifer. The report must include groundwater level data, if available, for wells surrounding the proposed new development. If a permitted water supplier is the provider, the supplier's report approved by the County and State can be used.

Hydrogeologist/Groundwater Hydrologist – A scientist or engineer with training and experience in the study of groundwater.

Individual Wastewater System – A Wastewater system that receives a design flow of two thousand (2,000) or less gallons of Wastewater per day. It is subject to the Bernalillo County Wastewater Ordinance and, where more stringent, the most current New Mexico Wastewater regulations.

Invasive Species – An alien species whose introduction does or is likely to cause economic and environmental harm or harm to human health (EO 12112).

Wastewater - means treated or untreated gray water, black water, excreta and other hazardous substances in liquid form or dissolved or miscible in a liquid which are discharged for disposal.

Major Public Open Space – Major Public Open Space is an integrated system of lands and waters that have been designated either in the East Mountain Open Space Resource Management Plans, the City/County Comprehensive Plan, or the City/County Major Public Open Space Facility Plan.

Native Species – With respect to a particular ecosystem, a species that, other than as a result of introduction, historically occurred or currently occurs in that ecosystem.

Neighborhood Compatibility - Consistency and harmony with respect to existing and new residential development. This is achieved in the East Mountain Area by causing new development to be as similar as possible to existing development, or by providing a buffer between the new and existing development using the minimum lot size policy described in Section VII of this Ordinance.

Net Residential Density - The density (residential dwelling units per acre) of the overall tract exclusive of right-of-way for ingress and egress.

On-Site Liquid Waste Disposal (OSLWD) System – A system (consisting of a Wastewater treatment unit and disposal system) that receives treats, and potentially discharges wastewater on the same lot.

Open Space - Public or private land with extremely limited development that exists primarily for pedestrian, equestrian, and, in some cases, motorized activities. May also serve as a reserve for wildlife, protection of sensitive ridges and slopes, erosion control or conservation. Constructed wetlands, parking facilities, and areas disturbed for construction of recreational facilities shall not be considered open space. Useable open space can include lands that are physically, visually, or functionally related to other open space and that are suitable for recreational uses.

Percolation Rate - The rate of entry of water into soil. it is determined from a standard percolation test performed on the soil at the depth of the proposed soil absorption system.

Performance Criteria – Specific criteria or standards that must be achieved by developers to be permitted to build on lot. Performance standards define the end result, but not the means of achieving it.

Permanent Open Space - Areas of land protected from development through conservation easements, or through a private trust or other third party entity, or dedication to Bernalillo County or other government body, or by other recognized means for the express purpose of retaining undeveloped open space in perpetuity.

Permeability – An inherent property or capacity of a porous rock, sediment, or soil for transmitting a fluid; it is a measure of the relative ease of fluid flow under unequal pressure, regardless of the properties of the fluid.

Plat - A map, chart, survey, plan or replat certified by a licensed, registered land surveyor containing a description of the subdivided land with ties to permanent monuments.

Public Facility – A building or structure that is publicly owned and managed by a public entity and is used by people seeking access to activities or services provided by or available in the building or structure.

Pumping Test - See Aquifer Test

Recharge – The addition of water to the zone of saturation; also the amount of water added. The area in which the downward components of hydraulic head cause water to infiltrate downward into the deeper parts of a aquifer is referred to as the recharge area.

Riparian Area - An area belonging to or related to the bank of a river, stream, or other watercourse.

Septic Tank (Septic System) – A receptacle designed to receive and treat wastewater, and separate liquid and solids in the waste. Septic systems include septic tanks. In this report the term "septic tank" means a conventional, onsite, liquid waste disposal system consisting of a

water tight tank (for separating solids from liquids and digesting organic matter) and a disposal field (for distributing the liquid discharge from the watertight tank)

Special Use Permit - Allows a specified use with a time limitation that is categorized under a different zoning than that of the existing site.

Specific Capacity - The rate of discharge (or well yield) of a water well per unit of drawdown, commonly expressed as gpm/ft.

Specific Yield - The ratio of the volume of water that a given mass of saturated rock or soil will yield by gravity to the volume of the mass. The ratio is stated as a percentage.

Specific Storage - The volume of water an aquifer releases from or takes into storage per unit surface area of the aquifer per unit change in head.. Also referred to as the coefficient of storage, or storage coefficient.

Storage Coefficient - See Specific Storage.

Subdivision - The division of a surface area of land, including land within a previously approved subdivision, into two (2) or more parcels for the purpose of sale, lease or other conveyance or for building development, whether immediate or future "Subdivision". In the subdivision of land, net lot size is calculated by subtracting road areas from the total development acreage.

Trail – A separate pathway designated by signs for use by non-motorized traffic only, including pedestrians, bicyclists, equestrians, and people who use wheelchairs. Not all trails may accommodate all of these uses. Trails may be either paved or soft surface.

Trail Corridor – A trail alignment or a proposed or future trail designated where right-of-way is not available or not defined

Transfer of Development Rights - A situation in which the rights to develop are transferred from one property to another, located in an area where development is already occurring or more desirable. This can protect undisturbed and agricultural land while curtailing sprawl

Transmissivity - The rate at which water is transmitted through a unit width of an aquifer, which extends through the full saturated vertical thickness of the aquifer, under a unit hydraulic gradient

Unified Development Code – A unified text that includes those areas of regulation more typically dealt with in separate zoning and subdivision ordinances along with related development ordinances. The Unified Development Code is applicable to all zoning, development, land division, and subdivision actions.

Village Centers - The main location of activity within a rural community. May include facilities such as schools, government offices, service businesses, and a community center.

Visual Resources - A part of the landscape important for its scenic quality. It may include a composite of terrain, geologic features, or vegetation.

Watercourse - Any river, creek, arroyo, draw, wash, or any other channel having definite banks and bed with visible evidence of at least an occasional flow of water.

Water Supply Source - A well, spring, infiltration gallery, surface water intake structure, or other source of water used to furnish water to a public or private water supply system.

Water Supply System or Water System – A system which is designed, constructed, operated, and maintained to provide water suitable for domestic uses. It usually consists of source, treatment, transmission, storage, pumping, and distribution facilities.

Water Table – The surface between the vadose zone and the groundwater, that surface of a body of unconfined groundwater at which the pressure is equal to that of the atmosphere.

Watershed - The area of land that catches rain and snow and drains or seeps into a stream, river, lake or groundwater.

Well - An excavation or opening into the ground made by digging, boring, drilling, driving, or other methods, the purpose of which is to obtain ground water for use, and/or monitoring ground water levels or quality.

Well Yield - The volume of water discharged from a well in terms of volume over time (e.g. gallons per minute,)

Wetlands - Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (U.S. Army Corp of Engineers, Control No. 140, FY94, REGULATORY IV - Wetlands Identification and Delineation).

Xeriscape - A landscape design practice that includes the use of native and well-adapted non-native plants distinguished by low water needs to create a visually pleasing drought tolerant garden which, once established, will require minimal supplemental watering.

Appendix C

Public Meetings

East Mountain Area Plan meetings, hosted by Commissioner Brasher, were held nearly every month, for a year, to allow discussion about the plan and relevant issues. The meetings were announced in the local newspaper, on flyers posted in key community buildings, by local civic groups, and in neighborhood associations. The following public meets were held including the number of attendees as counted on the sign in sheet. :

June 3, 2003
Presentation – East Mountain Area Plan background
Dicussion – Views on the current area plan
28 community members in attendance

July 9, 2003
Review questionnaire and discuss
Discussion – commercial corridors, nodes, and special use permits
37 community members in attendance

Aug. 13, 2003
Performance Criteria Updating discussion
Presentation – Geohydrology, Jeff Peterson, Bernalillo County Public Works Div.
28 community members in attendance

Sept. 10, 2003
Subcommittee Formation
Discussion – Questionnaire distribution
13 community members in attendance

October 8, 2003
Presentation - Carnuel Land Grant, Moises Gonzales
29 community members in attendance

Nov. 5, 2003
Plan review and update
10 community members in attendance

Dec. 10, 2003
Open House
29 community members in attendance

Jan. 7, 2004
Lecture & questions – "Area Planning in Bernalillo County" by Patrick Trujillo (County Legal) and Sandy Fish (County Planning)
Roster not available

Feb. 11, 2004
EM Trails and Bikeways update (Clay Campbell, Parks and Recreation)
Citizen Questionnaire Results (Mari Simbaña, Planning).
EMAP Work Schedule (Mari Simbaña)
23 community members present

April 21, 2004
EMAP process update (Mari Simbaña, Planning)
Resident Input updates
-John Marr
-Debbie Finfrock
10 community members present

May 19, 2004
Presentation-Population Facts & Figures (Ann Simon, Mid Region Council of Governments)
15 community members present

June 16, 2004
Presentation- Maps and associated data for the East Mountain Area Plan
(Catherine VerEecke, Bernalillo County Planning)
8 community members present

Community Participants

The following names were found on the sign in sheets for East Mountain Area Plan meetings:

Beth Beaver
Debbie Finfrock
Katherine Beebe
John Marr
Mike Moran
Linda Barbour
Star McKinney
Dana Lenberg
Christine Smith
Eloy P. Jaramillo
Susan Moore
Crawford MacCallum
Nathan Dowden
K.A.Hoggatt
Macario Griego
Judy Suiter
Will Duff
Fred Rael
Ted Bolan
Kent Taylor
Richard Nieto
Cindi Moran
Mardi Griffis
Gary Kather
Susan Smith
Rich Besser
Jim Harrelson
Nettie Harrelson
Kathy McCoy
Carlton Canaday
Michael E. Eakins
Marcia Duggar
Philip Georg
Genesis Parce
Virginia Rael
Rory McClannahan
Andy Walker
Susan Moore
Carolyn Freeman
Leila Steele
Eloy P. Jaramillo
Geri Ostrow
Kevin Bean
Pat Rich
Mark Macallister
Moises Gonzales
Yolanda Garcia
Will Duff
Dorothy Duff
John Hickerson
John Telle
Andre Larroque
Roger Cox
Maxine Wilson
Juan Sanchez
Bill Fleming
Jim Malone
Todd Owen
Patrick Buru
Lisa Buru
Patricia Cote

Appendix D

Water Information

References

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Appendix D, Table 1.

Estimated average annual recharge based on precipitation elevation relationship and Maxey-Eakin coefficients.

Precipitation zone for the East Mountain Area	Recharge coefficient	Area, acres	Recharge rate based on Maxey-Eakin coefficient, in/yr	Estimated recharge in zone, ac-ft/yr
<8 inches	0.0	0	--	--
8 to 12 inches	0.03	0	--	--
12 to 15 inches	0.07	47,681	1.0	4,000
15 to 20 inches	0.15	152,400	2.4	30,900
> 20 inches	0.25	5269	5.3	2,300
Total	--	205,350	--	37,200

Appendix D, Table 2.

Transmissivity of the geologic units in the East Mountain Area and vicinity.

Aquifer	Transmissivity from Pumping Test, ft^2/d	Location of Pumping Test*
Madera	0.2[a]	Rock Springs
	8-318[a]	Heatherland Hills
	16[e]	Estancia Basin
	35[a]	Christian Rich Subdivision
	39[g]	E-05561-S4 Tajique MDWCA
	40-500[a]	S-432
	93-137[a]	Juan Thomas Canyon
	108-156[a]	T11N R6E 26.4343
	108[h]	Monte Largo/Edgewood Area
	124[a]	Entranosa water system; E-2298-S-6
	133[a]	Cox 2 Well (S. of San Pedro Estates Sub)
	221-1,765[d]	Well 4
	244[e]	Estancia Basin
	250[a]	RG-44349; E-4697; S-1065
	277[h]	Monte Largo/Edgewood Area
	310[j]	IHMW18 (Indian Hills Site, T10N R6E 7)
	383[a]	Vista de Manana Subdivision
	1,123[a]	Entranosa Water System
	1,203[e]	Estancia Basin
	1,467-40,000[a]	Barton Water Users Assoc.
	1,490-4,858[c]	Barton Water Users Assoc. Well
	1,730[a]	Sundance Mountain Ranches
	1,979-2,475[a]	Magic Valley
	2,300-20,318[d]	Rose Well
	2,400[h]	T11N R7E 29.2112
	3,475[b]	Stout Well (Observation Well)
	3,475 (theoretical)[b]	Parnegg Well
	5,290[b]	Badal Well (Observation Well)
	5,650[a]	Tijeras

Appendix D, Table 2.

Transmissivity of the geologic units in the East Mountain Area and vicinity (continued).

Aquifer	Transmissivity from Pumping Test, ft^2/d	Location of Pumping Test*
Madera (continued)	6,000-30,000 [a]	RG-32865; RG-44029
	6,667 [h]	T10N R7E 25.2
	7,760 [e]	Estancia Basin
	8,470 [e]	Estancia Basin
	10,000 [a]	Chilili, store well
	10,000 [a]	Vicinity of Entranosa water system
	10,000 [e]	Estancia Basin
	13,368 [h]	Monte Largo/Edgewood Area
	15,320 [e]	Estancia Basin
	17,020 [e]	Estancia Basin
	18,820 [e]	Estancia Basin
	58,000-140,800 [a]	Entranosa water system; Estancia Basin, Santa Fe Cty.
	63,360 [a]	Entranosa water system; E-2298-S-4
	74,800-299,200 [a]	Vicinity of Entranosa water system
	82,000 [e]	Estancia Basin
	82,000 [h]	T10N R7E 23.113
	86,000 [e]	Estancia Basin
	100,000 [a]	Fox Hills and Magic Valley area
	280,000 [h]	T10N R7E 23.1
Abo/Madera	400 [i]	Entranosa Well Field (Observation Wells)
	400 [j]	TBMW26
	10,000-40,000 [i]	Entranosa Well Field (Observation Wells)
Abo	36-55 [k]	S-816
	276-418 [a]	Tijeras Land Estates Subdivision
	313-2,349 [d]	Warren Mesa Well
	1,080-1,200 [a]	Highway Dept.; Tijeras Canyon #3
	1,200 [a]	S-137
	1,660-1,850 [a]	Eagle Crest Estates Subdivision
	2,000 [a]	S-110

Appendix D, Table 2.

Transmissivity of the geologic units in the East Mountain Area and vicinity (continued).

Aquifer	Transmissivity from Pumping Test, ft^2/d	Location of Pumping Test*
Abo (continued)	2,100 [j]	IHMW2 (Indian Hills Site, T10N R6E 7)
	2,500 [j]	TBMW15 (T10N R6E 7)
	2,700 [j]	IHMW16 (Indian Hills Site, T10N R6E 7)
	3,200 [j]	IHMW1 (Indian Hills Site, T10N R6E 7)
Abo-Yeso	5,500 (with Yeso) [a]	S-1065
Yeso	500 [a]	S-78
San Andres & Glorieta	5,000 [a]	S-41
	44,118 [d]	AmeriWest Well (S-1065)
	12,957-13,974 [l]	S-41- Enlarged
	96,900-1,045,000 [a]	Sandia de Riviera MHP
	100,000 (in outcrop) [a]	S-41
	245,000-330,000 [a]	Mountain Ranch; includes Santa Rosa
Santa Rosa-Chinle	500 (Outcrop) [a]	S-1065
	1,000 [a]	S-670; S-1065
	2,279 [a]	S-152 and others
Mesa Verde	1,500 [a]	S-1123
Mancos	300 [a]	S-816
Morrison	120-135 [a]	Enclave Subdivision
	910 [a]	S-1202
Alluvium and fractured granite	88-2,485 [a]	Monticello
	431-1,806 [a]	Monticello
	503-1,180 [a]	Monticello
	621-2,783 [a]	Monticello
	1,829 [a]	Monticello
	2,608 [a]	Tres Pistoles de Sol
	5,683-6,824 [a]	Monticello

Appendix D, Table 2.

Transmissivity of the geologic units in the East Mountain Area and vicinity (continued).

Aquifer	Transmissivity from Pumping Test, ft^2/d	Location of Pumping Test*
Granite	0.9 [a]	Mo Well, Dyche Property
	1.74 [m]	Shelton Well, Dyche Property
	500 [a]	RG-48079
Crystalline, Tijeras Greenstone	12.7 [n]	RG-58935

* New Mexico State Engineer Office watershed designation for wells in each watershed: E= Estancia, RG = Rio Grande, S = Sandia

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Appendix D Table 3.

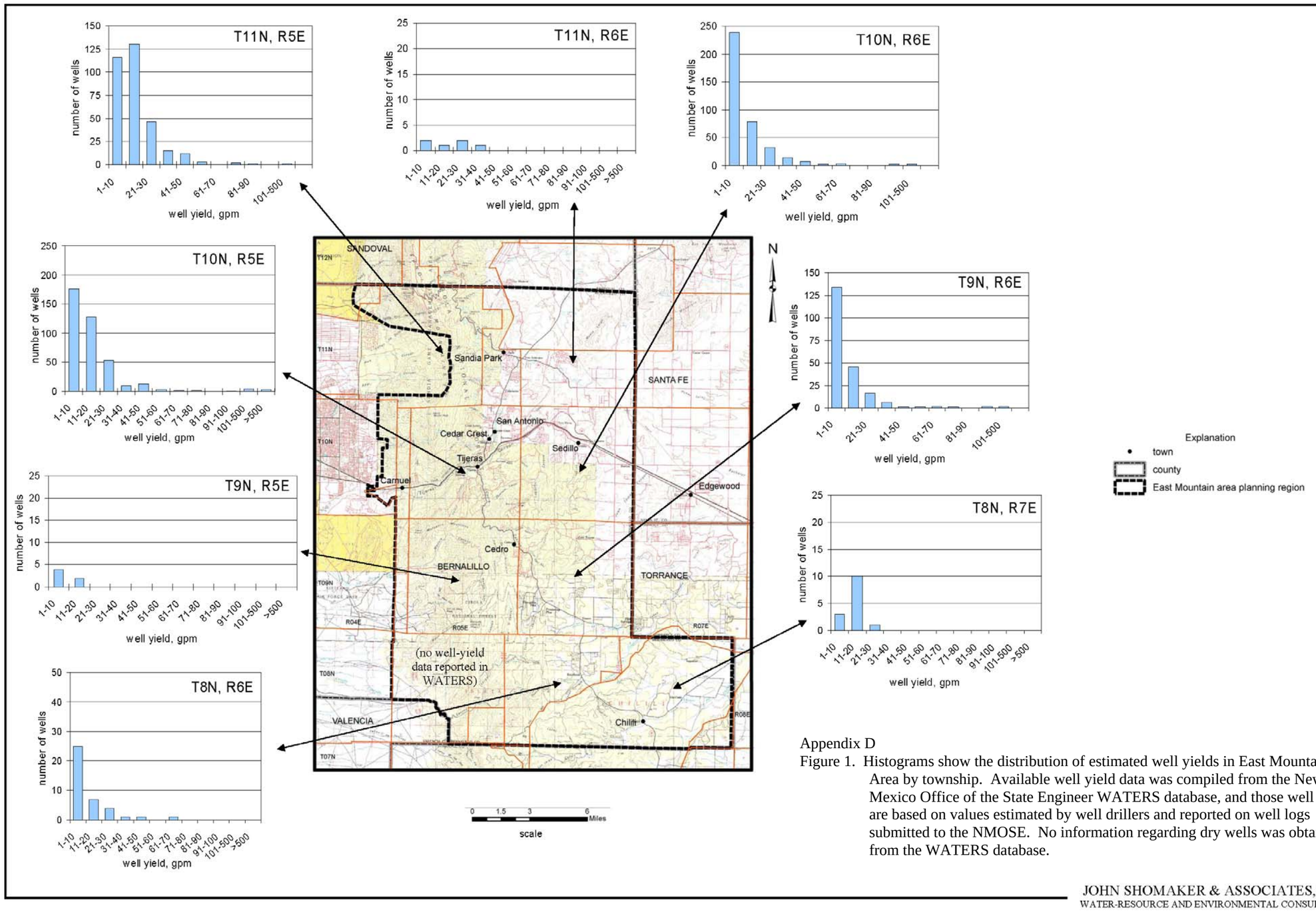
Range of lot sizes based on groundwater in storage under a lot assuming specific yield values of 0.01 and 0.05 for various saturated thicknesses, no recharge, average annual withdrawal rates of 0.30 acre-feet and 0.6 acre-feet (21 acre feet and 42 acre-feet in 70 years), and that 80 percent of the groundwater in storage can be recovered.

Specific yield / storage coefficient	Saturated thickness, feet	Minimum lot size, acres	Groundwater in Storage, ac-ft	Groundwater in storage with 80% recovery
Assuming a withdrawal of 0.3 acres-feet per yer				
0.01	100	26	26.3	21
0.01	200	13	26.3	21
0.01	300	8.7	26.3	21
0.01	400	6.5	26.3	21
0.01	500	5.2	26.3	21
0.05	100	5.2	26.3	21
0.05	200	2.6	26.3	21
0.05	300	1.7	26.3	21
0.05	400	1.3	26.3	21
0.05	500	1.1	26.3	21
Assuming a withdrawal of 0.6 acres-feet per yer				
0.01	100	53	52.5	42
0.01	200	26	52.5	42
0.01	300	17	52.5	42
0.01	400	13	52.5	42
0.01	500	10	52.5	42
0.05	100	10	52.5	42
0.05	200	5.3	52.5	42
0.05	300	3.5	52.5	42
0.05	400	2.6	52.5	42
0.05	500	2.1	52.5	42

Appendix D Table 4.

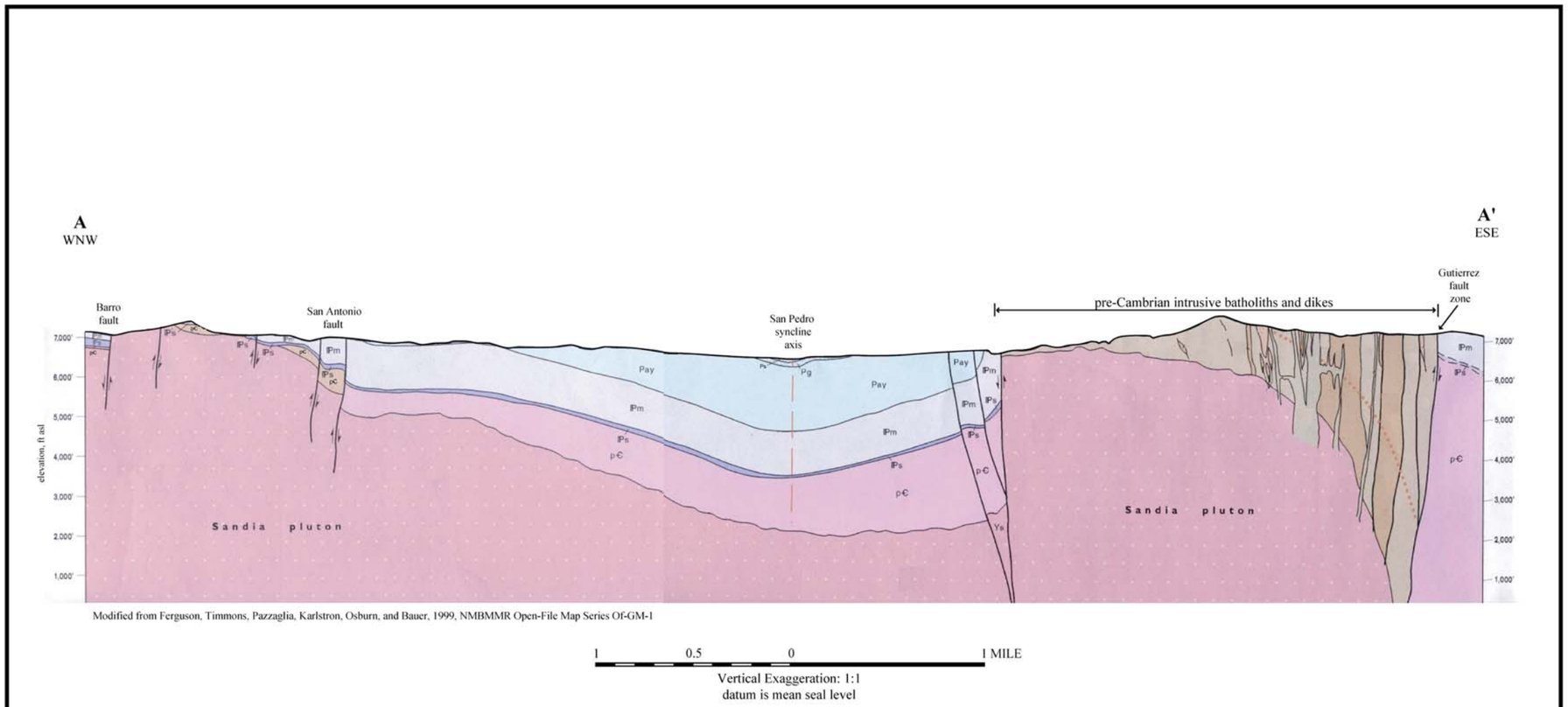
Range of lot sizes based on groundwater in storage under a lot assuming specific yield values of 0.01 and 0.05 for various saturated thicknesses, an average of 0.4 inches of recharge, average annual withdrawal rate of 0.30 acre-feet and 0.6 acre-feet (21 acre feet and 42 acre feet in 70 years), and that 80 percent of the groundwater in storage can be recovered.

Specific yield /storage coefficient	Saturated thickness, feet	Minimum lot size, acres	Groundwater Storage, ac-ft	Average Recharge, for 70-years, acre-feet	70-Year Availability, ac-ft	Groundwater in storage with 80% recovery
Assuming a withdrawal of 0.3 acre-feet per year						
0.01	100	8.5	8.5	17.8	26.3	21
0.01	200	6.4	12.8	13.5	26.3	21
0.01	300	5.2	15.5	10.8	26.3	21
0.01	400	4.3	17.2	9.1	26.3	21
0.01	500	3.7	18.5	7.8	26.3	21
0.05	100	3.7	18.5	7.8	26.3	21
0.05	200	2.2	21.7	4.6	26.3	21
0.05	300	1.5	23.1	3.2	26.3	21
0.05	400	1.2	23.8	2.5	26.3	21
0.05	500	1.0	24.3	2.0	26.3	21
Assuming a withdrawal of 0.6 acre-feet per year						
0.01	100	17	16.9	35.6	52.5	42
0.01	200	13	25.6	26.9	52.5	42
0.01	300	10	30.9	21.6	52.5	42
0.01	400	8.6	34.4	18.1	52.5	42
0.01	500	7.4	37.0	15.5	52.5	42
0.05	100	7.4	37.0	15.5	52.5	42
0.05	200	4.3	43.4	9.1	52.5	42
0.05	300	3.1	46.1	6.4	52.5	42
0.05	400	2.4	47.5	5.0	52.5	42
0.05	500	1.9	48.4	4.1	52.5	42



Appendix D

Figure 1. Histograms show the distribution of estimated well yields in East Mountain Area by township. Available well yield data was compiled from the New Mexico Office of the State Engineer WATERS database, and those well yields are based on values estimated by well drillers and reported on well logs submitted to the NMOSE. No information regarding dry wells was obtained from the WATERS database.



Appendix D
Figure 2 West-to-east section through the northern part of the East Mountain Area, Bernalillo County. The line of section and geological legend are shown on Figure 4. Wavy line represents irregular contact between Sandia Pluton and other geological units. Red dotted line represents change in grade of mineral assemblages in the pre-Cambrian units. The symbol “Pay” represents a combined unit of Permian Abo and Pernian Yeso Formations.

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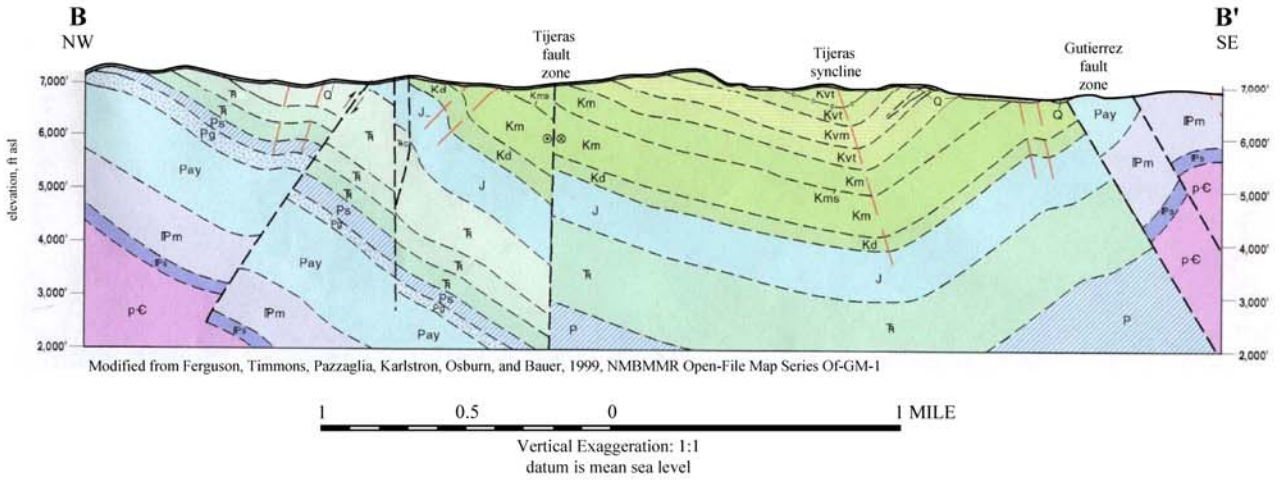

Appendix D

Figure 3 Northwest to southeast geologic cross-section through the north central part of the East Mountain Area, Bernalillo County. The line of section and geologic legend are shown on Figure 4. Orange dashed lines represent fold axes. Units "Kvt" and "Kvm" are Cretaceous Mesaverde terrestrial sandstone and Cretaceous Mesaverde marine sandstones and shales, respectively, of the Cretaceous Mesaverde Group. The symbol "Kms" is a sandstone unit within the Cretaceous Mancos Shale. The symbol "Pay" represents a combined unit of Permian Abo and Permican Yeso Formations. The symbols "Ps" and "Pg" represent Permian San Andres Limestone and Permian Glorieta Sandstone, respectively, but are seen on Figure 4 as the combines Permian San Andres Limestone and Glorieta Sandstone (Psg).

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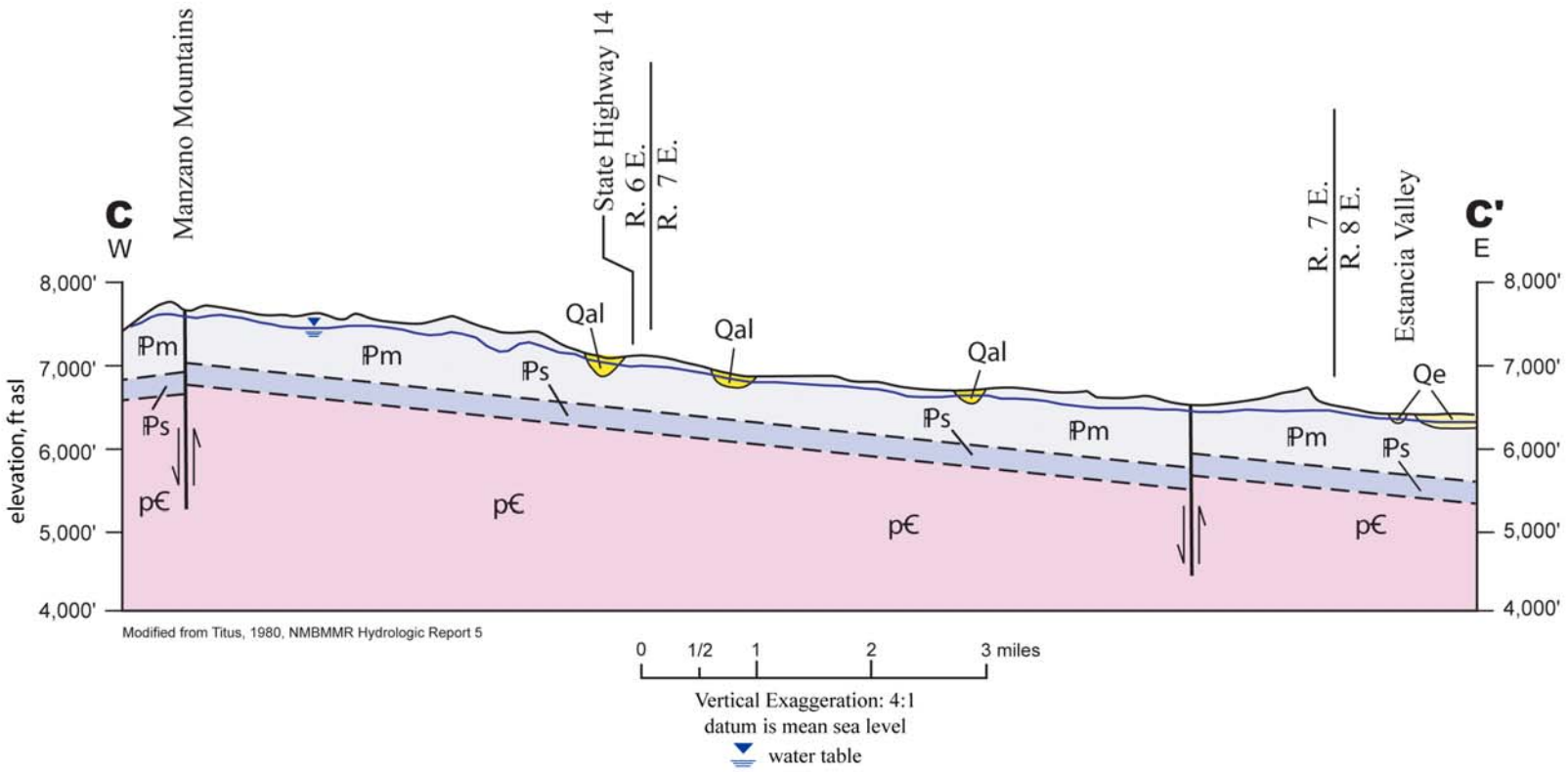
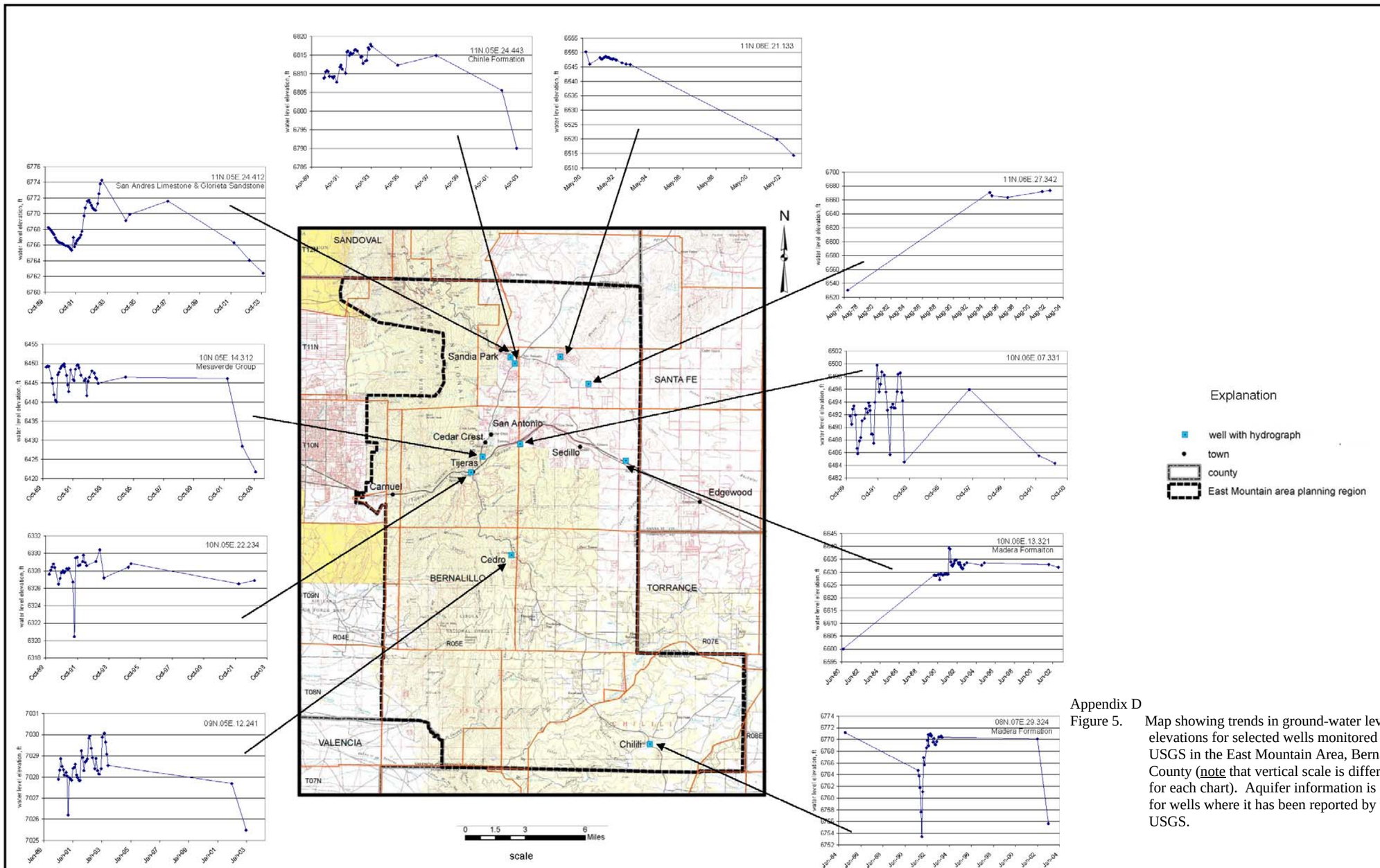


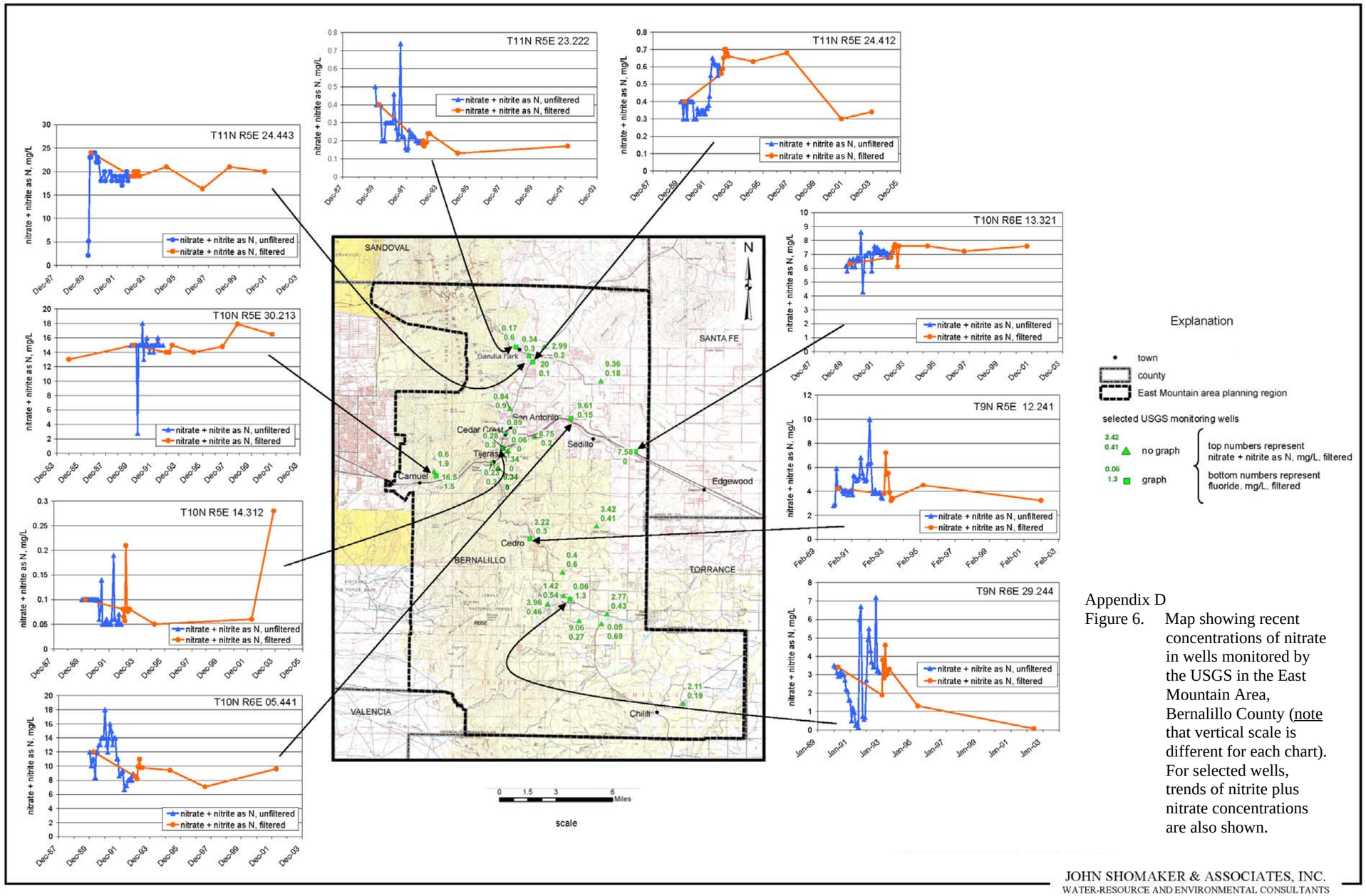
Appendix D

Figure 4 West-to-east geologic cross-section through the southern part of the East Mountain Area, Bernalillo County. The line of section and geological legend are shown on Figure 4 (p.61). The symbols "Qal and "Qe" represent Quaternary Alluviym and Quatenary Estancia Valley Fill Deposits, respectively. is shown on Figure 4 (p. 61)



Appendix D

Figure 5. Map showing trends in ground-water level elevations for selected wells monitored by the USGS in the East Mountain Area, Bernalillo County (note that vertical scale is different for each chart). Aquifer information is noted for wells where it has been reported by the USGS.



Appendix D
Figure 6. Map showing recent concentrations of nitrate in wells monitored by the USGS in the East Mountain Area, Bernalillo County (note that vertical scale is different for each chart). For selected wells, trends of nitrite plus nitrate concentrations are also shown.

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Appendix E

Soil Information

GUIDELINES FOR NON-EROSIVE VELOCITIES IN DRAINAGEWAYS AND ROADSIDE DITCHES IN THE ALBUQUERQUE FIELD OFFICE AREA

Soil Texture	Maximum Permissible Velocities (feet per second)	
	Bare Channel [1]	Vegetated Channel [2]
Sand, Silt, Sandy loam and Silty loam	1.5	2.5
Silty clay loam, Sandy clay loam	2.5	3.5
Clay loam, clay	2.5	3.5
Coarse gravel	5.0	6.0
Cobbles (>3" diameter) and Cobbles	6.0	7.0

1 Raw, newly excavated ditches may have a lower frictional value "n" than would apply after some aging of the ditch takes place. Therefore, higher than design velocities may be expected in new ditches. When turf on ditch side slopes is slow in developing, the maximum permissible velocities may need to be reduced.

2 Permissible velocities in a vegetated channel are based on the conditions that can be expected to be achieved under the climatic conditions in the Albuquerque Field Office area. These conditions assume a fully revegetated stand of native grasses, 6-10" tall, within the channel. If a minimum 25% basal cover cannot be obtained, disregard the vegetation and design as for a bare earth channel.

Note: The values given in this chart are general guidelines derived from Chapter 9, NRCS Engineering Field Manual, Table 9.1 "Permissible Velocities for Diversions". For design of specific channels, NRCS recommends use of the tables in the aforementioned manual or Technical Release No. 25, Design of Open Channels

Appendix F

East Mountain Quality of Life Survey Responses

The following tables summarize the quantifiable data collected for the East Mountain Area Quality of Life Survey. In addition to being printed in two East Mountain area newspapers, over 1000 copies of the Survey were distributed to area residents, landowners, and business people. The total number of returned surveys is 732 (n=732). The number of respondents varies by question, as some questions are not appropriate for all respondents, some people included only comments that were not included in the final percentages, and some people did not answer every question. Percentages were based only on the responses to the multiple-choice questions. In addition to answering the multiple-choice questions, respondents included written comments to most of the questions. Comments are not included in this document, but are available in the original document.

Question # 1. Are you a resident of:

	(n=732)
a. Bernalillo County (East Mountain Area, including Carnuel)	82.20%
b. Albuquerque	0.70%
c. Elsewhere in Bernalillo County	0.40%
d. Sandoval County	1.20%
e. Santa Fe County	9.70%
f. Torrance County	6.40%
g. Other	0.50%

Question # 2. If you live or own property in the East Mountain Area of Bernalillo County, which of the following areas are you closest to:

	(n=667)
a. Carnuel region	5.20%
b. Tijeras Village region	4.00%
c. Along Old 66 (333) east of Tijeras - Zuzax, Tablazon, Sedillo	17.20%
d. North 14 and Cedar Crest region	15.00%
e. Central Frost Road and Zamora Road/Dennis Chavez region	2.40%
f. North 14 and Frost Road region	12.60%
g. Mountain Valley Road region – North 217 and Frost Road	7.30%
h. County Road 217 region	8.80%
i. Cedro -- Juan Tomas area (especially Forest Road 242)	1.80%
j. South 14 (337) – Cedro/Ramblewood/Ponderosa region	8.20%
k. South 14 (337) – Yrissari/Bearcat region	8.20%
l. Martinez Road region (McDonald Rd., Sundance, etc.)	2.10%
m. Chilili and Escobosa region	1.00%
n. Paa-Ko	3.70%
o. La Madera region	1.30%
p. Other	5.80%

Question # 3. How long have you been a resident of the East Mountain Area?

	(n=730)
a. Less than one year	5.20%
b. 1-2 years	4.40%
c. 2-5 years	15.80%
d. 5- 10 years	24.80%
e. 10-20 years	27.00%
f. Over 20 years	22.50%
g. I'm not a resident, but I own property in the area	0.70%

Question # 4. If you live in the East Mountain Area of Bernalillo County, which of the following describes you:

	(n=658)
a. Landowner living on property	94.80%
b. Nonresident landowner	1.80%
c. Renter/leasor	2.60%
d. Community-owned land resident	0.30%
e. Other	2.00%

Question # 5. What size East Mountain Area lot(s) do you currently live on or own?

	(n=686)
Less than one acre	8.70%
1-5 acres	62.10%
5-10 acres	14.30%
10-50 acres	13.80%
More than 50 acres	1%

Question # 6. Where is your principal place of employment or your office located?

	(n=712)
a. East Mountain Area of Bernalillo County	17.40%
b. Albuquerque	42.70%
c. Edgewood or Moriarty region (Santa Fe or Torrance County)	6.90%
d. Retired	28.90%
e. Other	9.80%

Question # 7. Do you commute to work?

	(n=442)	Average in miles
a. Into the East Mountain Area	4.50%	
b. Out of the East Mountain Area	76.90%	
c. Within the East Mountain Area	22.90%	
d. About how many miles is your average commute to work?		36.76

Question # 8. If you work in the East Mountain Area what is your occupation?

n=271 (Comments not available in this document)

Question # 9. Why did you move to the East Mountain Area: (check one or more)

	(n=720)
a. Rural character	79.00%
b. Agriculture and/or to raise animals	18.60%
c. More affordable property	28.10%
d. Returned to family or childhood home	2.50%
e. Escape from heat	31.10%
f. Economic opportunity	2.20%
g. Escape from noise/light/air pollution	71.10%
h. Escape from urban pressures	57.80%
i. Family or childhood home	2.40%
j. Home based or “cottage” industry	5.00%
k. Income/Investment	2.80%
l. Life-long resident	5.00%
m. Low property taxes	12.60%
n. Married a local resident	4.20%
o. Open space and scenic appeal	77.10%
p. Privacy and or solitude	77.50%
q. Recreation	27.90%
r. Self-sufficient life-style	32.90%
s. Sense of community	21.30%
t. Other	10.10%

Question # 10. Do you think further residential development should be:

	(n=726)
a. Encouraged	3.20%
b. Continued but controlled	38.40%
c. Limited	44.20%
d. Stopped	17.40%
e. Other	2.60%

Question # 11. What types of recreational facilities in the EMA does your family use now?

	(n=638)
a. Community centers	36.80%
b. Sports fields	15.70%
c. Forest Service developed facilities	46.70%
d. Forest Service trails and wilderness	75.50%
e. City-owned open space	13.60%
f. County-owned open space	26.20%
g. Other	9.70%

Question # 12. What types of additional private or public facilities are needed in the East Mountains?

n=477 (Comments not available in this document)

Question # 13. Are more businesses needed in the East Mountain Area?

	(n=665)
a. Yes	45.10%
b. No	56.10%

Question # 14. Where should new businesses be located?

	(n= 700)
a. Only in existing commercially-zoned areas	44.30%
b. In established (existing) villages/population centers	27.60%
c. Along major roads (e.g. Old 66)	22.00%
d. At major intersections	11.00%
e. In strip malls	5.00%
f. In shopping centers	4.90%
g. In Albuquerque and Edgewood	33.90%
h. Other	6.60%

Question # 15. What kinds of new business are needed?

	(n=675)
a. Small locally owned businesses, cafes, craft shops, galleries	49.60%
b. Large stores, restaurants, etc.	16.00%
c. Home-based businesses, etc.	15.30%
d. Tourist trade	12.10%
e. No new businesses	31.70%
f. Other	13.30%

Question # 16. Would more shopping centers and/or strip malls improve or damage the quality of life here?

	(n=698)
a. Improve	17.90%
b. Damage	83.00%

Question # 17. If you live in the EMA, how do you get your household water?

	(n=723)
a. Acequia system	2.10%
b. Community-based system	21.60%
c. Individual well	53.00%
d. Professionally-managed water coop	21.60%
e. Water hauling	6.60%
f. Rainwater harvesting	11.60%
g. Other	1.80%

Question # 18. Have you had any problems with your EMA water source?

	(n=414)
a. Quantity of water received or well water level	33.30%
b. Quality of water (pollutants, taste, smell)	34.80%
c. Cost	8.90%
d. Distribution of water (leaky piping, pressure, etc.)	12.30%
e. System management	5.80%
f. Other	26.30%

Question # 19. Are you having any problems with your EMA wastewater system?

	(n=675)
a. Yes	4.30%
b. No	95.70%

Question # 20. Are you familiar with such alternative wastewater systems as graywater use, constructed wetlands, aerobic and other modified septic systems, non-discharging systems?

	(n=699)
a. Yes	81.30%
b. No	18.70%

Question # 21. Would you be interested in connecting to a regional water supply and/or sewer system if one becomes available in your area?

	(n=694)
a. Yes	25.90%
b. No	46.70%
c. More information needed	32.30%

Question # 22. Please show how important each of the following issues is to you personally. Please answer all items.

(Ext = Extremely important; Mod = Moderately important; Sl = Slightly important; Not = Not important at all):

		3	2	1	0	
	Average	EXT	MOD	SL	NOT	Responses
Retention of rural character	2.74	589	81	32	14	716
Animal control	1.95	245	241	160	60	706
Development	2.04	347	154	87	117	705
Wildfire	2.60	511	139	41	20	711
Forest health and environmental issues	2.58	486	171	43	14	714
Government regulation	1.85	231	227	141	96	695
Political representation	2.17	305	260	90	48	703
Roads	1.98	220	302	134	51	707
Schools	1.83	263	186	132	125	706
Sheriff's and Fire Dept.'s services	2.35	376	237	63	32	708
Taxes	2.23	323	262	90	35	710
Traffic	2.33	351	268	63	28	710
Urbanization	2.29	427	133	49	88	697
Water and sewage	2.09	303	230	107	66	706

Question # 23. What do you like best about the East Mountain Area?

n=670 (Comments not available in this document)

Question # 24. What do you feel are the biggest problems of the East Mountain Area?

n=651 (Comments not available in this document)

Question # 25. What should be the minimum lot size for the East Mountain Area?

	(n=713)
a. Less than 2 acres	7.00%
b. 2 acres	56.20%
c. 5 acres	19.50%
d. More than 5 acres	6.00%
e. Other	11.20%
f. No opinion	4.10%

Question # 26. Would you support designating certain areas as traditional and/or historic communities (such as Carnuel, Chilili, San Antonio, etc.)

	(n=715)
a. Yes	60.00%
b. No	13.00%
c. No opinion	27.10%

Question # 27. Do you have any thoughts regarding Zone Change requests and/or Special Use Permit requests in the East Mountain Area?

n=440 (Comments not available in this document)

Question # 28. Please describe yourself:

	(n=664)
a. male	47.70%
b. female	57.10%
	(n=708)
c. 18-34 years old	5.20%
d. 35-54 years old	48.90%
e. 55-75 years old	40.80%
f. 75+	5.50%

Question # 29. Would you be in favor of City/County Consolidation?

	(n=722)
a. Yes	4.80%
b. No	78.50%
c. No opinion	3.70%
d. Need more information to decide	14.00%
e. Don't care	0.80%
f. Other	0.80%

Some Basic geographical differences found by the questionnaire are:

- Of all the regions, Carnuel/Tijeras/ Old 66 region is least tolerant of new residential development;
- Residents in the county Road 217/ Martinez Road region are least likely to use community centers and sports fields and most likely to use forest service trails and developed facilities;
- While the majority of people in all five regions believe that more businesses are not needed in the East Mountain Area, respondents in the North 14/ Paa-ko/ La Madera region are slightly more tolerant of new business in the East Mountain Area than other areas; respondents in the Carnuel/ Tijeras/ Ol66 region are least tolerant of new businesses in the East Mountain Area;
- Respondents in the Carnuel/ Tijeras/ Old 66 are least tolerant of small locally owned businesses, cafes, craft shops, and galleries and prefer no new businesses more than any other region;
- Only respondents in the Carnuel/Tijeras/Old 66 region use acequias to obtain water;
- The Central Frost Road/ Zamora/ North 217 region uses community-based and professionally managed water coops more than any other region; the Cedro/ Juan Tomas/ South 14 (337)/Chilili/ Escobosa region uses community-based and professionally managed water systems the least;
- Central Frost Road/ Zamora/ North 217 and county Road 217/ Martinez Road regions use individual wells less than other regions;
- Central Frost Road/ Zamora/ North 217 and North 14/ Paa-ko/La Madera regions don't rely on water hauling or rainwater harvesting as much as other regions; county Road 217/ Martinez Road and the Cedro/ Juan Tomas/ South 14 (337)/Chilili/Escobosa regions use water hauling and rainwater harvesting significantly more than other regions;
- Cedro/ Juan Tomas/ South 14 (337)/ Chilili/ Escobosa and Carnuel/ Tijeras/ Old 66 regions have the most problems with quantity of water received and well water levels;
- The Central Frost Road/ Zamora/ North 217 region has the most problems with water quality; the Cedro/ Juan Tomas/ South 14 (337)/ Chilili/ Escobosa has the least problems with water quality;
- The Central Frost Road/ Zamora/ North 217 and County Road 217/ Martinez Road regions have the most problems with cost of the water; North 14/ Paa-ko/ La Madera has the least;
- The Central Frost Road/ Zamora/ North 217 and Carnuel/Tijeras/Old 66 regions have the least problems with water distribution and water pressure;
- The North 14/ Paa-ko/ La Madera region is the only one with appreciable system management problems;
- North 14/ Paa-ko/ La Madera is the only region with appreciable wastewater problems;
- Respondents in the Carnuel/Tijeras/Old 66 and Cedro/ Juan Tomas/ South 14 (337)/ Chilili/ Escobosa regions have lived in the East Mountain area longer than respondents in other regions; respondents in the County Road 217/ Martinez Road region moved to the area most recently;
- On average, lots in the Cedro/ Juan Tomas/ South 14 (337)/ Chilili/ Escobosa region are larger than lots in other areas; lots in the Carnuel/Tijeras/Old 66 and North 14/ Paa-ko/ La Madera regions are the smallest;

Appendix G

COMMUNITY VISION

The following language was taken directly from the community steering committee's comments and written input.

A majority of survey respondents cited preservation of rural character as a primary concern. Survey respondents clearly recognized the difference between rural and urban/suburban character. However, past EMA plans have not clearly described what the term *rural character* means. Some decision-makers have cited this failure as hampering efforts to protect EMA rurality from inappropriate development, commercialization, suburban encroachment, and other pressures.

A plan that properly defines and specifies what rural characteristics are can, in turn, enable policies and legal decisions that better protect against rural degradation. Nationwide, planning literature is filled with comments about the elusiveness of the term, *rural character*. The 2003 EMA survey —Question 23:*What do you like best about the EMA?* — offers language, concepts, and preferences by which we might describe EMA rurality.

A 2003 survey synopsis describes EMA rural character as a remote, isolated, secluded area with few people, low-population density, and where residents have no close neighbors. In a rural area, a healthy, natural ecosystem dominates the landscape, and development is limited and not easily seen from most roadways. Home sites are most often purchased and built individually by various local builders rather than mass produced in tract developments built by a single, large enterprise; however, vacant parcels may have been divided into large lots (two- to five-acre minimum) prior to sale to individual homeowners.

Note that the carrying capacity of a rural area is a fraction of that of suburbia. Although, cities and suburbs might wisely increase and concentrate human populations, a rural area ceases to exist when it exceeds its capacity. The true value of a rural area lies — not in county revenues — but in quality of life, which cannot and must not be assessed by monetary value.

The following bullet points list rural features, qualities, and characteristics cited in the 2003 community survey that EMA policies, plans, and decisions should specifically protect. Other characteristics may be identified in the future.

- **Undisturbed and protected views.** *A rural area has "wide, open spaces between houses". It lacks commercial signs and billboards.*

• **A nature-dominated landscape.** *Instead of artificial structures, natural flora and fauna dominate; rurality has and values its abundant unspoiled scenery, wildlife, wildflowers, birds, coyotes, woods, trees, undeveloped meadows — a place where residents can follow seasonal change in a predominantly natural landscape.*

• **A quiet and private life.** *A rural area is quiet. It has and enforces noise and light ordinances. It exists without congestion and life unfolds at a "slower pace". Rural life offers privacy, peace, tranquility, and solitude; is serene, has "breathing room" and "room to roam". It enables individual residents "to be left alone" — to enjoy a natural sights and sounds along with a "relaxed pace". A rural area protects dark night skies. Rural lots are large (two- to five-acres minimum), and roads are often unpaved.*

• **A safe and uncongested area.** *A rural place "is not Albuquerque"; it's "not the city"; it's" not urban". It has less traffic and crime than suburban areas. It is protected against residential and commercial development that would encourage more traffic and crime.*

• **Clear air, safe water.** *A rural area protects water quality and quantity for existing residents first. For the existing population, it protects against residential and commercial development that would compromise the water supply and air quality.*

• **Relative lack of commercial development.** *Commercial development is limited to nonfranchized, small, locally owned businesses in existing commercial zones, with commercial sites restricted to major highway intersections, and new commercial zones discouraged. On a case-by-case basis and only with full citizen participation, commercial expansion might be considered within existing commercial zones at major intersections.*

Community Recommendations

The general recommendations cited here should be used to develop legally binding policies that carry out the intent of these recommendations.

- Pro-active measures must be developed, beginning immediately, to address the two most urgent practical problems:
  -Water quality and supply
  -Wildfire protection.
  Such measures would include programs to make water and forest conservation affordable, accessible, and practical; these measures would include free, ongoing community education.

- The commercial -and residential-development approval process must be more rigorous, more publicly visible, and more responsive to public opinion. Existing standards and procedures for development approval should be re-examined. A significant body of citizens and residents should be included in all stages of the development-approval process.

- Residential and commercial development should be increasingly limited and controlled. Over-development is directly related to the two most potentially catastrophic issues (water and fire) and to the most egregious quality-of-life issue — disregard for rural preservation. Water, fire, and rural preservation must be top criteria for approving any and all new development.

- Developers must be held responsible and accountable for the following:
  -Increased wildfire danger or increased fire-prevention costs to taxpayers.
  -Compromising existing watersheds and viewsheds.
  -Increased air, noise, and light pollution.

- Legal standards should be re-examined for water quality and quantity; noise, light, and air pollution; crime and traffic impacts with regard to all pending and future development should be redefined with citizen participation throughout the process.

- Natural features should dominate the rural landscape, while artificial features should not be visible from roadways.

- Current low-population densities (identified by individual areas within the EMA) should be maintained throughout the EMA.

- The sense of seclusion, the solitude, tranquility, privacy, and the environmental integrity should take precedence in decisions regarding new development. Subdivisions should all include undeveloped, unimproved open spaces with public access.

- Lot sizes should be varied in each subdivision, with the minimum lot size as two acres. Open space should not be averaged in to circumvent the two-acre minimum lot size.

- Zoning should be cottage-industry friendly for clean and low-impact enterprises. This will reduce traffic and will broaden economic opportunity for rural residents.

- Future commercial- and residential-development special-use permits should be disallowed for all pending and future projects. Special-use permits, however, should be reviewed in cases of individual hardship (for example, individuals trying to care for parents on single-family housing lots, etc.). However, these too should be scrutinized to prevent development-related abuse.

- The EMA must have its own plan, not subject to urban and suburban conventions.

Community Goals and Objectives

The following are some of the goals and objectives that the community members have identified to address the issues they felt were most pertinent to the East Mountain Area. The objectives are actions that residents and neighborhood associations may carry out to attain the larger goals of the community. The goals and objectives were taken directly from community participants comments and written input.

RURAL CHARACTER AND QUALITY OF LIFE

Eighty percent of survey respondents identified preservation of rural character an "extremely important" concern.

Goal: Define rural character and rural preservation in terms that will legally ensure both.

> Objective*:* Work with County attorneys and planners to develop definitions and terminology that can guide decisions regarding rural policy and can limit rural development.

Goal: Create legal mechanisms to protect "rural character" in all planning, political, and commercial decisions.

Goal: Create mechanisms to legally ensure broad citizen and resident participation in all planning and policy making that affects the EMA (for example, regarding City/County merger; residential and commercial development; water supply, wildfire; light, air, noise, water pollution; traffic impacts; "improvement' of open space, and other issues resident citizens identify as such issues arise.)

> Objective: Create a rural body of citizens and residents with communication mechanisms to keep rural residents substantively informed on relevant issues.

> Objective*:* Conduct periodic opinion surveys.

Goal: Identify specific undeveloped open/green areas, viewsheds, and "natural" sites; then legally protect them as undisturbed green spaces.

RURAL FIRE PREVENTION:

Seventy percent of survey respondents identified wildfire as an "extremely important" concern.

Goal: Conduct and promote tree-thinning on private property for fire protection and forest health.

Objective: Establish permanent funding to enable and encourage all property owners to initially thin overgrowth and then regularly maintain healthy forest conditions on private property.

Objective: Work with the Forest Service to conduct monthly educational seminars on fire behavior and forest health. These seminars would be free and open to the public.

Objective: Work with the Forest Service to implement local forest health and fire behavior into K-12 curriculum in EMA schools.

RESIDENTIAL AND COMMERCIAL DEVELOPMENT

Goal: Influence all pending and future residential development.

Objective: Create a residents' committee, at the discretion of the area Commissioner, such as the East Mountain Coalition of Neighborhood Associations, whereby rural residents are involved in and witness to all development planning, approvals, and decisions from beginning to end.

Objective: Conduct and publish findings from periodic opinion surveys regarding development.

Goal: Re-define developer responsibilities to existing residents. Responsibilities could pertain to, for example, open meetings; full disclosure; preliminary research and assurances regarding water quality and quantity, view-shed and wildlife protection, and human population density, etc.

NATURAL ENVIRONMENT

Goal: Promote open space preservation in residential developments for purposes of watershed protection, erosion control, drainage, reduction of air pollution, and conservation of natural resources.

Objective: Promote gardening as a beneficial use of water when it is performed using water conservation methods.

Objective: Discourage planting of non-native lawns or other water-intensive vegetation.

Objective: Encourage control and removal of non-native invasive plants.

Objective: Seek grants to pay for technical assistance, engineering help, and the services of onsite inspectors for septic systems. Apply jointly with the residents for low-income grants when possible and necessary

Objective: Set up a citizen committee to distribute educational materials, maintain a computerized database, and oversee septic systems inspections.

Objective: Educate the public, including seminars, manuals, brochures, reports, reference cards, personalized free inspections, Web-based data, newspaper columns, etc.

Objective: Dispel misconceptions some residents harbor about septic programs' goals and objectives being to require replacement of all existing septic systems or enforcement of sewer systems in their place.

Objective: Move people toward behavioral changes, such as using dishwashing and laundry detergent and fertilizers that do not contain phosphorus

Objective: Encourage the community members to copy relevant information from publications, put together their own materials, publish discussions citizens have with officials, health departments and private septic maintenance persons, bring in speakers, and discuss issues via e-mail.

Objective: Focus on integrating technology and management to assist communities in funding, installing, monitoring, and effectively managing onsite wastewater systems as cost-effective viable alternatives to fully centralized sewage systems

Objective: Develop or distribute flyers to new residents through realtors about how to live with wildlife.

Appendix H

PERFORMANCE STANDARDS CONCEPT

The language presented below which was taken from Performance Criteria created in 1994 for the East Mountain Area may be considered for future design guidelines. Some of the concepts have been incorporated into the Policies of this East Mountain Area Plan to the extent allowable in the scope of the Plan.

Standards based on performance can be established and implemented within sector plans. Performance standards are based on the effects or the performance of land use activities on a site-by-site basis. Whereas, conventional zoning restricts specific land uses, performance zoning limits intensities/levels of impacts from land uses. They do not preclude or restrict development so long as the performance standard can be met. Performance-based systems are more flexible for the development and building community to use and encourage development to be creative and well designed. General performance guidelines, include the following:

Development Intensity-a measurement of how a particular development contributes to traffic generation, its affect on and need for infrastructure and facilities, its depth of impacts on the terrain, and its compatibility with adjacent land use.

Water/Wastewater
Preservation of water quality and quantity can be achieved through careful design of wastewater systems approved for use by Bernalillo County, installed by a professional installation company, and inspected and approved by Bernalillo County Office of Environmental Health. This can affect the supply of potable water to new and existing development

Regarding water, all development should do the following:

- Reduce the per capita water consumption.
- Maintain a 100-year water supply
- Eliminate environmental degradation from inefficient water use.
- Preserve the quality of the groundwater supply
- Encourage water harvesting and recharge/injection wells which meet state and EPA criteria to provide for aquifer recharge.

Regarding wastewater, all development should do the following:

- Eliminate conventional wastewater systems constructed on lots having poor soils that have been identified as inappropriate for on-site permeability, percolation, and soil depth analysis.
- Minimize the potential for groundwater pollution through exceptional wastewater design, installation and inspection.
- Revise the permit fee to fund ongoing inspection technical review, and enforcement programs at Bernalillo County.

Wildlife Habitat
Preserve significant habitat areas including riparian areas, wetlands, migration corridors, or other special habitat areas.

Visual Resources
Preserve key visual resources which may include slope areas greater than 25 percent, ridge tops, open meadows and forested areas

Fire Hazard
Provide for an adequate fire water supply
Provide fire breaks, or alternative fire containment techniques within heavily forested areas
Provide for emergency vehicle access to all residential structures.

Neighborhood Compatibility
Promote land development and use that is compatible with adjacent properties.

Subdivisions
For subdivisions proposing to create any number of lots having a net size less than five acres, the following guidelines can maintain the development within the requirements of this plan.

Water Supply
Provision of water from an approved private community or other approved water system serving multiple dwelling units

Wastewater Treatment Systems:
Provision of an approved centralized waste collection, treatment, and disposal system or public sewer system OR for lots not part of a centralized wastewater disposal system, the provision of alternative systems that can be demonstrated to mitigate the adverse impacts of discharging effluent to the environment. For lots not part of a centralized wastewater treatment system, the provision of a wastewater treatment systems system that meets the most current county ordinances and standards.

Cluster Development:
A minimum 20 percent of the site area (up to fifty percent) shall be preserved in permanent useable open space. This space does not include arroyos, cliffs or roadways.

- The minimum tract area considered for cluster development shall be 25 acres.
- The minimum net lot size within a cluster development shall be 0.33 acres.
- In order to prevent the future subdivision of large lots, individual lots created that exceed four acres shall require a note on the plat and deed restrictions specifying that no further subdivision of these lots shall be permitted.
- An open space management plan shall be required in all subdivisions that have open space areas under common ownership.

- Permanent open space must be clearly identified on the Plat and recorded on the property deed.
- Open space that may be suitable for public ownership must be discussed and agreed upon early in the design process and would involve the East Mountain Coalition, Commissioner, Bernalillo County Parks and Recreation, United States Forest Service and potentially the City of Albuquerque.

Limited Development:
Establishment of a specific building envelope

The use of buildable envelopes defines the limits of construction activity as a means of preserving natural features of the site. The limits of building envelopes for structures and wastewater system components shall be clearly identified on the Site Plan and Plat.

Building envelopes shall be located as follows:.

- Located on the edges of fields and in wooded areas whenever feasible to minimize the visual impact of development.
- Shall not include wetlands, streams, riparian areas, arroyos, floodplains, or ridge tops.
- Should not include areas with slopes over 15 percent, if possible, and shall not include any areas with slopes of 30 percent or greater.
- Shall be located to avoid areas of rock outcrops and soils with severe limitations to residential development..
- Building envelopes shall be a maximum of 25,000 square feet per lot.

Buffer Areas:
Establishment of a permanent buffer yard (around the entire perimeter of the site) greater than Bernalillo County setback requirements.

Historic and Cultural Resources:
Protection of properties with significant historic and/or cultural resources located on site and identified by the State Historic Preservation Office, but not protected by existing Federal or State statutes.

Public Lands:
Provision of additional trail access (above and beyond the trail needs identified in an adopted Bernalillo County Trails Plan) to an existing or future public trail for properties adjacent to public lands.

Parks:
Designation and preservation (not dedication) of an acceptable site (approved by Bernalillo County Parks and Recreation) for a park for those areas identified by Bernalillo County Parks Department or the Parks Master Plan as needing a park to serve the surrounding community. Availability of water and/or the expected activities and programs of potential park site will determine whether or not the site is suitable for public ownership and maintenance.

Public Dedication of all Subdivision Roadways:
Requires approval of the Bernalillo County Public Works Division.

Identification and Mitigation of Negative Impacts to Habitat Areas:
Impacted by the development above and beyond those required above.