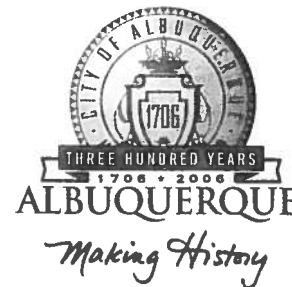


# CITY OF ALBUQUERQUE



February 21, 2006

Dennis Lorenz, PE  
Brasher & Lorenz, Inc.  
2201 San Pedro NE, Bldg. 1  
Albuquerque, NM 87110

**Re: La Cueva Estates Subdivision Drainage Report**  
**Engineer's Stamp dated 12-9-05 (B19/D25)**

Dear Mr. Lorenz,

Based upon the information provided in your submittal dated 1-13-06, the above referenced report is approved as amended. This is now the plan that must be certified for Release of SIA and Financial Guarantees.

If you have any questions, you can contact me at 924-3986.

Sincerely,

*Bradley L. Bingham*  
Bradley L. Bingham, PE

Principal Engineer, Planning Dept.  
Development and Building Services

C: file

P.O. Box 1293

Albuquerque

New Mexico 87103

[www.cabq.gov](http://www.cabq.gov)

# **DRAINAGE REPORT**

**FOR**

## **LA CUEVA ESTATES**

Albuquerque, New Mexico

Prepared For:

**Keith Naylor**

5610 San Francisco Avenue NE  
Albuquerque, New Mexico 87109

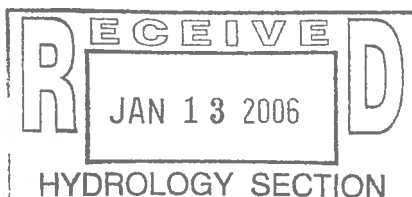
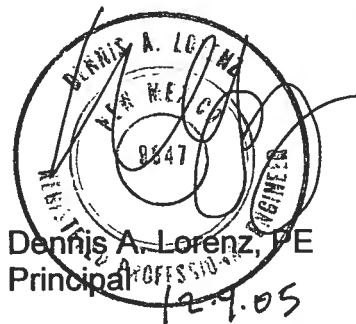
Prepared by:



**BRASHER AND LORENZ, INC.**

**Consulting Engineers**

2201 San Pedro NE, Building 1, Suite 1200  
Albuquerque, New Mexico 87110



July 2005

Revised December 2005

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## PURPOSE AND SCOPE

Pursuant to City of Albuquerque Development Process Manual, this Drainage Report is presented to outline the drainage management criteria for controlling developed runoff generated by the project site, and to identify the storm drainage infrastructure recommended to protect the site from off-site runoff. A residential development is proposed on the existing 4.4-acre project site. Access, landscaping, grading, drainage and utility improvements will be provided to support the development. This Drainage Report is presented to support a Preliminary Plat request, including Infrastructure List and Grading Plan approval by the Development Review Board.

## SITE DESCRIPTION

Presently the project site is undeveloped. The site is located between Glendale Avenue and Florence Avenue NE, and between Barstow Street and Wyoming Boulevard NE, in Albuquerque, New Mexico (see Figure 1). The site slopes from east to west at approximately 5 percent. The site is sparsely vegetated with native plant species. Recent construction activity adjacent to the site has disturbed the natural vegetation and topography. The site is located in the far NE Heights of Albuquerque, within the la Cueva Sector plan area that is zoned RD/3DU/Acre. Intermixed with this zoning unit are existing single family residences constructed on the 1.0-acre North Albuquerque Acres lots.

Glendale Avenue and Florence Avenue are partially improved across the property frontage. Street, water sewer and storm sewer improvements exist across the property frontages.

## EXISTING DRAINAGE CONDITIONS

The site presently drains west, and then divides north and south, draining to Florence and Glendale respectively. The Off-site Drainage Map – Existing Conditions (see Figure 3), illustrates the off-site drainage basins that impact the project site. Each off-site basin is described as follows:

1. Basin A is a 1.22 –acre undeveloped basin located east of Lots 6 and 7, draining to Florence Avenue.
2. Basin B is a 0.44-acre basin draining south into the site.
3. Basin C is a 22.57-acre basin originating east of Barstow Street. The basin is partially developed with single family residential constructed on the existing 0.88-acre lots. Basin C flows enter the site at the east boundary within a natural channel. A temporary channel constructed by Mountain Ridge Subdivision diverts all runoff from Basin C and on-site Basin S-B south to Glendale.

All on-site and off-site drainage flows are managed by existing public storm drainage improvements. On-site Basin S-A drains to Florence Avenue then west approximately

700 feet to a recently constructed public storm drain. The Florence Avenue storm drainage improvements were designed anticipating developed runoff from Basin S-A. On-site Basin S-B drains south with Basin C to Glendale Avenue. Runoff is intercepted by the recently constructed 78-inch storm drain constructed to convey developed runoff from the El Camino Arroyo and located development.

As shown by the attached FIRM Panel (Figure 2), the project site is impacted by a mapped Floodplain resulting from the El Camino Arroyo. A LOMR request to FEMA to relocate the floodplain to the 78-inch storm drain is pending.

## **DRAINAGE MASTERPLAN**

The current Drainage Masterplan for the site is the "Final Drainage Masterplan for North Albuquerque Acres", prepared by Resource Technology, Inc for the City of Albuquerque. Improvements recommended by the Study include a 78-inch storm drain in Glendale Avenue, designed to convey the El Camino Arroyo flows from the existing temporary pond located at Barstow and Glendale, west to the La Cueva Arroyo Channel. The Plan also recommends construction of a 54-inch storm drain in Barstow from Florence to Glendale, and a 36-inch storm drain in Barstow from Modesto to Glendale. The 78-inch storm drain and temporary pond were constructed in conjunction with Quivera Estates.

Baron's Run located immediately east of La Cueva Estates, is a 12 lot residential subdivision that has recently gained drainage approval (See Appendix for approval letter). Baron's Run will construct upstream drainage improvements thereby eliminating contributions from off-site drainage basins impacting La Cueva Estates. Baron's Run will construct on-site improvements to direct drainage flows to Florence and Glendale, and construct a 36/42-inch storm drain in Barstow Street to collect upstream runoff.

## **PROPOSED CONDITIONS**

As shown by the Plan, the project consists of the development of the property into a 13 lot residential subdivision. Paving, water, sanitary sewer, and drainage improvements will be constructed as necessary to support the project. The Plan shows the elevations and details required to properly grade and construct the recommended improvements. The direction of the drainage flows are given by flow arrows.

The Grading and Drainage Plan (see Sheet 1 located in back pocket) recommends construction of curb and gutter and one-half width paving improvements along Glendale Avenue and Florence Avenue. The site will drain in 2 directions: the north 2.0-acres Basin S-A, will drain 6.7 cfs north to the Florence through a 5-foot wide public channel. The southerly 2.4-acres, Basin S-B, will drain 8.0 cfs south to Glendale Avenue.

The Plan addresses both interim and fully developed conditions. Prior to development of Baron's Run interim improvements will be implemented to control undeveloped upstream runoff, as follows:

- downstream public storm drains.
2. Basin B will drain to the southwest of Lot 14 and be contained by a temporary retention pond, pending development of Baron's Run. Written permission has been obtained from the Owner of Lot 14 (see Appendix).
  3. During interim conditions, existing Off-site Basin C will be managed by a temporary channel to be constructed on Lot 18 along the east project boundary. Written permission has been obtained from the Owner of Lot 18 (see Appendix).

The Off-site Drainage Map – Developed Conditions (see Figure 4), illustrates the developed off-site drainage basins within Baron's Run that impact the project site. Each off-site basin is described as follows:

1. Basin A will drain north within Lexie Lane then through a concrete drainage channel to Florence Avenue.
2. Basin B is a single lot that will drain south to Glendale Ave.
3. Basin C is a single lot that will drain north to Florence Ave.

The On-site Drainage Map – Developed Conditions (see Figure 5), illustrates the on-site drainage basins that impact the project site. Each on-site basin is described as follows:

4. Basin S-A will drain north within La Tierra Court then through a 5' wide concrete drainage channel to Florence Avenue.
5. Basin S-B will drain south within La Tierra Court to Glendale Avenue.

As recommended by the Drainage Masterplan, a 36-inch storm drain is required in Barstow Street from Modesto Avenue to Glendale Avenue. This pipe section was overlooked during construction of Quivera Estates, but is a necessary storm drainage item. As agreed, La Cueva Estates will construct this section of public storm drain.

## **INFRASTRUCTURE REQUIREMENTS**

The following infrastructure is proposed for La Cueva Estates:

### **A. Streets**

Glendale Avenue NE	one-half width pavement section, including curbs, gutters and 6 ft sidewalk
Florence Avenue NE	one-half width pavement section, including curbs, gutters and 6 ft sidewalk
La Tierra Court NE	Full width pavement section (28' FF), including curbs, gutters and 4 ft sidewalk

### **B. Water**

8-inch waterline, as required including fire hydrants, valves, and metered services, within the subdivision.

### **C. Sanitary Sewer**

8-inch sanitary sewer, as required including manholes and service laterals, within the subdivision.

### **D. Storm Drainage**

Barstow Street NE	36-inch storm drain extension from the existing Manhole at Modesto to the existing manhole in Glendale.
Public easement	Public concrete drainage channel between Lots 5 and 6.
Interim Retention Pond	Interim retention pond on Lot 14 pending development of Baron's Run.
Interim channel	Temporary channel along the east property lines of Lots 11 and 12, pending development of Baron's Run.

### **TEMPORARY EROSION CONTROL**

As required by the City of Albuquerque and the Environmental Protection Agency a detailed Storm Water Pollution Prevent Plan (SWPPP) will be prepared to outline criteria for the management of storm water flows and the discharge of potential pollutants, both during the construction phase and long term life of the project. The SWPPP will be completed and available for inspection prior to construction commencement.

**LA CUEVA ESTATES**  
**PROJECT HYDROLOGY SUMMARY**  
**AHYMO**

		LAND TREATMENTS						
BASIN	AREA	Aa	Ab	Ac	Ad	Ew	VOL 100/6	Q 100/6
	acres	%	%	%	%	inches	ac-feet	cfs
EXISTING CONDITIONS								
SITE	4.4	100	0	0	0	0.66	0.240	8.2
S-A	2.0	100	0	0	0	0.66	0.109	3.8
S-B	2.4	100	0	0	0	0.66	0.131	4.5
A	1.22	100	0	0	0	0.66	0.067	2.3
B	0.44	100	0	0	0	0.66	0.024	0.8
C	22.57	72	10	10	8	0.90	1.685	52.3
DEVELOPED CONDITIONS								
SITE *	4.4	20	20	34	26	1.45	0.530	14.7
S-A *	2.0	20	20	34	26	1.45	0.241	6.7
S-B *	2.4	20	20	34	26	1.45	0.289	8.0
A *	3.34	20	20	34	26	1.45	0.402	11.2
B *	0.32	20	20	34	26	1.45	0.039	1.1
C *	0.34	20	20	34	26	1.45	0.041	1.2
* LOW DENSITY RESIDENTIAL PER NAA MDP FIG 2A								



