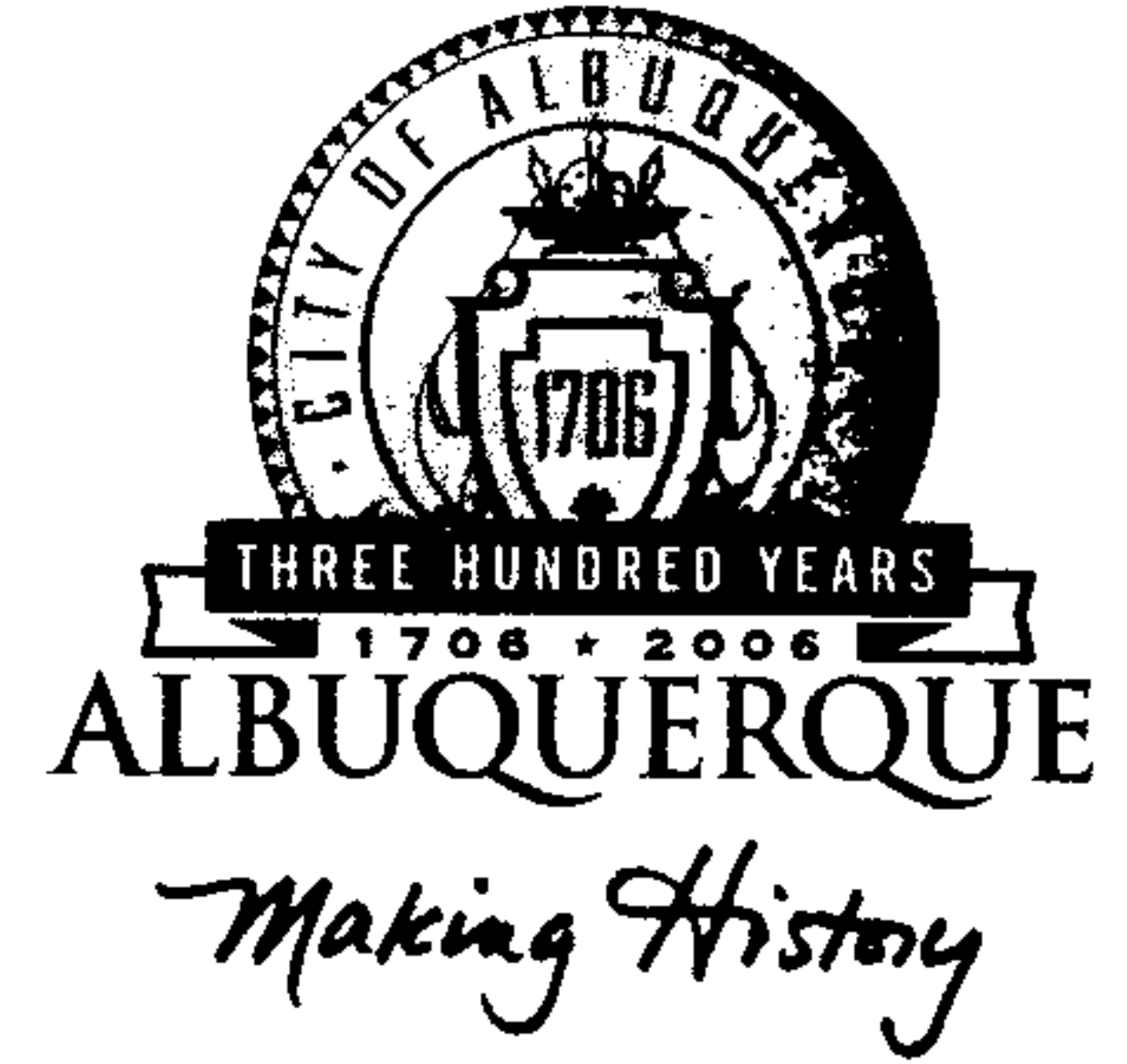


# CITY OF ALBUQUERQUE



October 29, 2004

Ms. Amy L. D. Niese, PE  
**MARK GOODWIN & ASSOCIATES**  
P.O. Box 90606  
Albuquerque, NM 87119

**RE: VILLA DE LA CAPILLA (F-13/D026)**  
**Engineers Certification for Release of Financial Guaranty**  
**Engineers Stamp dated 09/19/2003**  
**Engineers Certification dated 10/28/2004**

Dear Amy:

Based upon the information provided in your Engineer's Certification Submittal dated 10/29/2004, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

P.O. Box 1293      If you have any questions, you can contact me at 924-3982

Albuquerque

New Mexico 87103

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

Sincerely,

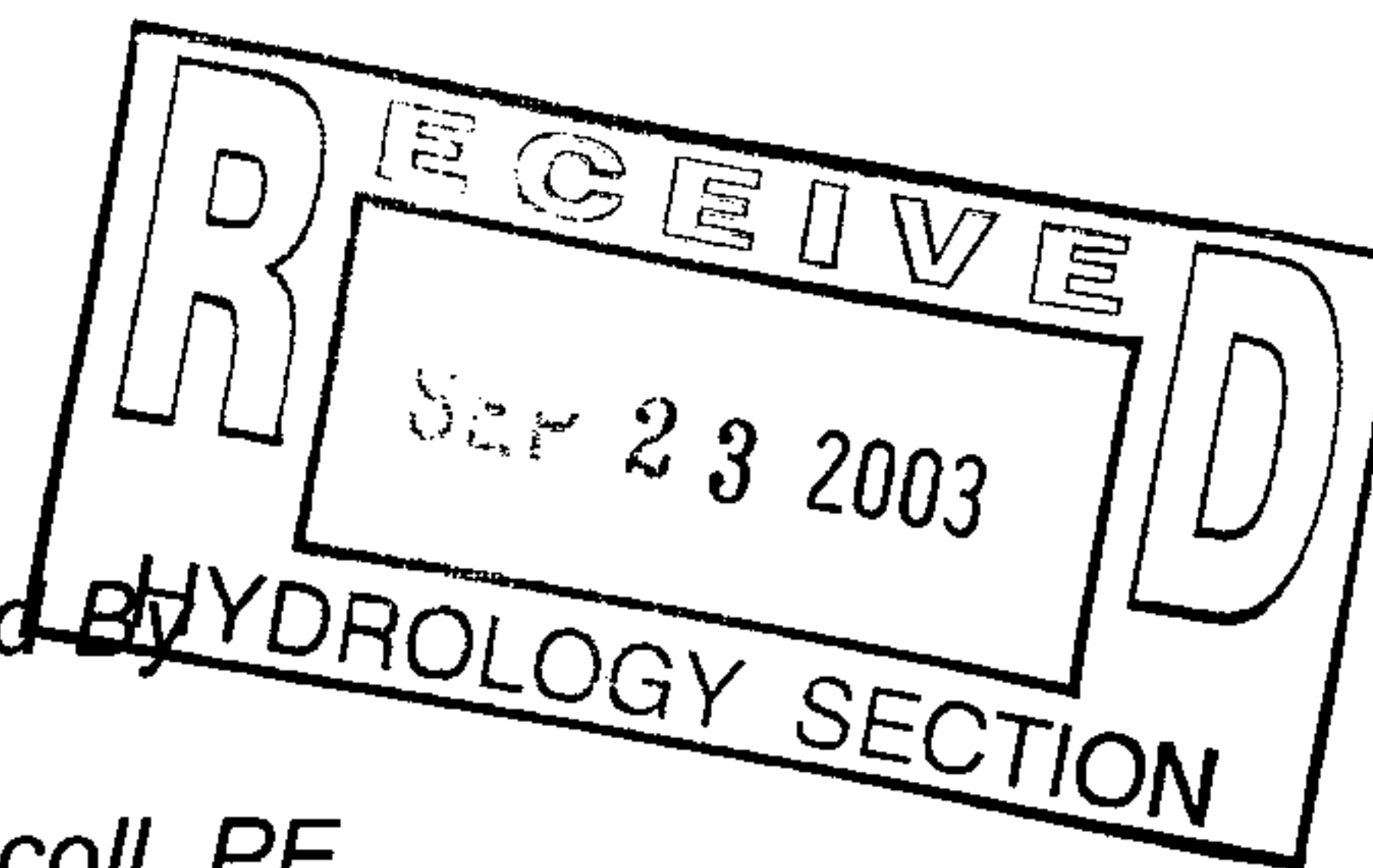
Arlene V. Portillo  
Plan Checker, Planning Dept.- Hydrology  
Development and Building Services

C: Marilyn Maldonado, COA# 729981  
File

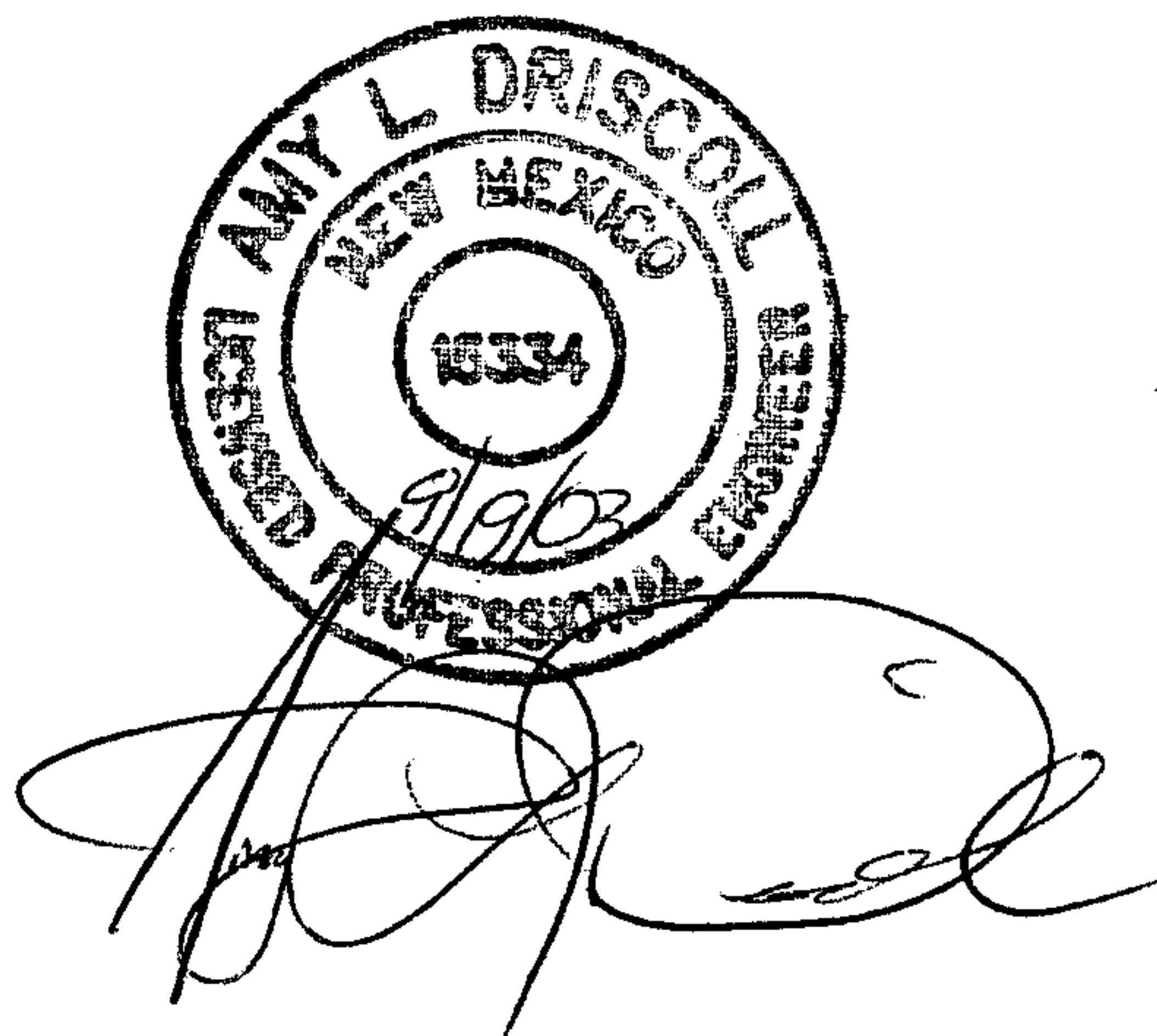
# **DRAINAGE REPORT**

**for**

**Villa de la Capilla**



Amy L. Driscoll, PE  
Mark Goodwin & Associates, PA  
P.O. Box 90606  
Albuquerque, NM 87199



September 2003

## INTRODUCTION

*This report is being submitted for Grading and Drainage approval.*

*Please see the enclosed Zone Atlas Map, F-13. The proposed Villa de la Capilla is located on Griegos Road between the Griegos Drain and San Isidro Street. The project covers 4.76 acres and will be developed into 24 single family residential homes.*

## EXISTING CONDITIONS

*The site is bounded by Griegos Road to the north, an access easement to the west, church property to the south, and residential homes to the east. The site is essentially flat. The highest point is at Griegos Road, and the lowest is in the middle of the property. Other areas do not drain to this site. The site is not in the 100-year floodplain per the enclosed FIRM map.*

*Currently the site contains 4 homes. The area is mainly residential. The site has gone through EPC, and the zoning is SU1 for PRD.*

## PROPOSED DRAINAGE PLAN

*EPC is allowing the site to have some differences usually not seen on a standard subdivision. For instance, a sidewalk is going through the entire subdivision, but it is not consistently along the front of every home. The sidewalk also varies between 5 feet and 6 feet wide. Please see the enclosed Grading and Drainage Plan.*

*No lot is the same shape. They will all have small to medium sized custom homes. The house on Lot 3 will remain, but the lot will be regraded. The site will be surrounded by a wall, but there will be fences along the property lines between the homes.*

*The lots will all drain to a private drainage easement, Tract B, in the middle of the site. The perimeter of Tract B is surrounded by estate curb so the water can drain into the tract.*

*All of the roads within the subdivision are private, but the water lines, sanitary sewer lines, and storm water lines will be public. Please see the enclosed Preliminary Plat.*

*A 24 inch line will drain the storm water from Tract B to the existing 36 inch line in Griegos Road. Please see the following elevations:*

- 67.53 lowest top of curb in subdivision
- 66.80 lowest flowline around Tract B
- 64.05 invert of new 24 inch storm pipe in Tract B
- 62.46 invert of 36 inch storm pipe in Griegos Road

*The lowest top of curb in the subdivision will be above the indeterminate hydraulic grade line in Griegos Road. The 36 inch line discharges to the Griegos Drain which is approximately 1000 feet west of the existing manhole north of this site. The as-builts of the storm pipe in Griegos and the City's Drainage Map is enclosed for reference. This subdivision is an infill project.*

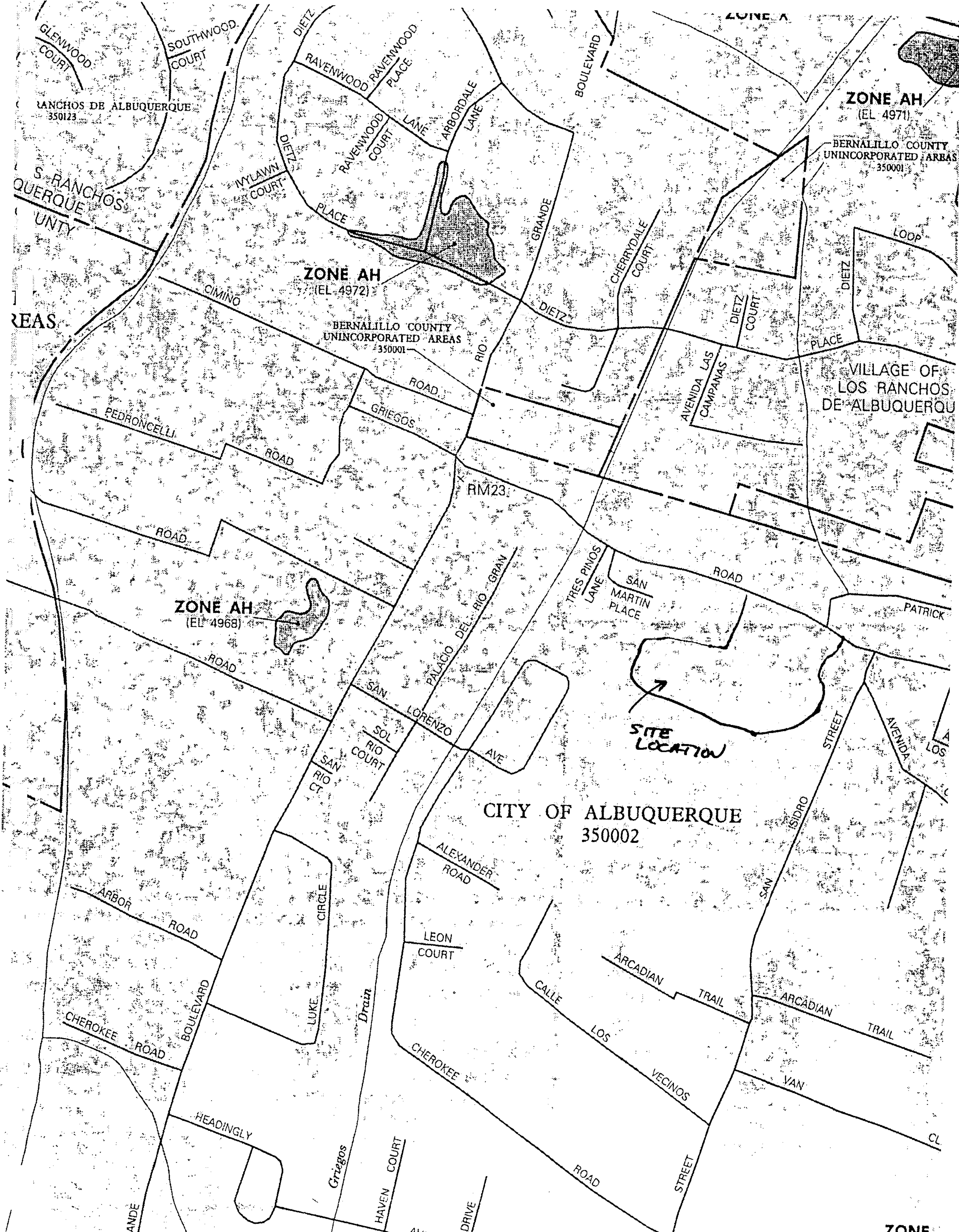
*The flow for the site is based on 60% Type D and 40% Type B over 4.76 acres. The resulting flow is 16.18 cfs for the entire subdivision. Please see the enclosed calculations and AHYMO run. This flow averages to 1.47 cfs/lot. A 24 foot face-to-face mountable curb and gutter can contain 10.29 cfs. A small portion of Calle Barbarita will need standard curb and gutter as shown on the plans. All drainage can be contained in the proposed roads without inlets.*

### SUMMARY

*The existing vacant lot will become a 24 lot subdivision. The subdivision is an infill project. The site is not in the 100 year flood plain.*

*The 100 year flow is 16.18 cfs. The roads in the subdivision have sufficient capacity for the storm water so no inlets will be needed. The storm water will drain to Tract B. A new 24 inch storm pipe will drain water from Tract B to the existing line in Griegos Road. The line in Griegos discharges to the Greigos Drain.*





ZONE AH  
(EL 4971)

BERNALILLO COUNTY  
UNINCORPORATED AREAS  
350001

ZONE AH  
(EL 4972)

BERNALILLO COUNTY  
UNINCORPORATED AREAS  
350001

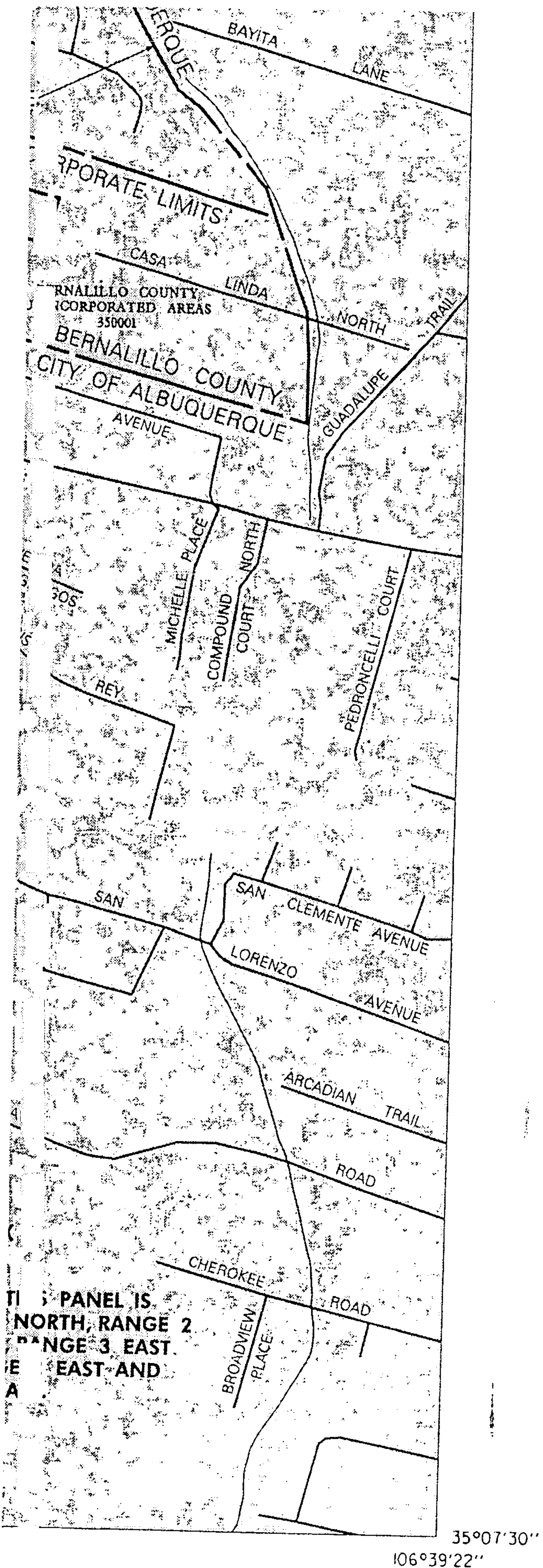
ZONE AH  
(EL 4968)

CITY OF ALBUQUERQUE  
350002

SITE  
LOCATION

ZONE





SEPTEMBER 20, 1996

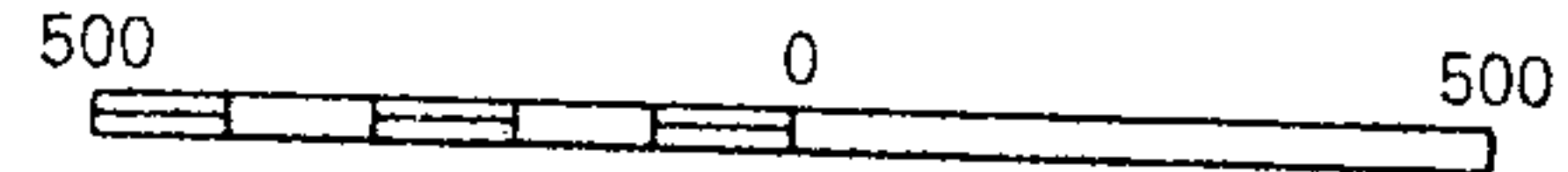
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE DATE shown on this map to determine when actuarial rates apply to structures in zones where elevations or depths have been established.

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at (800) 638-6620.



APPROXIMATE SCALE IN FEET



## NATIONAL FLOOD INSURANCE PROGRAM

# FIRM FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY,  
NEW MEXICO AND  
INCORPORATED AREAS

PANEL 118 OF 825

(SEE MAP INDEX FOR PANELS NOT PRINTED)

### CONTAINS: COMMUNITY

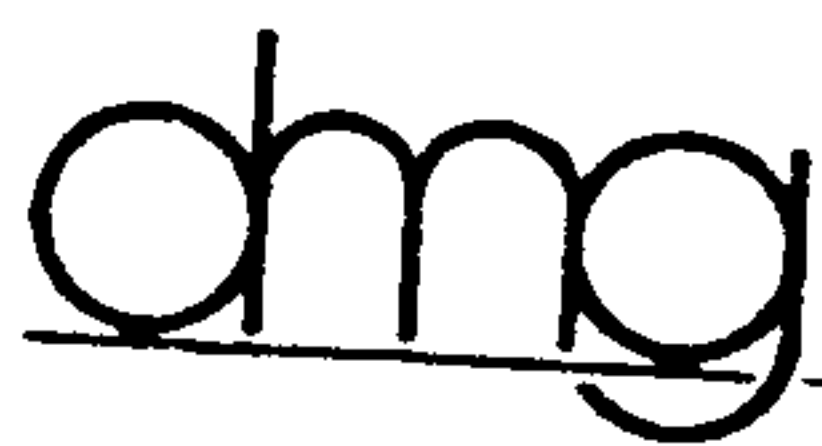
	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0118	D
BERNALILLO COUNTY, UNINCORPORATED AREAS	350001	0118	D
LOS RANCHOS DE ALBUQUERQUE, VILLAGE OF	350123	0118	D

MAP NUMBER  
35001C0118 D

EFFECTIVE DATE:  
SEPTEMBER 20, 1996



Federal Emergency Management Agency



D. Mark Goodwin & Associates, P.A.  
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199  
(505) 828-2200 FAX 797-9539  
e-mail: dmg@swcp.com

PROJECT VILLA DE LA CAPILLA  
SUBJECT \_\_\_\_\_  
BY AM DATE 9/17/03  
CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
SHEET 1 OF \_\_\_\_\_

### HYDROLOGY

$$\text{SITE} = 4.76 \text{ AC} = 207,346 \text{ SF} = 0.00744$$

$$\text{LOT 16} = 5000 \text{ SF}$$

$$\text{PAD} = 75 \times 40 = 3000 \text{ SF}$$

$$\rightarrow \frac{3000}{5000} = 0.60 \text{ TYPE D}$$

PER TABLE A-5 DRM

$$N = \frac{24 \text{ UNITS}}{4.76 \text{ AC}} = 5.0 \frac{\text{UNITS}}{\text{AC}}$$

$$7 \times \sqrt{5^2 + 5 \times 5} = 49\% \text{ TYPE D}$$

ASSUME 60% TYPE D, 40% TYPE B

$$\text{PER ATN/MO } Q = 16.18 \text{ CFS}$$

$$\rightarrow \frac{16.18 \text{ CFS}}{4.76 \text{ AC}} = 3.40 \text{ CFS/AC}$$

$$\rightarrow \frac{16.18 \text{ CFS}}{11 \text{ HOUSES}} = 1.47 \frac{\text{CFS}}{\text{HOUSE}}$$

### CHECK ATD CFS

$$9 \text{ HOUSES} \times 1.47 \frac{\text{CFS}}{\text{HOUSE}} = 13.23 \text{ CFS} \rightarrow \text{NO}$$

$$7 \text{ HOUSES} \times 1.47 = 10.29$$

### SIZE STORM PIPE ROUGHLY

$$D = 1.33 \left( \frac{nQ}{\sqrt{S}} \right)^{3/8} = 1.33 \left( \frac{0.015(16.18)}{\sqrt{0.006}} \right)^{3/8} = 2.0 \rightarrow \text{USE 24 INCH}$$

HEC-RAS Plan: Plan 01 River: street Reach: a

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Ch
a	900	10.29	0.00	0.31	0.32	0.40	0.007800	2.29	4.48	27.53	1.00
a	500	10.29	0.00	0.32	0.32	0.40	0.007628	2.28	4.51	27.54	0.99

24' FF  
 MCG  
 0.78%