

# County of Bernalillo

State of New Mexico



## BOARD OF COUNTY COMMISSIONERS

STEVE D. GALLEGOS, CHAIRMAN  
DISTRICT 2

KEN SANCHEZ, VICE CHAIRMAN  
DISTRICT 1

TOM RUTHERFORD, MEMBER  
DISTRICT 3

BARBARA J. SEWARD, MEMBER  
DISTRICT 4

LES HOUSTON, MEMBER  
DISTRICT 5

JUAN R. VIGIL, COUNTY MANAGER

DAVID K. ANDERSON, ASSESSOR  
JUDY D. WOODWARD, CLERK  
THOMAS J. MESSALL, PROBATE JUDGE  
JOE BOWDICH, SHERIFF  
ORLANDO VIGIL, TREASURER

2400 BROADWAY, S.E.  
ALBUQUERQUE, NEW MEXICO 87102  
PUBLIC WORKS (505) 848-1500

December 11, 1998

Jake Bordenave, P.E.  
Bordenave Designs  
P. O. Box 91194  
Albuquerque, New Mexico 87199

**RE: *Revised Grading and Drainage Plan for Humphrey Residence, Lot 1527 Sandia Heights South (D23/D46) (PWD-98-186) Engineer's Stamp Dated 11/20/98.***

Dear Mr. Bordenave:

Based on the information provided, the above referenced plan is approved for Building Permit release.

As you are aware, the Engineer's Certification is required prior to release of the Certificate of Occupancy for this residence. The certification must verify that the curb and drainage pipe have been constructed in compliance with this approved plan.

If you have any questions, or if I may be of further assistance, please call me at 924-3982.

Sincerely,

A handwritten signature in cursive script, reading "Susan Calongne".

Susan M. Calongne, P.E.  
City/County Floodplain Administrator

c: Andrew Garcia, City Hydrology  
Brad Catanach, P.E., Bernalillo County Public Works Division  
Lisa Ann Manwill, P.E., Albuquerque Metropolitan Arroyo Flood Control Authority  
File

MOLZEN-CORBIN

& Associates

ENGINEERS/PLANNERS/CONSULTANTS



# LETTER OF TRANSMITTAL

☒ 2701 Miles Road Southeast, Albuquerque, NM 87106  
505-242-5700

☐ 205 West Boutz Number 4, Suite Number 5, P.O. Box 1360, Las Cruces, NM 88004  
505-525-2397

TO SUSAN CALONGNE  
600 2ND ST NW  
HYDROLOGY DIVISION

DATE <u>12/7</u>	JOB NO.
ATTENTION <u>FLOODPLAIN ADMINISTRATION</u>	
RE: <u>DRAINAGE REVIEWS</u>	

GENTLEMEN:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via \_\_\_\_\_ the following items:

COPIES	DATE	NO.	DESCRIPTION
			<u>revised drawings for PWD-98-186</u>

THESE ARE TRANSMITTED as checked below:

☐ For approval

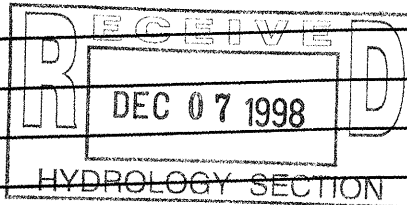
☒ For your use

☐ As requested

☐ For review and comment

☐ Other \_\_\_\_\_

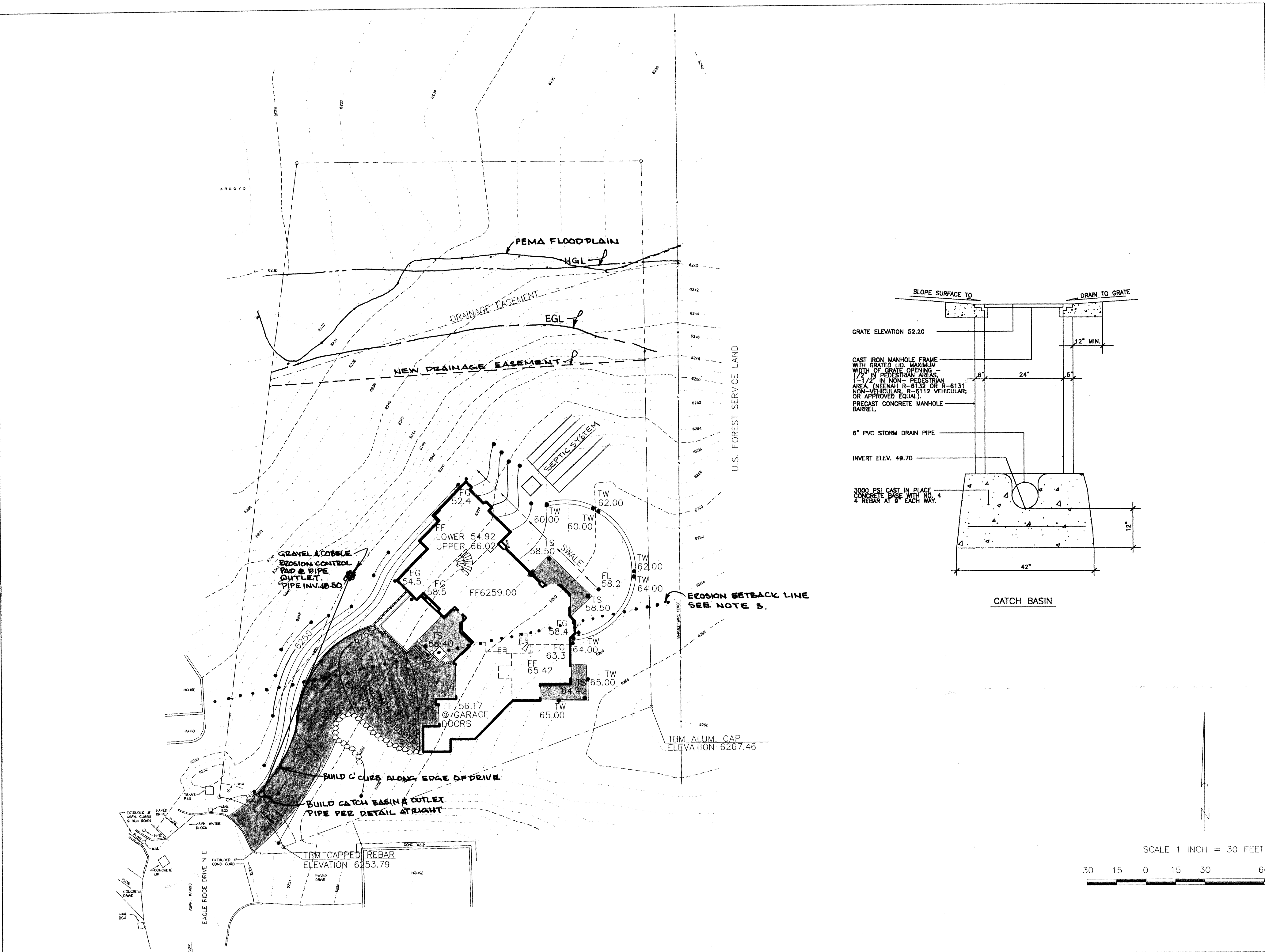
REMARKS \_\_\_\_\_



COPY TO \_\_\_\_\_

SIGNED: Debi Dodge





**LEGAL DESCRIPTION**

LOT 1527, SANDIA HEIGHTS SOUTH, UNIT 15

**PERMANENT BENCHMARK**

ACS 1-D23 ELEVATION 6067.42

**GRADING CERTIFICATION**

I, Jean J. Bordenave, New Mexico Professional Engineer and Land Surveyor No. 5110, hereby certify that I have personally inspected the property shown hereon and that it appears that no grading, filling or excavation has occurred thereon since the contour map shown hereon was prepared.

*Jean J. Bordenave* 10/05/98  
Jean J. Bordenave, NM PE & PS No. 5110

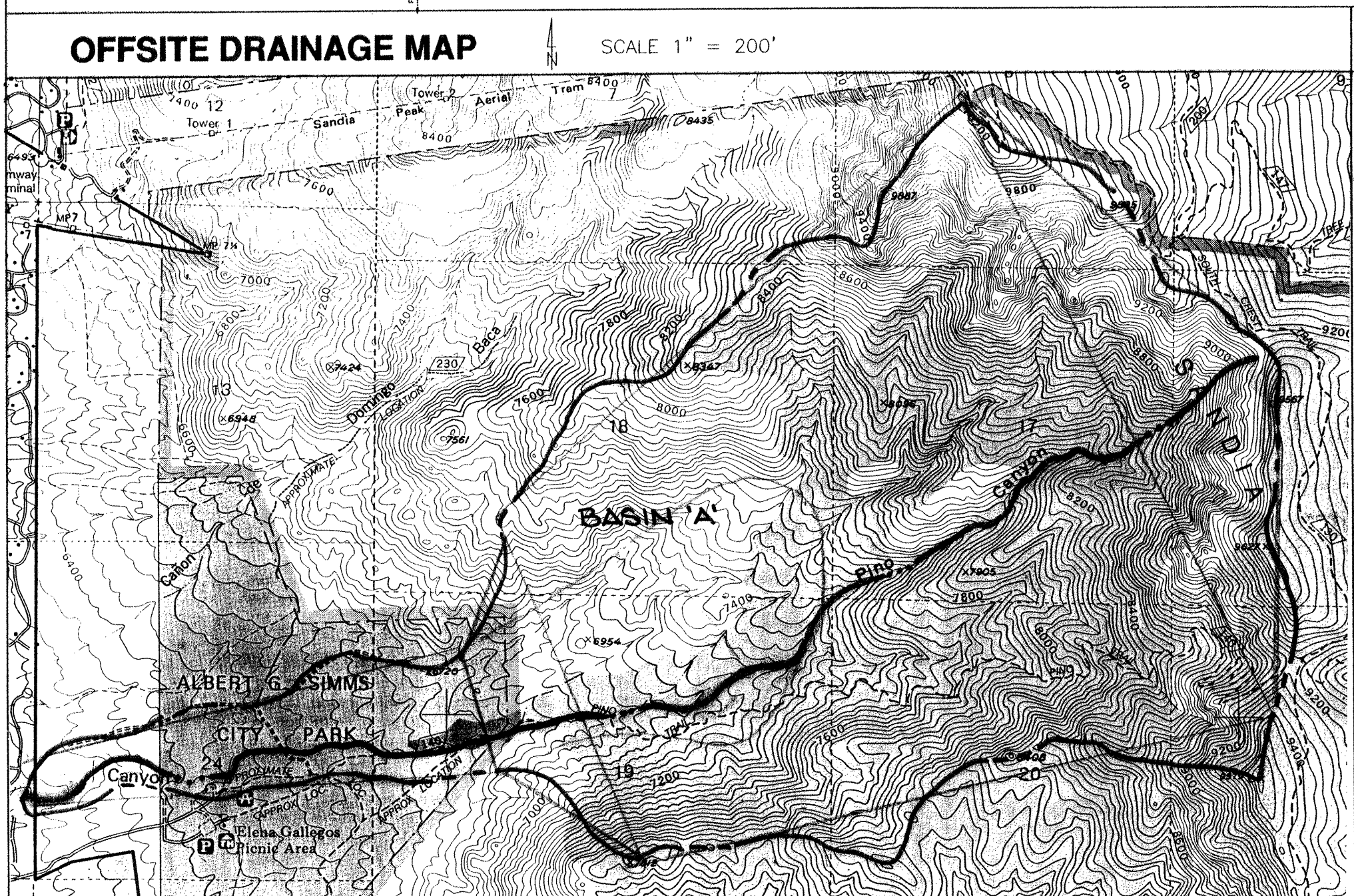
**GENERAL NOTES**

- There is a flow increase of 0.46 and 0.51 cfs for the 10 year and 100 year storms respectively. The 6 hour runoff volumes for the two storms increase by 1035 and 1302 cubic feet.
- The peak 100 year flow rate for the proposed development is 0.84 cfs and 1344 cubic feet more than the accepted average for the area. A significant portion of this excess is due to the lack of Type A land treatment on the site in the natural condition. For this reason it is not recommended that onsite ponding be proposed for this site. An additional computation is shown in the drainage calculation table that indicates the values on a more realistic comparison.
- The proposed development is located on a narrow ridge on the south bank of the Pino Arroyo. The arroyo is naturally armored in this area as demonstrated by the relatively narrow flood plain (approximately 150 feet measured versus 427 feet computed). It can be assumed there will be little, if any, change in the present erosion pattern. Therefore, though the proposed residence is located inside the erosion setback line, no problems are anticipated with respect to lateral migration of the arroyo.
- The site is not located in a designated flood hazard area per FEMA FIRM Panel No. 161, dated September 20, 1996.
- Topography shown on this sheet was obtained by others.
- Earth surfaces disturbed in the construction process will either be treated with formal landscaping (lawn, flower beds, etc.) or with native plant seeding. City of Albuquerque Standard Specification No.1012 shall be used to control native plant seeding when the permanent structure is built.
- No perimeter fencing is to be installed on the site at this time. If perimeter fencing is proposed in the future this grading plan must be revised to show same and approval of the County Surface Water Hydrologist must be obtained prior to construction.

**VICINITY MAP NO. D-23**

**FEMA FIRM PANEL NO. 161**

**SCS SOILS MAP NO. 12**



**OFFSITE DRAINAGE MAP**

SCALE 1" = 200'

**DRAINAGE DATA**

CONDITION	STORM A RETURN PERIOD	TREATMENT TYPE	TREATMENT AREA	EXCESS PRECIPITATION	PEAK RUNOFF	RUNOFF VOLUME	RUNOFF RATE
	year	(table 4)	sq. ft.	in.	(table 8)	(table 9)	
					cu. ft.	cfs	
EXISTING	10	A	5600	0.28	0.87	131	0.11
		B	14880	0.46	1.45	570	0.50
		C	41430	0.73	2.26	2520	2.15
		D	0	1.69	3.57	0	0.00
		TOTAL	61910			3221	2.76
	100	A	5600	0.80	2.20	373	0.28
		B	14880	1.08	2.92	1339	1.00
		C	41430	1.46	3.73	5041	3.55
		D	0	2.64	5.25	0	0.00
		TOTAL	61910			6753	4.83
DEVELOPED	10	A	5600	0.28	0.87	131	0.11
		B	7380	0.46	1.45	283	0.25
		C	38110	0.73	2.26	2318	1.98
		D	10820	1.69	3.57	1524	0.89
		TOTAL	61910			4256	3.22
	100	A	5600	0.80	2.20	373	0.28
		B	7380	1.08	2.92	664	0.49
		C	38110	1.46	3.73	4637	3.26
		D	10820	2.64	5.25	2380	1.30
		TOTAL	61910			8055	5.34
S I T E	100	A(43%)	26621	0.80	2.20	1775	1.34
		B(20%)	12382	1.08	2.92	1114	0.83
		C(20%)	12382	1.46	3.73	1506	1.06
		D(17%)	10525	2.64	5.25	2315	1.27
		TOTAL	61910			6711	4.50
S I T E	100	A	5600	0.80	2.20	373	0.28
		B	12382	1.08	2.92	1114	0.83
		C	33403	1.46	3.73	4064	2.86
		D	10525	2.64	5.25	2315	1.27
		TOTAL	61910			7867	5.24

**BASIN 'A' ARROYO**

EROSION CONTROL SETBACK (CENTERLINE)

$Q_c = 0.2Q_{c100}$   
 $= (0.2)(3195)$   
 $= 639 \text{ cfs}$

$S_c = 0.037Q_c^{-0.133}$   
 $= (0.037)(639)^{-0.133}$   
 $= 0.0340 \text{ ft/ft}$

$S = 0.035 \text{ ft/ft}$  (scaled from drawing)

$W_0 = 4.6Q_c^{0.4}$   
 $= (4.6)(639)^{0.4}$   
 $= 61 \text{ ft.}$

BANK OFFSET =  $(0.92 + 4.6 \log(Q_c))Q_c^{0.4}$   
 $= ((0.92 + (4.6)(639)))(639)^{0.4}$   
 $= 183 \text{ ft.}$

CENTERLINE OFFSET = BANK OFFSET +  $0.5 W_0$   
 $= 183 + (0.5)(61)$   
 $= 213 \text{ ft.}$

**LEGEND**

TBM	TEMPORARY BENCHMARK
FF	FINISH FLOOR
FG	FINISH GRADE
FL	FLOWLINE
TA	TOP OF ASPHALT
TCP	TOP OF CONCRETE
TC	TOP OF CURB
TP	TOP OF EARTH PAD
TS	TOP OF SIDEWALK
TW	TOP OF WALL
FH	FIRE HYDRANT
WM	WATER METER
WV	WATER VALVE
MH	MANHOLE
CB	CATCH BASIN GRATE
GM	GAS MATER
GV	GAS VALVE
LP	LIGHT POLE
PP	POWER POLE
GW	GUY WIRE
PED	ELEC. OR TEL. PEDESTAL
RD	ROOF DRAINAGE POINT
FEMA FLOODPLAIN BOUNDARY	
DRAINAGE BASIN BOUNDARY	
EROSION SETBACK LINE	
EXISTING CONTOUR	
PROPOSED CONTOUR	
XX.XX	EXISTING SPOT ELEVATION
XX.XX	PROPOSED SPOT ELEVATION
XX.XX	RECORD SPOT ELEVATION

**REVISIONS**

NO.	DATE	REVISION	BY
2	11/20/98	Add Curb & Catch Basin	DOB
1	11/04/98	Add Erosion Setback, FEMA Data, Drain. Easmt	DOB

**HUMPHREY RESIDENCE**

1527 EAGLE RIDGE DR. NE  
ALBUQUERQUE, NM

**GRADING & DRAINAGE PLAN**

sheet title

sheet date 09/30/98 design by JJb project no. 9821

sheet of

**BORDENAVE DESIGNS**

P.O. BOX 91194, ALBUQUERQUE, NM 87199  
(505)823-1344 FAX (505)821-9105