City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 4, 1999

Ronald R. Bohannan, PE
Tierra West, LLC
4421 McLeod Rd NE Suite D
Albuquerque, NM 87109

RE: DRAINAGE REPORT FOR INDIAN VIEW PLACE (J-23/D-108)
RECEIVED DEC 30, 1998 FOR PRELIMINARY & FINAL PLAT, SITE DEV PLAN AND BUILDING PERMIT
ENGINEER'S STAMP DATED 12-23-98

Dear Mr. Bohannan:

Based on the information included in the submittal referenced above, City Hydrology accepts the Drainage Report for Preliminary & Final Plat, Site Dev Plan and Building Permit. Include a copy of the approved Grading & Drainage Plan, dated 12-23-98, in each set of construction documents that will be submitted to Code Administration for the Building Permit.

Engineer's Certification of grading & drainage, per DPM checklist, must be accepted by City Hydrology before any Certificate of Occupancy will be released.

If I can be of further assistance, You may contact me at 768-2727.

Sincerely,

John P. Curtin

John P. Curtin, P.E.
Project Manager, PWD/Hyd

c: Andrew Garcia

DRAINAGE INFORMATION SHEET

PROJECT TITLE: INDIAN VIEW PLACE ZONE ATLAS/DRNG. FILE #: J-23/D10B

DRB #: _____ EPC #: Z-99-18 WORK ORDER #: _____

LEGAL DESCRIPTION: LOT 4, SKYVIEW SOUTH SUBDIVISION

CITY ADDRESS: Northeast corner of Indian School Place and Indian View Place

ENGINEERING FIRM:	TIERRA WEST, LLC	CONTACT:	RONALD R. BOHANNAN OR CHRISTINA E
ADDRESS:	4421 McLeod Rd. NE Suite D, 87109	PHONE:	(505) 883-7592
OWNER:	S.G. PROPERTIES	CONTACT:	SEAN GILLIGAN
ADDRESS:	P.O. Box 1773	PHONE:	(505) 954-14257
ARCHITECT:	GARRETT SMITH	CONTACT:	GARRETT SMITH
ADDRESS:	514 Central SW	PHONE:	
SURVEYOR:	PRECISION SURVEYS	CONTACT:	LARRY MEDRANO
ADDRESS:	2929 Coors Blvd. NW Suite 309	PHONE:	(505) 839-0569
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	

TYPE OF SUBMITTAL:

- X DRAINAGE REPORT
- X DRAINAGE PLAN
- _____ CONCEPTUAL GRADING & DRAINAGE PLAN
- X GRADING PLAN
- _____ EROSION CONTROL PLAN
- _____ ENGINEER'S CERTIFICATION
- _____ OTHER

PRE-DESIGN MEETING:

- _____ YES
- X NO
- _____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- _____ SKETCH PLAN APPROVAL
- X PRELIMINARY PLAT APPROVAL
- _____ S. DEV. PLAN FOR SUB'D. APPROVAL
- X S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- _____ SECTOR PLAN APPROVAL
- X FINAL PLAT APPROVAL
- _____ FOUNDATION PERMIT APPROVAL
- X BUILDING PERMIT APPROVAL
- _____ CERTIFICATE OF OCCUPANCY APPROVAL
- _____ GRADING PERMIT APPROVAL
- _____ PAVING PERMIT APPROVAL
- _____ S. A. D. DRAINAGE REPORT
- _____ DRAINAGE REQUIREMENTS
- _____

RECEIVED
DEC 30 1998
HYDROLOGY SECTION

DATE SUBMITTED: *12/29/98*

BY: *CHRISTINA A. EHRSAM, EIT*

DRAINAGE REPORT
FOR

Indian View Place
Lot 4
Skyview South Subdivision

Prepared by:

Tierra West, LLC
4421 McLeod Rd., NE, Suite D
Albuquerque, New Mexico 87109

December, 1998

I certify that this report was prepared under my supervision, and I am a registered professional engineer in the state of New Mexico in good standing.

RONALD RAY BOHANNAN
NEW MEXICO
7868
REGISTERED PROFESSIONAL ENGINEER

Ronald R. Bohannan
PE NO. 7868

Job No 980068

Table of Contents

LOCATION

This site is located just east of Tramway Boulevard NE at the southeast intersection of Indian School Road and Indian View Place NE. The site consists of 0.8677 acres.

LEGAL DESCRIPTION

Lot 4, Skyview South Subdivision, Bernalillo County, City of Albuquerque.

ZONING AND SURROUNDING DEVELOPMENT

The site is zoned C-2. The surrounding area is developed with residential and commercial development. To the north is a commercial center and to the east of this site is residential development. To the west are two lots within this subdivision that are undeveloped and zoned C-2. To the south is a fire department sub-station. All the streets surrounding site are paved and have standard curb and gutter. Indian View Place has a 42 foot right-of-way cul-de-sac.

PURPOSE

The purpose of this drainage report is to provide the drainage analysis for 20 town home lots and management plan for the proposed site. Currently we have a zone change request into Environmental Planning Commission (EPC) for approval to change the zone from C-2 to SU-1 PRD. We are requesting rough grading approval, Site Development Plan for Building Permit, Preliminary and Final Plat Approval, and Building Permit approval.

FLOOD PLAIN AND SOIL CONDITION

The site is located on FEMA Map No. 35001C0176, as shown on the attached excerpt. The map shows that the site does not lie within any 100-year flood plain. The site contains one soil type, the Embudo-Tijeras complex (EtC), as indicated on the

SITE LOCATION

SUBDIVISION

EMBUDO ARROYO DRAIN RIGHT-OF-WAY

EMBUDO PARK

EMBUDO HILLS PARK

LOMAS DETENTION BASIN

SU-1 FOR MAJOR PUBLIC OPEN SPACE

CITY OF
Albuquerque

A Albuquerque G Geographic I Information S System

PLANNING DEPARTMENT

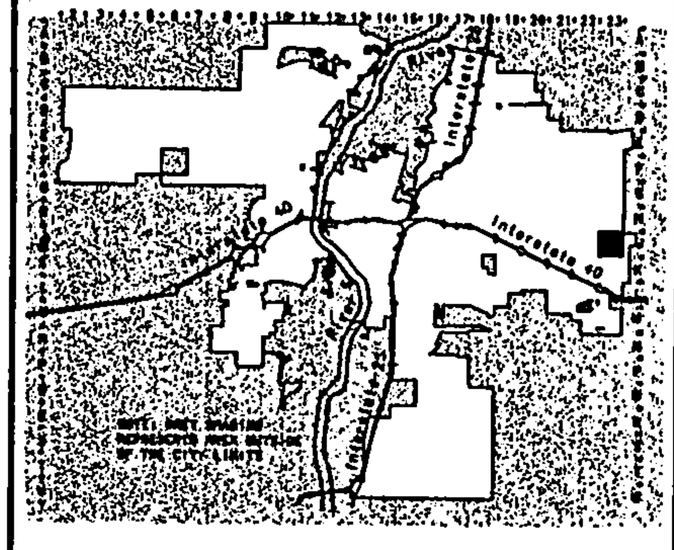
N

W E

S

GRAPHIC SCALE IN FEET

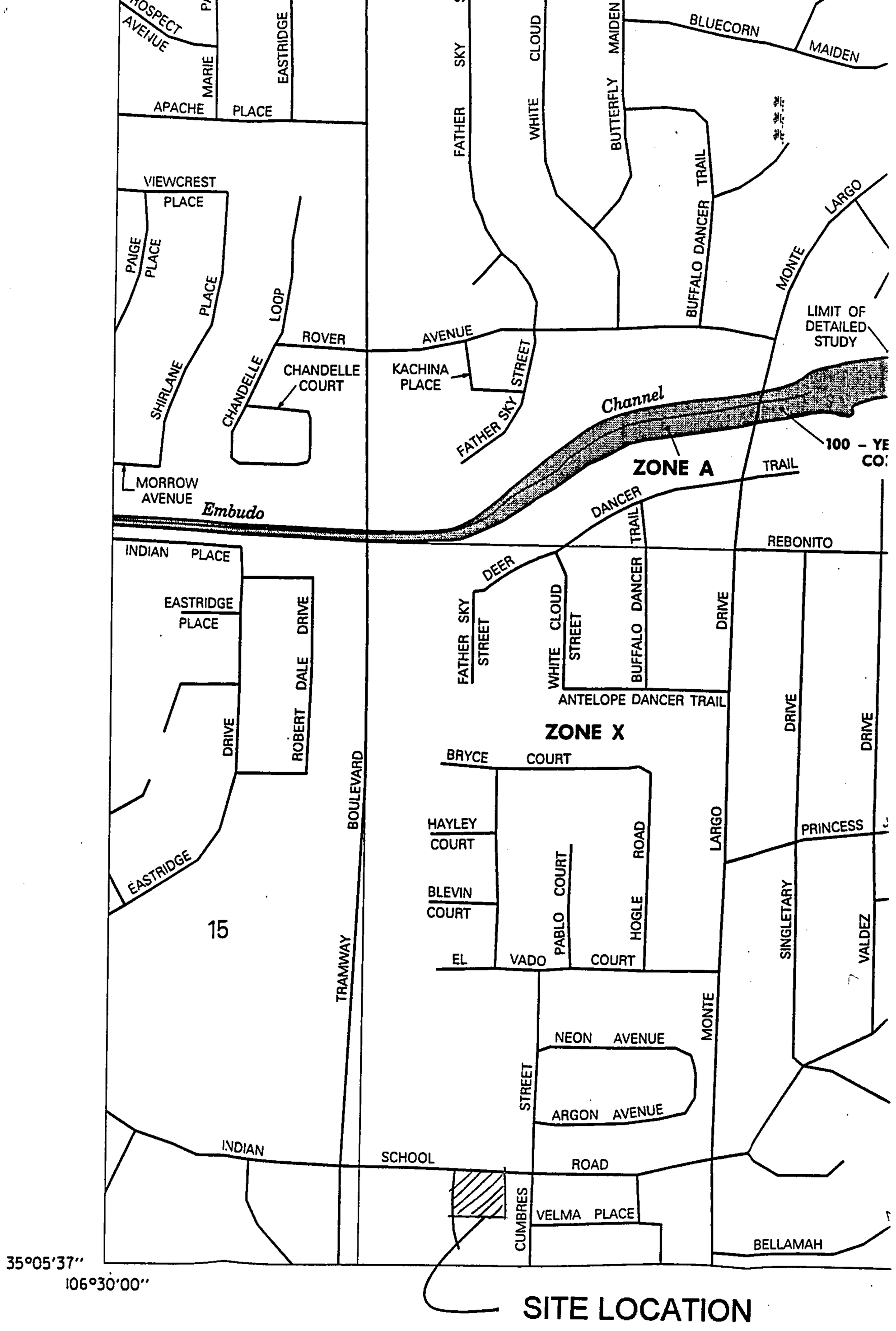
250 0 500 1000



Zone Atlas Page

J-23-Z

Map Amended through
February 27, 1998


HOSPECT AVENUE
MARIE
EASTRIDGE
APACHE PLACE
VIEWCREST PLACE
PAIGE PLACE
PLACE
SHIRLANE
LOOP
CHANDELLE
ROVER
CHANDELLE COURT
MORROW AVENUE
Embudo
INDIAN PLACE
EASTRIDGE PLACE
DRIVE
ROBERT DALE DRIVE
EASTRIDGE
BOULEVARD
TRAMWAY
15
FATHER SKY
WHITE CLOUD
BUTTERFLY MAIDEN
BLUECORN
MAIDEN
BUFFALO DANCER TRAIL
LARGO
MONTE
LIMIT OF DETAILED STUDY
AVENUE
KACHINA PLACE
STREET
FATHER SKY
Channel
ZONE A
TRAIL
DANCER
TRAIL
REBONITO
DEER
FATHER SKY STREET
WHITE CLOUD STREET
BUFFALO DANCER
DRIVE
ANTELOPE DANCER TRAIL
ZONE X
BRYCE COURT
HAYLEY COURT
BLEVIN COURT
EL VADO
PABLO COURT
HOGLE ROAD
COURT
LARGO
DRIVE
DRIVE
PRINCESS
SINGLETARY
VALDEZ
MONTE
NEON AVENUE
ARGON AVENUE
STREET
INDIAN SCHOOL ROAD
CUMBRES
VELMA PLACE
BELLAMAH
35°05'37"
106°30'00"
SITE LOCATION

SITE LOCATION
ALBUQUERQUE
CIBOLA
FOREST
Embudo
Canyon
Eubank School
ROF
415 000 FEET
(Joins sheet 42)
(Joins sheet 33)
(Joins sheet 32)
1 490 000 FEET
R. 4 E.
R. 4½ E.
R. 5 E.
2 Miles
10 000 Feet
N
34

Soil Map (sheet # 31) from the Soil Conservation Service Survey of Bernalillo County. The Embudo-Tijeras association is a Embudo gravelly fine sandy loam and Tijeras gravelly fine sandy loam that has median runoff and moderate hazard of water erosion. See attached soil map for site location.

RELATED REPORTS

The Proposed Commercial Subdivision: Skyview South,(DRB 90-002), dated May 31, 1990 has been approved by City Hydrology. This report was prepared by D. Mark Goodwin and Associates. A grading and drainage plan for the fire station, dated September 6, 1990 was submitted by Jeff Mortensen and Associates and was approved by City Hydrology. The approved Master Drainage Plan has all four fully developed lots in this subdivision discharging into a 36" storm drain adjacent to the south boundary of the subdivision. According to the Master Drainage Plan the developed site, lot 4, is allowed to free discharge into Indian View Place with a rate of 5.97 cfs and a volume 6425 cf. The storm water runoff is carried in Indian View Place and captured in the double "C" inlet at the end of Indian View Place. The inlet is connected to an 18" storm drain pipe which discharges into the 36" storm drain pipe along the southern boundary of the subdivision.

EXISTING SITE CONDITIONS AND DRAINAGE PATTERN

The existing site is sparsely vegetated by desert shrubs and grass. The site slopes four percent from northeast to southwest. Presently the storm water runoff discharges into Indian View Place via sheet flow. Indian View Place is a cul-de-sac and is paved with curb and gutter. The storm water is then carried in the street to the existing type "C" double inlet at the end of the cul-de-sac. There is no off site flows entering this site.

PROPOSED SITE CONDITIONS AND DRAINAGE PATTERN

A 20 unit townhome subdivision is proposed for this site. The roofs in the development will drain to the private street and a common drainage easement within the subdivision with the exception of the units adjacent to Indian View Place. See the Grading and Drainage Plan in the map pocket at the end of this report. The roofs will sloped toward the street and free discharge into Indian View Place. The storm water carried in the private street is then discharged to Indian View Place. The private street slopes from 4 to 2% into Indian View Place. The storm water runoff is carried in Indian View Place to the double type "C" inlets. The double "C" inlets discharge into an existing 18" storm water pipe ~~with~~ which is connected into the existing 36" storm water pipe southern boundary of this subdivision. The developed site will discharge 3.88 cfs with a storm water volume of 6666 cf. The rate of which the developed storm water is leaving the site is less than allowed on the Master Drainage Plan. The runoff volume has increased by 241 cf. This increase will not impact the downstream capacity. This development is in compliance with the master drainage plan developed by Mark Goodwin and Associates.

EMERGENCY CONDITIONS

Due to the free discharge design no emergency overflow was designed. Events larger than a 100 year storm will follow the same drainage pattern.

SUMMARY

The site will free discharge into Indian View Place at a rate of 3.88 cfs. The storm water runoff will be carried in Indian View Place to the existing drop inlets which is connected to the 36" storm water pipe. The runoff rate leaving the site is less than allowed

in the Master Drainage Plan. The storm water volume leaving the site is 241 cf more than allowed. The increase in the storm water volume will not impact the downstream capacity. This drainage plan is in compliance with the concepts of the Master Drainage Plan for this subdivision.

HYDROLOGY/HYDRAULICS

The runoff calculations and design have been done in accordance with Section 22.2 of the Development Process Manual of the City of Albuquerque, January 1993.

INFRASTRUCTURE LIST

The surface drainage solution does not require any public improvements. The outfall has been constructed and accepted by the City, therefore there is no need for an infrastructure list for drainage improvements.

BASIN SUMMARY

Basin Runoff Summary			
Basin	**Exist. Q (cfs)**	**Dev. Q (cfs)**	**Discharge Point**
Lot 4	3.25	3.88	Indian View Place

Basin Runoff Volume Summary			
Basin	**Exist. Vol. (cf)**	**Dev. Vol. (cf)**	**Discharge Point**
Lot 4	4611	6666	Indian View Place

** The Drainage Plan developed by Mark Goodwin and Associates (DRB-90-002) and approved by the City of Albuquerque has an allowable flow rate of 5.97 cfs with a runoff volume of 6425 cf for Lot 4, Skyview South Subdivision.

TIERRA WEST LLC
4421 McLeod Road NE, Suite D, Albuquerque, NM 87109 Phone (505) 883-7592 - Fax (505) 883-7034

RUNOFF CALCULATIONS

Date: 12-02-98 Project: Skyview Ridge Subdivision Zone Atlas: J-23

This procedure is in accordance with the City of Albuquerque Development Process Manual, Volume 2, Section 22.2, "Hydrology", peak discharge rate for small watersheds less than forty acres in size.

Precipitation Zone from Figure A-1: 4
Land treatment descriptions are in Table A-4.

1. RUNOFF RATE COMPUTATION

Use Equation A-10: $Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$

Values of Q_{pi} are from Table A-9, and are in CFS/acre. Area values are in acres.

BASIN	Q_{PA}	A_A	Q_{PB}	A_B	Q_{PC}	A_C	Q_{PD}	A_D	Q_P
EXISTING RATE OF RUNOFF (CFS)									
Basin A	2.20	0.00	2.92	0.00	3.73	0.87	5.25	0.00	3.25
Total									3.25
DEVELOPED RATE OF RUNOFF (CFS)									
Basin A	2.20	0.00	2.92	0.28	3.73	0.02	5.25	0.57	3.88
Total									3.88

2. RUNOFF VOLUME COMPUTATION

Use Equation A-5 to compute weighted excess precipitation:

Weighted E = "E" = $(E_A A_A + E_B A_B + E_C A_C + E_D A_D)/(A_A + A_B + A_C + A_D)$

$(A_A + A_B + A_C + A_D) = \sum A_I$

Use Equation A-6 to compute the volume:

V_{360} = "E" x $(A_A + A_B + A_C + A_D)$ x 3630 feet^3/acre·inch

Values of E_I are from Table A-8, and are in inches. Area values are in acres.

BASIN	E_A	A_A	E_B	A_B	E_C	A_C	E_D	A_D	$\sum A_I$	"E"	V_{360}
EXISTING VOLUME OF RUNOFF (CUBIC FEET)											
Basin A	0.80	0.00	1.08	0.00	1.46	0.87	2.64	0.00	0.87	1.46	4611
Total											4,611
DEVELOPED VOLUME OF RUNOFF (CUBIC FEET)											
Basin A	0.80	0.00	1.08	0.28	1.46	0.02	2.64	0.57	0.87		6666
Total											6,666