

Public Works Department
March 10, 1997

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

Jeanne Wolfenbarger
Chavez-Grieves
5639 Jefferson NE
Albuquerque, NM 87109

**RE: RANCHITOS APARTMENTS (D18-D35). GRADING AND DRAINAGE PLAN FOR
BUILDING PERMIT APPROVAL. ENGINEER'S STAMP DATED 2-13-97 (SHEET C3)
AND 2-18 (SHEET C2).**

Dear Ms. Wolfenbarger:


Based on the information provided on your February 28, 1997 submittal, the above referenced project is approved for Building Permit.

A SO #19 Permit will be required for the sidewalk culvert construction.

An Engineer's Certification will be required prior to Certificate of Occupancy approval. As mentioned in a previous letter, City Hydrology will allow a 0.2% pipe, however it is not recommended. The Hydrology Division will inspect the slope of the 12-inch storm drain pipe to make certain it is in compliance and that the "rodent screen" is strong enough to keep a child out of the pipe. It will be your responsibility to call either myself or Bernie Montoya (924-3986) to inspect the pipe prior to covering/paving over it. If you pave prior to our inspection, and the pipe is not adequate, you will be required to remove the paving and adjust the pipe.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,



Lisa Ann Manwill, P.E.
Engineering Assoc./Hyd.

c: Ken Nielsen - Owner
Fred Aguirre
Bernie Montoya
Andrew Garcia

File

Good for You, Albuquerque!



RUNOFF VOLUME = .41343 INCHES = .0853 ACRE-FEET
PEAK DISCHARGE RATE = .98 CFS AT 1.700 HOURS BASIN AREA = .0039 SQ. MI.

*S COMPUTE RUNOFF FROM BASIN C

COMPUTE NM HYD ID=1 HYD=BASIN_C DA=0.00076 SQ MI
%A=60 %B=30 %C=0 %D=10
TP=0.1333 RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = .30005 CFS UNIT VOLUME = .9674 B = 526.28 P60 = 1.4300
AREA = .000076 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .162762HR TP = .133300HR K/TP RATIO = 1.221021 SHAPE CONSTANT, N = 2.914650
UNIT PEAK = 1.4100 CFS UNIT VOLUME = .9884 B = 274.79 P60 = 1.4300
AREA = .000684 SQ MI IA = .60000 INCHES INF = 1.53000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA BASIN_C

RUNOFF VOLUME = .39687 INCHES = .0161 ACRE-FEET
PEAK DISCHARGE RATE = .48 CFS AT 1.500 HOURS BASIN AREA = .0008 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 16:25:35

DRAINAGE AGREEMENT

This Drainage Agreement

between KENNETH R. NIELSEN

("Owner 1"), whose address is 6815 Ranchitos Road NE Albuquerque, New Mexico 87109

and KENNETH R. NIELSEN ("Owner 2"),

whose address is 6815 Ranchitos Road NE Albuquerque, New Mexico 87109,

is made in BERNALILLO COUNTY and is entered into as of the date the Owners sign this agreement.

Owner 1 is the Owner of certain real property located at Lot 19-A, TRACT A, UNIT A, BLOCK 13 North Albuquerque Acres in Bernalillo County, New Mexico ("Property 1").

Owner 2 is the owner of certain real property located at Lot 19-B, TRACT A, UNIT A, BLOCK 13 North Albuquerque Acres in Bernalillo County, New Mexico ("Property 2").

Owner 2 agrees to accept storm runoff from Property 1 that may cross their common lot line.

This agreement shall be binding on the Owner, their heirs, assigns and accessors, and on the Owners' Property and constitute covenants running with the Owners' Property until released by the adjacent Owner.

Owner 1:

By: Kenneth Nielsen

Its:

Dated: 2/5/97

STATE OF New Mexico
COUNTY OF Bernalillo)SS

The foregoing instrument was acknowledged before me this 5 day of February, 1997, by
[name of person signing:] OWNER, [title or capacity, for instance, "President"
or "Owner":]

Kenneth S. Weber of [name of the entity which owns the Property if other than the
individual signing, for instance, the name of the corporation, partnership, or joint venture:]



OFFICIAL SEAL
LINDA K. SUDDERTH
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 8/15/98

Linda K. Suddorth
Notary Public

My commission Expires:

8/15/98

Owner 2:

By: Kenneth S. Weber
Its:
Dated: 2/5/97

STATE OF New Mexico
COUNTY OF Bernalillo)SS

The foregoing instrument was acknowledged before me this 5 day of February, 1997, by
[name of person signing:] OWNER, [title or capacity, for instance, "President"
or "Owner":]

Kenneth S. Weber of [name of the entity which owns the Property if other than the
individual signing, for instance, the name of the corporation, partnership, or joint venture:]

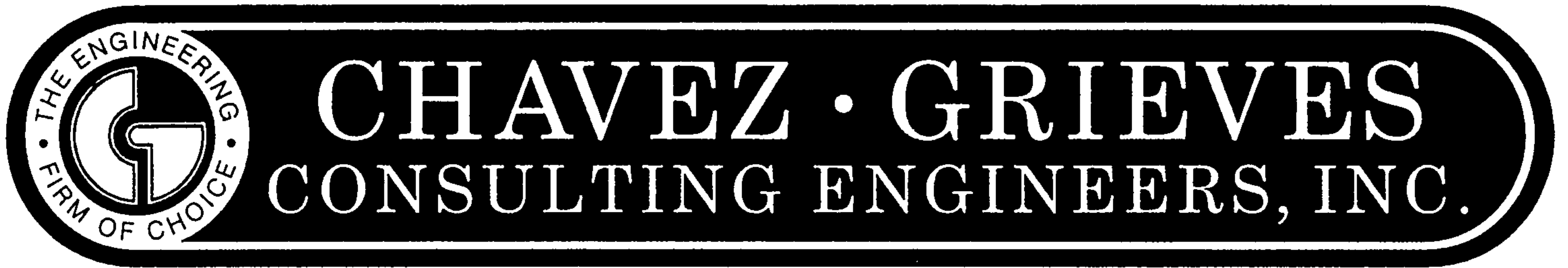
Linda K. Suddorth
Notary Public

My commission Expires:

8/15/98



OFFICIAL SEAL
LINDA K. SUDDERTH
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 8/15/98



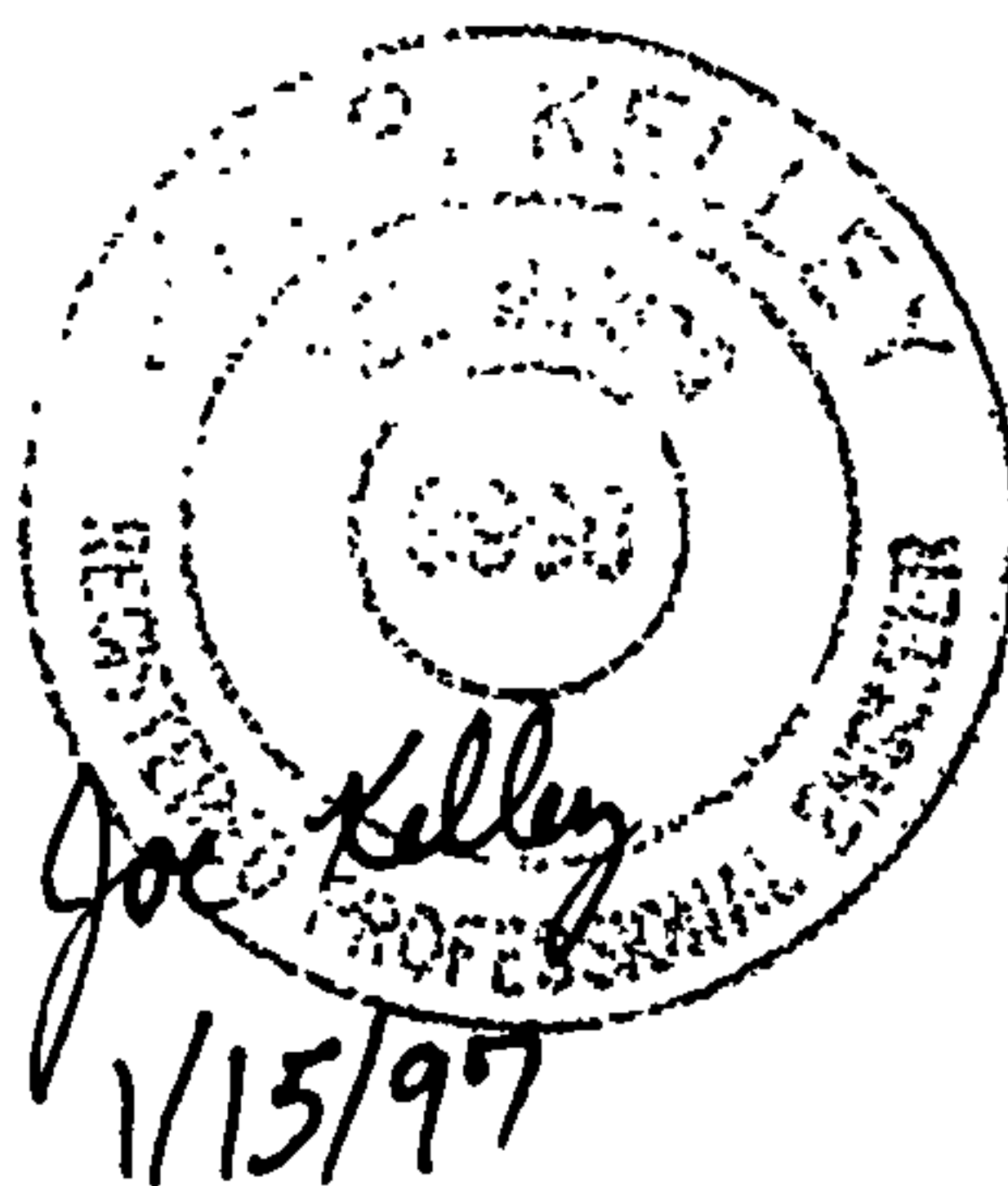
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DRAINAGE REPORT

FOR

RANCHITOS APARTMENTS

ALBUQUERQUE, NEW MEXICO



JANUARY, 1997

LOCATION

This site is located between Louisiana Boulevard and Joy Place in North Albuquerque Acres. It is accessed off of Ranchitos Road.

FLOOD HAZARD ZONES

As shown by Panel 350002010 of the National Flood Insurance Rate Map for the City of Albuquerque, dated October 14, 1983, the site is not located within a flood plain.

EXISTING SITE CONDITIONS AND DRAINAGE PATTERN

The site is currently undeveloped with the exception of a dirt access road that extends from Ranchitos Road to the south side of the site. Surrounding development includes a single family residence on the south side and Ranchitos Village apartment complex to the west. There is no existing development immediately to the east or north of the site.

Most of the runoff from the site in Basin B discharges to Ranchitos Village by sheet flow at 1-2% slopes. Undeveloped off-site runoff from Basin A enters the site on the east side. Currently, the runoff discharging to Ranchitos Village from both Basin "A" and Basin "B" is 5.4 cfs (page A-3) .

PAST DRAINAGE REPORTS

The Ranchitos Village Drainage Report, which was prepared by Jeff Mortensen & Associates in 1991, shows a total off-site runoff of 3.3 cfs entering Ranchitos Village from the east. This runoff was directed over the Ranchitos Village parking lot to Ranchitos Avenue. Per this prior report, the off-site runoff was computed for an area of 1.7 acres.

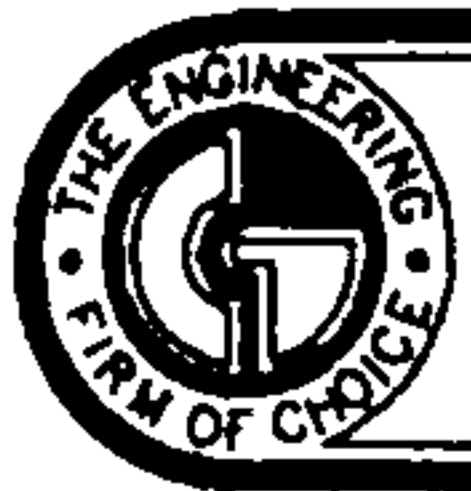
The topographic orthophoto map in Figure 1 shows a 2.6 acre watershed discharging to Ranchitos Village instead of 1.7 acres. Recalculating the runoff using the "old hydrology" method with an area of 2.6 acres results in a runoff amount of 4.3 cfs (page A-9).

PROPOSED SITE CONDITIONS AND DRAINAGE PATTERN

Two 1800 square foot apartment buildings are proposed to be built. The dirt access road from Ranchitos Road to the north corner of the site will be paved, and on the northwest corner of the site, a paved parking area for the new apartment buildings will be installed. With this new development, the combined runoff from Basins A and B will be 5.8 cfs (page A-6).

In order to decrease discharge from the site to less than 5.4 cfs, a detention pond will be constructed on the northwest corner of the site. A 12" pipe will carry the attenuated runoff from the detention pond to a two-foot wide channel. This channel will then discharge the runoff to Ranchitos Avenue. AHYMO calculations show that during the 100-year storm, a runoff amount of 2.45 cfs will be discharged to Ranchitos Avenue, a flow that is less than both the calculated historical runoff of 5.4 cfs under the "new hydrology" method and the flow of 3.3 cfs from Jeff Mortensen's report. Because the historical flow pattern allows discharge through Ranchitos Village to Ranchitos Avenue, the attenuated flow of 2.45 cfs to Ranchitos Avenue is allowable. The 12" pipe has a 1114 gpm (2.45 cfs) capacity as shown on page A-10.

The runoff from the property will then flow west along the north side of Ranchitos Road until it turns north on San Pedro Boulevard. San Pedro Boulevard directs runoff in a northerly direction to the Domingo Baca Arroyo. Due to the proximity of the site to the arroyo and topography surrounding the site, there are no apparent flooding problems downstream.



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SHEET NO. 1 OF 1

JOB Warrior Apartments

SUBJECT Warrior Apartments

CLIENT Kon Nielsen

JOB NO.

BY SL DATE Nov. 17, 1995

Pipe Capacity from Pond

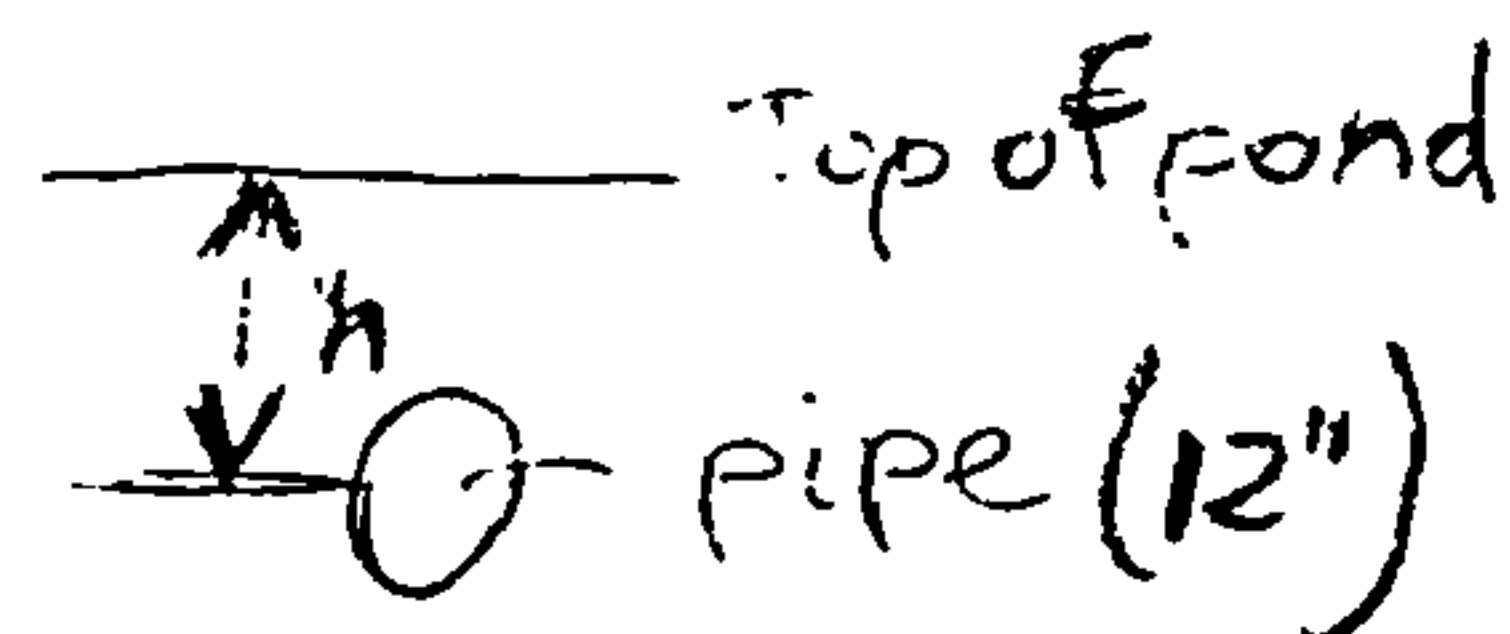
$$Q = C_d A \sqrt{2gh}$$

$$A = \frac{\pi d^2}{4} = \frac{\pi (1.0)^2}{4} = 3.14 \text{ ft}^2$$

$$C_d = 0.50 \text{ (square edged entrance)}$$

$$h = 1.5 - \frac{1.0}{2} = 1.5 - 0.5 = 1.00$$

$$Q = 3.77 \text{ cfs}$$



1 pipe (3.77 cfs) = Flow at inlet control. However, with minimal slope, 12" pipe will operate by outlet control. See page 4-10.

Existing impervious amount of land from Basin B:

1 house / 0.26 Acres (House is completely in Basin E. First of residential lot property is in Basin C.)

$$H = 3.85$$

$$7 \times \sqrt{(3.85)^2 + 5(3.85)} = 40 \text{ ft}$$

Basin B (Total) = 0.62 acres

$$0.26 \times 0.40 = 0.104 \text{ acres impervious land in B}$$

$$\frac{0.104}{0.62} = 17\% \approx 20\% \text{ "D" treatment}$$

$$\text{"C" treatment} = 15\%$$

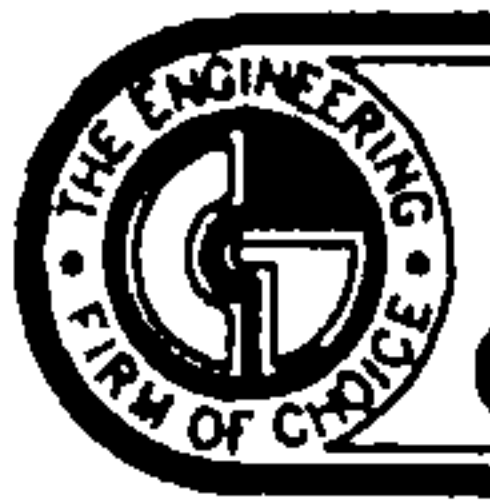
$$\text{"B" treatment} = 65\%$$

ANYMORE put

Proposed Amount of impervious land for Basin B:

2 1800 square foot building, + 3172 ft² parking, + 2000 ft²

drive way = 8772 sq. ft = 0.201 Acres + 0.104 Acres $\approx 50\%$



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SHEET NO. _____ OF _____

JOB _____

SUBJECT Precipitation Apportionment

CLIENT _____

JOB NO. 1112 - 100 - 1142

BY JV DATE Nov. 15, 1996

Jeff. Henderson's off-site flow calculation

$$Q_{100} = CIA$$

$$= 0.40 (4.86) (1.7 \text{ acres}) = 3.3 \text{ cfs}$$

New off-site flow calculation ("Old Hydrology") for Basin "A":

$$A = 0.6 \text{ Acres}$$

$$C = 0.75 (0.09) + 0.25 (0.75) + 0.40 (0.16) = 0.34$$

$$I = 4.86$$

$$CIA = 4.30 \text{ cfs}$$

RANCHITOS APARTMENTS

Worksheet for Pressure Pipe

Project Description	
Project File	c:\haestad\fmw\project2.fm2
Worksheet	RANCHITOS
Flow Element	Pressure Pipe
Method	Manning's Formula
Solve For	Discharge

Input Data		
Pressure at 1	0.71	psi
Pressure at 2	0.44	psi
Elevation at 1	98.35	ft
Elevation at 2	97.88	ft
Length	225.00	ft
Mannings Coefficient	0.013	
Diameter	12.00	in

Results		
Discharge	1,114.4	gal/min
Headloss	1.09	ft
Energy Grade at 1	100.14	ft
Energy Grade at 2	99.05	ft
Hydraulic Grade at 1	99.99	ft
Hydraulic Grade at 2	98.89	ft
Flow Area	0.79	ft ²
Wetted Perimeter	3.14	ft
Velocity	3.16	ft/s
Velocity Head	0.16	ft
Friction Slope	0.004857	ft/ft