



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 27, 1979

Mr. Ray Harrison
1517-A Girard Blvd., N.E.
Albuquerque, New Mexico 87106

Reference: Nick's Mobile Home Park

Dear Mr. Harrison:

I have reviewed the plans submitted for the referenced development, and the proposal is consistent with the indications furnished in previous meetings, and it complies with the requirement indicated in my letter dated October 16, 1979.

If you have any questions, please don't hesitate to contact my office.

Very truly yours,

Bruno Conegliano
Assistant City Engineer/Hydrology

BC/lc

xc: Richard Leonard, AMAFCA
Richard Heller, City Engineer
Drainage File ✓

MUNICIPAL DEVELOPMENT DEPARTMENT



RAY L. HARRISON & ASSOCIATES

CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE
ALBUQUERQUE, NEW MEXICO 87106
(505) 265-4276

November 12, 1979

Mr. Bruno Conegliano, Assistant City Engineer- Hydrology
City of Albuquerque
Box 1293
Albuquerque, New Mexico

RECEIVED

Ref: Drainage Plan, Nick's Mobile Home Park, Tract 8, Row 1,
Unit A, West of Westland, Town of Atrisco Grant.

NOV 13 1979

CITY ENGINEER

Dear Mr. Conegliano,

Inclosed are revised drawings to meet the requirements of
your memorandum of October 16, 1979 and the subsequent meeting
with you and Mr. Orr.

Your conditional approval of this plan as a part of a Planning
Department Development Plan and subject to coordination of
Volcano Road grades with City Engineering is requested to
allow preparation of construction drawings. The construction
drawings will be submitted as a part of the permit process
and will have the additional details necessary for a complete
drainage plan.

Ray L. Harrison
RAY L. HARRISON



RAY L. HARRISON & ASSOCIATES
CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE
ALBUQUERQUE, NEW MEXICO 87106
(505) 265-4274

DRAINAGE PLAN
NICK'S MOBILE HOME PARK
TRACT 8, ROW 1, UNIT A
WEST OF WESTLAND
TOWN OF ATRISCO GRANT

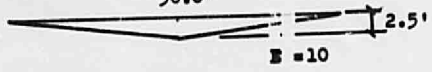
Design Criteria:

1. The drainage that flows across the land from the West naturally will continue as sheet flow. (No Swales)
2. A 50 feet wide drainage easement will be provided at the location of the existing drainage path and will be designed for a 100 year storm.

Ponding areas are distributed around the park adjacent to the mobile homes for ponding balance. Ponds that overflow will continue across as sheet flow.

3. Low sloping areas are provided to park the mobile homes.

50' drainage Easement design
50.0'



CHANNEL CONFIGURATION

Drainage Area as shown in previous report = 108 Acres

Coefficient of Runoff (Assume developed area) = 0.8

Rainfall $i = 4.05$ (20 Min duration, 100 year storm)

$$Q = CIA = 354 \text{ CFS}$$

$$\text{Critical Depth } D_c = \sqrt[3]{\frac{2 Q^2}{g z^2}} = 2.39$$

Channel as designed will carry 100 year storm



RAY L. HARRISON & ASSOCIATES

CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE
ALBUQUERQUE, NEW MEXICO 87106
(505) 268-4276

PONDING CALCULATIONS:

New Development

Maximum Number of Mobile Homes and Largest Size Possible

Number	Mobile Home Size	Square Feet
12	14 X 70	11,760
12	14 X 80	13,440
7	14 X 62	6,076
5	24 X 80	9,600
4	24 X 70	6,720
40	Total	47,600

Paving

parking	20,400
road	24,200
Conc. Pads & Walks	8,400

Total Imprevious	100,600	
ponding required	10,060	Cu. Ft.

Ponding

Pond No.	Number	"L"(Ft.)	"W"(Ft.)	Sq. Ft. X Depth (.525)	Cumulative .Cu Ft.
1-11	11	8.5	58.5	261	2,871
12	1	23.5	43.5/2	304	3,175
13	1	43.5	43.5/2	496	3,671
14-22	9	8.5	58.5	261	6,021
23-25	3	8.5	8.5	306	6,938
26	1	8.5	58.5	261	7,199
27	1	8.5	48.5	216	7,415
28-29	2	8.5	58.5	261	7,937
30	1	8.5	48.5	216	8,153
31	1	8.5	58.5	261	8,414
32-33	2	8.5	48.5	216	8,846
34-35	2	8.5	38.5	171	9,180
36-39	4	8.5	58.5	261	10,232 (Total)

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE

November 1, 1979

REF. NO. _____

TO: Q. R. Kjelich, Assistant City Engineer-Design

FROM: H. R. Orr, Principal Assistant City Engineer



SUBJECT: Street Grade Request

The developer of an abutting tract has requested that a street grade be set for Volcano Road N.W. at least in the reach from 102nd. Street to 104th Street.

HRO/fs

cc - Bruno Conegliano



RAY L. HARRISON & ASSOCIATES

CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE
ALBUQUERQUE, NEW MEXICO 87106
(505) 268-4276

RECEIVED

AUG 24 1979

CITY ENGINEER

Richard S. Heller, City Engineer
City of Albuquerque
Box 1293
Albuquerque, New Mexico 87103

To Bruno
Re: Drainage Plan, Tract 8, Row 1, Unit A, West of Westland,
Town of Arisco Grant.

Dear Mr. Heller

Enclosed is the proposed Drainage Plan for the referenced tract of land. It is submitted as part of a development plan approval. Your review is requested.

Ray L. Harrison
Ray L. Harrison



RAY L. HARRISON & ASSOCIATES
CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE
ALBUQUERQUE, NEW MEXICO 87106
(808) 265-4276

DRAINAGE PLAN
TRACT 8, ROW 1, UNIT A
WEST OF WESTLAND
TOWN OF ATRISCO GRANT

Ray L. Harrison
RAY L. HARRISON





RAY L. HARRISON & ASSOCIATES

CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE
ALBUQUERQUE, NEW MEXICO 87106
(505) 265-4276

Tract 8 is a five acre tract situated in the Northwest Heights. It will be developed into a Mobile Home Park.

The drainage plan criteria as follows, is based on verbal discussions with the City Hydrologist.

1. All drainage from the adjacent up hill property will be intercepted with swales and diverted into the streets or drainage channel.
2. The existing arroyo will be concrete lined and designed to take the developed drainage area shown.
3. Retention ponding for the development will be provided.
4. All standard City drainage requirements will be met. Flat areas to park the trailers will be provided.

Retention Pond Design:

Maximum trailers and sizes that can be located in the park:

	29	14 X 80	
	12	14 X 75	
	3	14 X 60	
	4	24 X 60	
	2	24 X 70	
	2	24 X 80	
	<u>42</u>		
Total			59,720 Sq. Ft of roof
Office			600
Storage buildings			3,360
Paving			20,390
Parking			24,200
Roads			10,000
Pads and sidewalks			118,270
Total			

Ponding required $118,270 \times .1 = 11,827$ Cu. Ft.



RAY L. HARRISON & ASSOCIATES
CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE
ALBUQUERQUE, NEW MEXICO 87106
(505) 265-4274

Design of Drainage Channel;

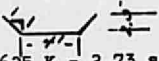
Drainage Area = 108 Acres (shown on attached overlay)

Drainage area taken from 1" = 200' Orthophoto Topographic
Map and field checked.

Channel Design:

Manning Formula ("Handbook of Hydraulics" by King)

Table 7-10


 $D + 2.5 B = 4 \quad D/b = .625 \quad K = 2.73 \quad s = .025 \quad n = .02$

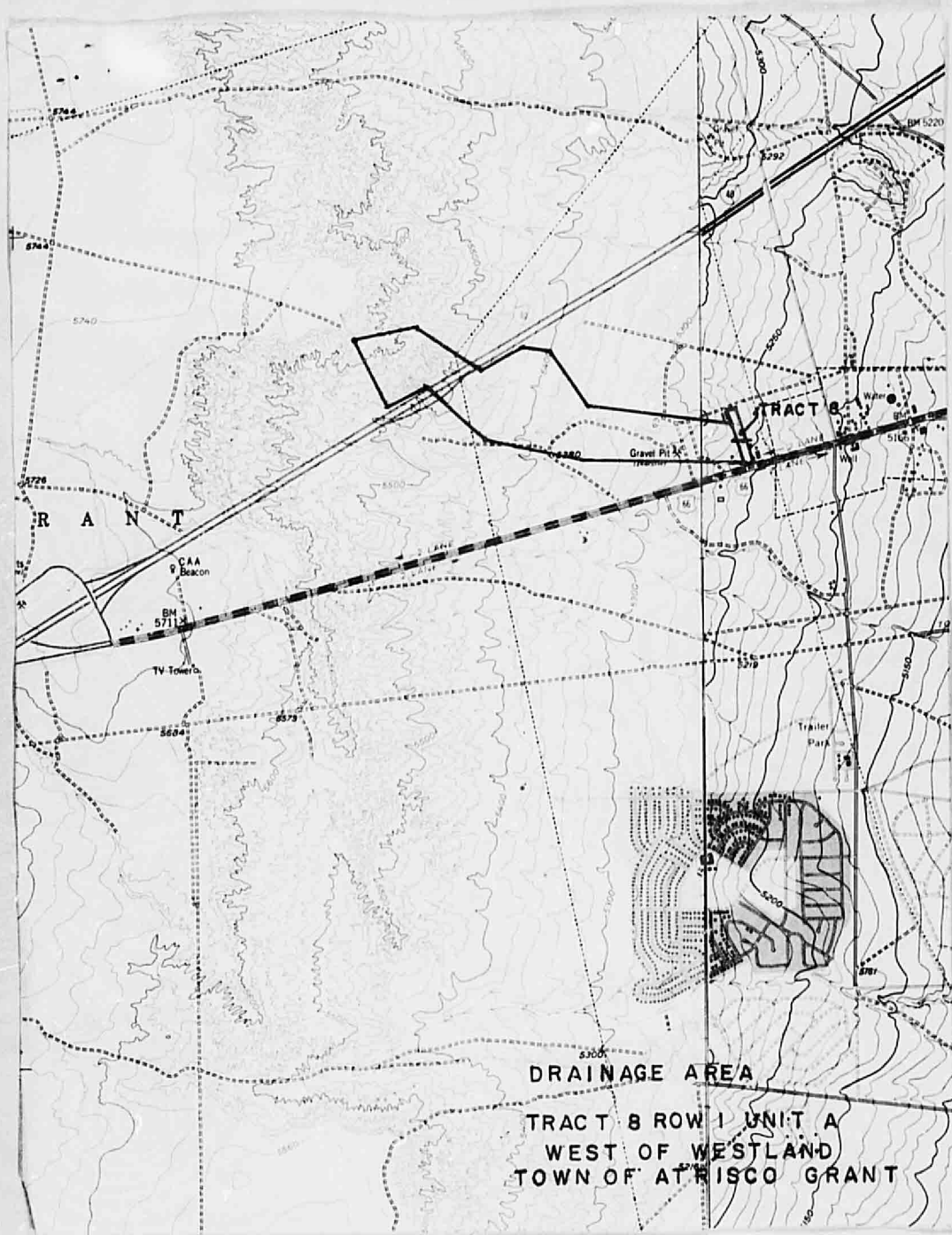
$$Q = \frac{2.73 \cdot 2.5^{8/3} \cdot .025^{1/2}}{.02} = 354 \text{ CFS}$$

Using the "Rational Method" and solving for the coefficient
of runoff

$$i = 4.05 \text{ (20 min duration 100 year storm)}$$

$$Q = CiA \quad C = \frac{Q}{iA} = \frac{354}{4.05 \cdot 108} = .8 = \text{Coefficient of runoff}$$

Channel will handle a developed drainage area



DRAINAGE AREA

TRACT 8 ROW 1 UNIT A
WEST OF WESTLAND
TOWN OF ATRISCO GRANT