HYDROLOGY G17/D7 1 PLAN

G17/D7

1 PLAN

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

June 18, 1979

Mr. Tom Mann
Goldberg-Mann & Associates
911 Pennsylvania N.E.
Albuquerque, New Mexico 87110

Re: Drainage Report for the Pic Apartment Complex

Dear Mr. Mann:

I have reviewed the drainage report for the referenced development and I have found it in compliance with the City's requirements. The drainage report is hereby approved. Building permits will be processed and granted expeditiously, but before the Certificate of Occupancy is released, the owner will have to supply a certification from his engineer that the site has been inspected and that the ponding facilities and the grading have been constructed according to the stipulations of the drainage report.

If you have any questions, please do not hesitate to call my office.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/fs

cc - Dick Heller
Rich Leonard
Drainage File

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

March 8, 1979

Long and Waters Architects
8009 Mountain Road Place N.E.
Albuquerque, New Mexico 87110

Re: Pic Apt. at 4200 Montgomery N.E.

Gentlemen:

Given the size of the parcel (5.692 Ac.) a regular drainage report is required. Said report must include the existing topography with contours and the proposed site grading plan at such a scale (1"=10') 1"=20 as is sufficient to indicate in detail the drainage provisions supplied and to allow verification of the ponding capacities.

It is also essential that the drainage areas draining in each pond be clearly identified and the volume of runoff conveyed to the pond quantified and correlated to the volume supplied.

Please note also that no ponding is allowed in public R.O.W. as the construction plans indicate.

Further, the construction plans do not reflect the restriction imposed by the roof detention recommended. The drainage scheme shown on Sheet C1, calls for detention of 1300 cubic feet of water and Sheet A3 shows free outflow through the suppers. OK

The direct discharge onto Morningside Drive without routing of the flow through a detention area is not in the best interest of the City. This runoff will also have to be limited to predevelopment values.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/fs
cc - Dick Heller
Rich Leonard
Drainage File

AN EQUAL OPPORTUNITY EMPLOYER

DRAINAGE REPORT for the PIC APARTMENT COMPLEX

Goldberg · Mann & Associates
Engineers-Planners
911 Pennsylvania N.E. Albuquerque, New Mexico 87110

Goldberg · Mann & Associates
Engineers·Planners
911 Pennsylvania St. Albuquerque, New Mexico 87110 (505) 265-3521

9-28

May 9, 1979

Mr. Jim Ward
Pickard and Associates
Suite 800
2625 Pennsylvania N.E.
Albuquerque, New Mexico 87110

Re: Pic Apartments Complex Drainage Report

Dear Mr. Ward

We are herewith transmitting three (3) copies of the drainage plan for the Pic Apartment Complex.

The drainage plan is in accordance with the requirements of the City of Albuquerque and the Albuquerque Metropolitan Arroyo Flood Control Authority.

We have enjoyed working with you on this project and look forward to future opportunities to assist you.

Yours truly,

GOLDBERG-MANN & ASSOCIATES,

Thomas T. Mann, Jr., P.E.
President

TTM:jj
Enc.

TABLE OF CONTENTS

PURPOSE AND SCOPE

LOCATION AND DESCRIPTION

DESIGN CRITERIA

EXISTING DRAINAGE CONDITIONS

PROPOSED DRAINAGE CONDITIONS

CONCLUSIONS

CALCULATIONS

LIST OF FIGURES

FIGURE 1. LOCATION MAP

FIGURE 2. INTENSITY DURATION FREQUENCY CURVES

FIGURE 3. FLOOD HAZARD MAP

FIGURE 4. GRADING PLAN

PURPOSE AND SCOPE

The purpose of this drainage plan is to establish the criteria for controlling surface runoff from a particular development in a manner that is acceptable to the City of Albuquerque and to the Albuquerque Metropolitan Arroyo Flood Control Authority.

This plan will determine the runoff resulting from a 100 year frequency storm falling on the site under existing and developed conditions.

The scope of this plan is to insure that the proposed project will be protected from storm runoff and that the construction of this project will not increase the flooding potential of the adjacent properties.

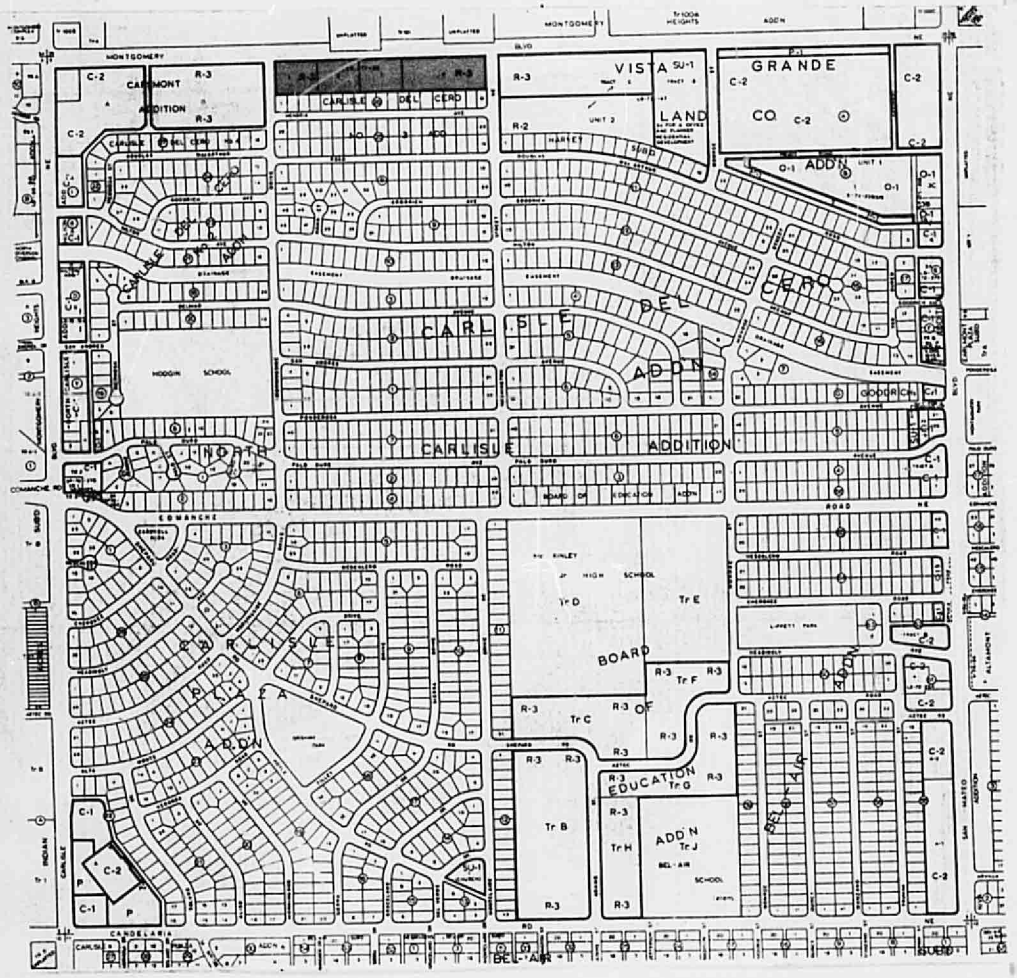
LOCATION AND DESCRIPTION

The Pic Apartments Complex is located within the corporate limits of the City of Albuquerque in the northeast quadrant. The site is located on the south side of Montgomery Blvd. N.E. between Morningside Drive N.E. and Washington Street N.E., as shown in Figure 1.

The parcel is approximately 5.7 acres in size. The eastern half of the site has been developed with a multi-unit apartment complex. There will be onsite parking to serve the apartments. The natural topography slopes from the east to the west at approximately 1.5 percent.

FIGURE 1.
LOCATION MAP

DATE
RECEIVED_____



G-17-Z

APPLICANT

NAME: Long & Waters Architects
ADDRESS: 8009 Mountain Rd. Place NE
Albuquerque, NM 87110
PHONE: 505-265-5775
SIGNATURE:_____

LOCATION OF PARCEL

LOT NO: Tr. 1-4 BLOCK NO:_____
SUBDIVISION: Carlisle Del Cero
STREET ADDRESS: 4200 Montgomery NE
Albuquerque, NM
CURRENT ZONING: R-3

EXISTING DRAINAGE CONDITIONS

The Flood Hazard Map for the project is shown in Figure 3. The site is bounded by city streets on three sides, and a block wall is built along the southern boundary. The site lies above the surrounding streets prohibiting runoff from entering. Therefore, runoff for this project is negligible.

The property is not 1) located in a flood plain, 2) adjacent to a natural or artificial water course, or 3) subject to any drainage easements. Erosion will not result from construction activity or from the offsite runoff. The development does not block any drainage from adjacent properties.

The existing development on the eastern half of the site is currently inconsistent with the City of Albuquerque's standards concerning drainage. There are three ponds adjacent to Montgomery Boulevard N.E. that retain runoff from the northeast section of the property. These ponds amount to approximately 45 percent of the retention volume necessary to comply with city standards.

DESIGN CRITERIA

In analyzing the storm runoff, the Rational Formula, $Q = CIA$ is used.

Where:

Q = Runoff quantity in cubic feet/second.

A = Contributing area in acres.

I = Intensity in inches/hour for a duration equal in minutes and obtained from Figure 2, Intensity Duration Frequency Curves, Albuquerque Area 1961. (Note: Where a Time of Concentration [Tc] is less than ten minutes, the intensity value derived from a Tc of ten (10) minutes is employed.)

C = Runoff coefficient (No Units). This coefficient represents the integrated effects of infiltration, detention storage, evaporation, retention, flow routing, and interception which all affect the time distribution and peak rate of runoff.

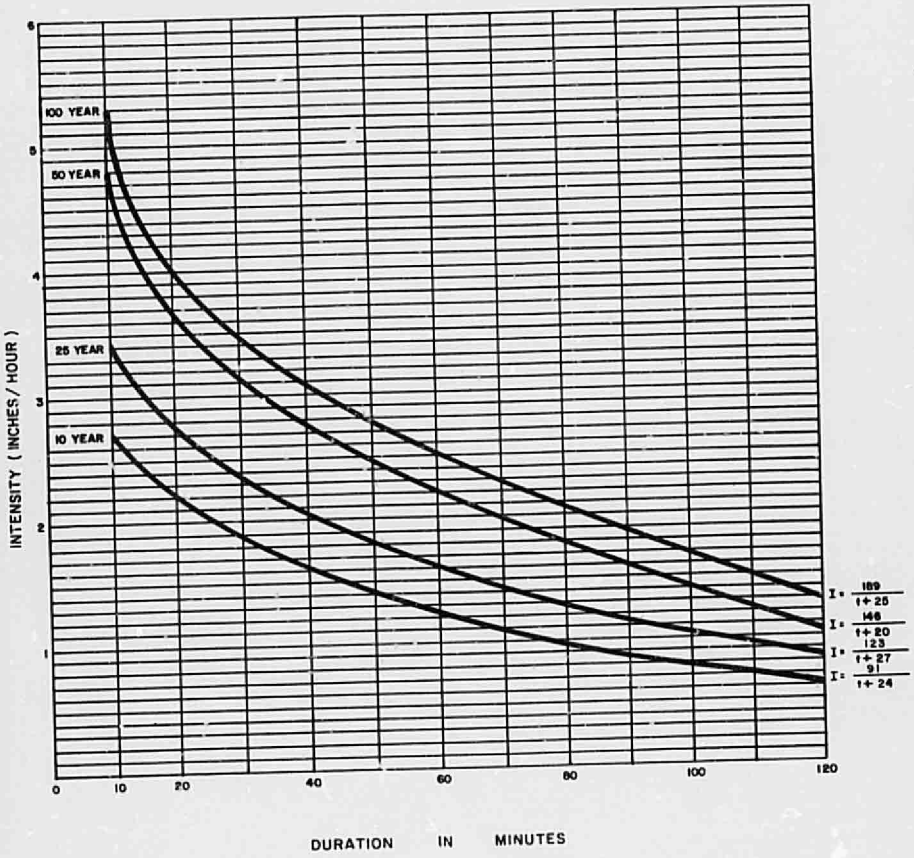
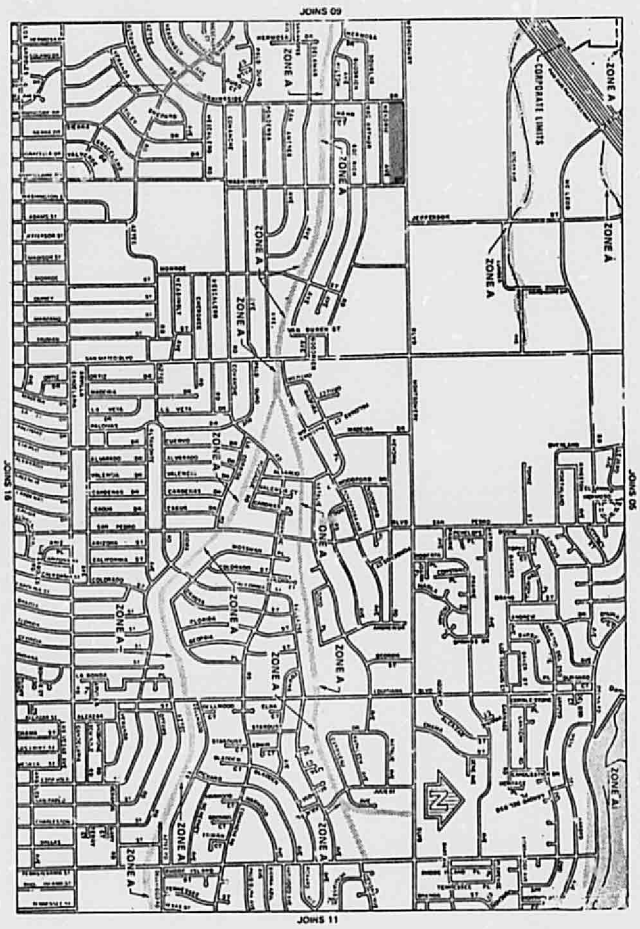


FIGURE 2

INTENSITY DURATION FREQUENCY CURVES



10	DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Federal Insurance Administration CITY OF ALBUQUERQUE, NM (BERNALILLO CO.)	APPROXIMATE SCALE 1000 0 1000 2000 3000 FEET FLOOD HAZARD BOUNDARY MAP	MAP REVISED 2/14/78	FIGURE 3

PROPOSED DRAINAGE CONDITIONS

The proposed site grading and improvements are shown on Figure 4, Grading Plan. The conveyance of offsite flows will not be altered.

Utilizing the existing ponds an additional 16,778 C. F. of retention volume is required. Ponds A-I, as noted on Figure 4 (Grading Plan) will retain this volume. The total ponding will provide 100% retention for the increased runoff that results from the development of the property.

Grading will be such that runoff from the north half of the site will be directed to ponds D-H and to the existing ponds adjacent to Montgomery Boulevard. Ponds A-C and I will collect all the runoff from the southern half of the project. All runoff will be routed through at least one detention area before discharging into the adjacent streets.

The construction of pond A will require the removal of the existing landscaping and the placement of a drop inlet as shown on the grading plan. Ponds G, H, and I will utilize vertical walls to maximize volume. These walls will not exceed a height of 1.5'. In general all ponds will be constructed; 1) within the property lines, 2) with 3:1 side slopes maximum and, 3) with depths not in excess of 1.5'. Since the depth of ponds in less than 1.5', fencing will not be required. Curb cuts in combination with asphalt swales will direct flows into the ponds. Runoff directed to ponds B and C will pass beneath the sidewalk through a concrete

lined swale with a 1/4" checker plate cover.

A wat r block will be constructed at the southwestern site corner to prevent runoff from entering Morningside Drive and to divert it into Pond I. This water block will be designed so that a one foot grade separation will be maintained between the flowline and the top of the water block.

CONCLUSIONS

1. The existing ponds have a total retention capacity of 4,000 c.f.
2. Construct retention in available landscaping areas.
3. The total pond volume shall be not less than 20,800 c.f.
4. The individual pond volumes shall be as follows:

A - 5,525 c.f.	B - 1,925 c.f.	C - 1,925 c.f.
D - 1,000 c.f.	E - 1,200 c.f.	F - 1,50[illegible] c.f.
G - 900 c.f.	H - 2,025 c.f.	I - 1,35[illegible] c.f.

5. Construct a water block at the southwest corner of the project to prohibit runoff from exiting the site without being routed through a pond.
6. Construct curb cuts at locations noted on the grading plan to allow runoff to enter ponds.
7. Construct a drop inlet to allow runoff to enter Pond A from the south.
8. Construct concrete swale at sidewalk to allow runoff to enter ponds B and C from south. Cover with 1/4" checker plate to maintain sidewalk grade.

CALCULATIONS

Total Area - 5.69 acres

Total Landscaped Area - 0.92 acres

Total Impervious Area - 5.69 - 0.92 = 4.77 acres

Ponding Required

(4.77) (43560) (0.1) = 20,778 c.f.

Total Ponding Existing - 4,000 c.f.

New Ponding Required

20,778 - 4,000 = 16,778 c.f.

Total New Ponding - 17,350 c.f.

POND VOLUMES

(Note: Pond volumes recorded by use of a planimeter.)

	Reading at 0.75' Depth		Conversion Factor		Depth	Volume
Pond A	4.09	x	900	x	1.5'	= 5,525 c.f.
Pond B	1.43	x	900	x	1.5'	= 1,925 c.f.
Pond C	1.43	x	"	x	"	= 1,925 c.f.
Pond D	0.74	x	"	x	"	= 1,000 c.f.
Pond E	0.89	x	"	x	"	= 1,200 c.f.
Pond F	1.11	x	"	x	"	= 1,500 c.f.
Pond G	0.67	x	"	x	"	= 900 c.f.
Pond H	1.50	x	"	x	"	= 2,025 c.f.
Pond I	1.00	x	"	x	"	= 1,350 c.f.
Total	New Ponding					17,350 c.f.
Total	New Ponding Required					16,778 c.f.