HYDROLOGY H11/D11 8 PLANS

H11/D11

8 Plans

DRAINAGE REPORT

for

McCANNA BLUFFS

subdivision

Goldberg · Mann & Associates
Engineers · Planners
2329 Wisconsin N.E., Albuquerque, New Mexico 87110

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2329 Wisconsin N.E., Suite E Albuquerque, New Mexico 87110 (505) 292-1092

October 7, 1977

Mr. Jim Findley
Ashcraft Sales
7901 Mountain Road N.E.
Albuquerque, New Mexico 87110

Re: McCanna Bluffs Subdivision

We are herewith submitting three (3) copies of the drainage plan for the McCanna Bluffs Subdivision.

This plan is in accordance with the requirements of the City of Albuquerque and Resolution 1972-2, 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 sincerely,

Thomas T. Mann Jr. P.E.
President

TTM:eg

TABLE OF CONTENTS

PURPOSE AND SCOPE

LOCATION AND DESCRIPTION OF PROJECT

DESIGN CRITERA

EXISTING DRAINAGE CONDITIONS

PROPOSED DRAINAGE CONDITIONS

CONCLUSIONS

CALCULATIONS

LIST OF FIGURES

FIGURE 1. LOCATION MAP

FIGURE 2. INTENSITY DURATION FREQUENCY CURVES

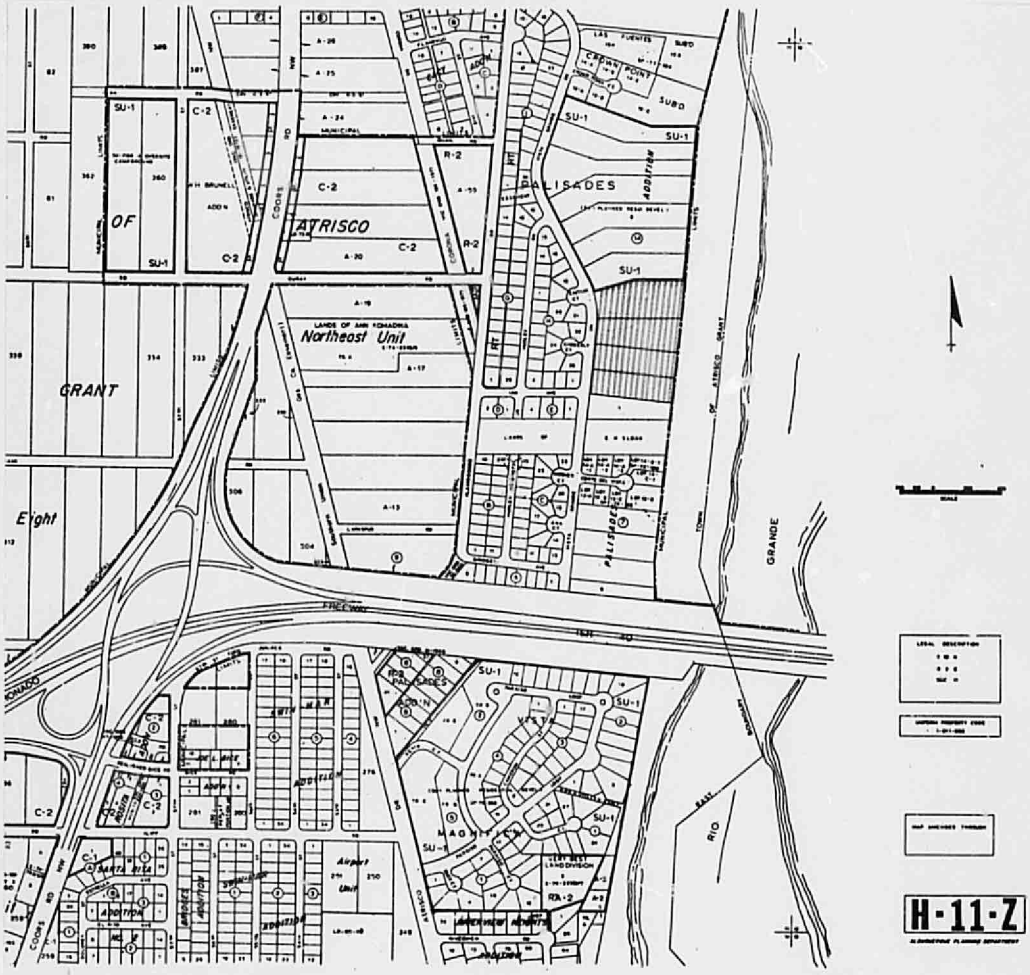
FIGURE 3. TYPICAL LOT DRAINAGE

FIGURE 4. EXISTING TOPOGRAPHY AND DRAINAGE BASINS

FIGURE 5. GRADING PLAN

FIGURE 1.
LOCATION MAP

DATE
RECEIVED_____



APPLICANT

NAME: Jim Findley
ADDRESS: 7901 Mountain Road N.E.
Albuquerque, N.M.
PHONE: 265-7728
SIGNATURE:_____

LOCATION OF PARCEL

LOT NO: 2,3,4 & 5 BLOCK NO: 14
SUBDIVISION: PALISADES
STREET ADDRESS: Vista Grande Dr.

CURRENT ZONING: R-1

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 of the McCanna Bluffs Subdivision.

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 of Project

The proposed subdivision is located north of Interstate 40, east of Coors Road on the bluff overlooking the Rio Grande. The land is currently plotted as four lots and contains approximately 7.5 acres.

The proposed subdivision will subdivide the four lots into fourteen lots. Two east/west cul-de-sacs will be constructed east of Vista Grande Drive and the lots will be adjacent to the cul-de-sacs. The minimum size lot will be in excess of 1/3 acre. The cul-de-sacs will be constructed as estate sections rather than with curb and gutter.

Design Criteria

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

Where:

Q = Runoff quantity in cubic feet/second.

A = Contributing area in acres.

C_f = Frequency factor for Rational Formula

I = Intensity in inches/hour for a duration equal to the time of accumulation (duration) measured 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 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.

EXISTING DRAINAGE CONDITIONS

The existing contours and drainage basins are shown in Figure 4. There are no off-site flows from the west, north or east as these lands are lower than the parcel being developed. The lot to the south has been developed and graded to flow from east to west such that the runoff does not run into the proposed subdivision. At the present time excess stormwater from the proposed subdivision either drains into Vista Grande Drive, the Rio Grande or the lot to the north.

A 20 foot wide drainage easement exists parallel to the north property line of the proposed subdivision. A 24" pipe is buried in the easement.

PROPOSED DRAINAGE CONDITIONS

The grading plan for the proposed subdivision is shown in Figure 5. All lots will have rear yard ponding as shown in Figure 3.

An estate type street will be utilized in this subdivision. All waters from the streets and front yards will be collected in the front yards adjacent to the street. The ponds are shown in Figure 5. Driveways will be constructed across the ponding area to act as dikes to prevent the water from flowing to the lowest lot.

The flow entering Vista Grande Drive from the subdivision is considered negligible. Therefore, the proposed subdivision does not create any additional stormwater flows. In fact, it will decrease the stormwater runoff.

CONCLUSIONS

The following conclusions and recommendations are made for the development of McCanna Bluffs.

1. Back yard ponding for all lots.
2. Utilized the estate type street with no sidewalks.
3. Front yard ponding for all lots with driveways acting as dikes to retard the flow of water.

CALCULATIONS

UNDEVELOPED FLOWS

Area 1

area = 1.0 acres

T_c 10 minutes

$I = \frac{189}{10+25} = 5.4$ inches/hour

$Q = 0.35\ (5.4)\ 1.4 = 2.6$ cfs

Area 2

Area = 1.4 acres

T_c 10 minutes

I = 5.4 inches/hour

$Q = 0.35\ (5.4)\ 1.4 = 2.6$ cfs

Area 3

area = 2.3 acres

T_c 10 minutes

I = 5.4 inches/hour

$Q = 0.35\ (5.4)\ 2.3 = 4.3$ cfs

Area 4

area = 1.9 acres

T_c 10 minutes

I = 5.4 inches/hour

$Q = 0.35\ (5.4)\ 1.9 = 3.6$ cfs

Area 5

area = 0.9 acres

T_c 10 minutes

I = 5.4 inches/hour

Q = 0.35 (5.4) 0.9 = 1.7 cfs

DEVELOPED FLOWS

Area of Ponds

typical lots size 105' x 100'

volume = 105 x 100' x 0.1 = 1050 cubic feet

Rear Pond Size = 75' x 28'

Average Depth = 0.5'

Front Pond Volume = 1050 cubic feet

Size = Varies

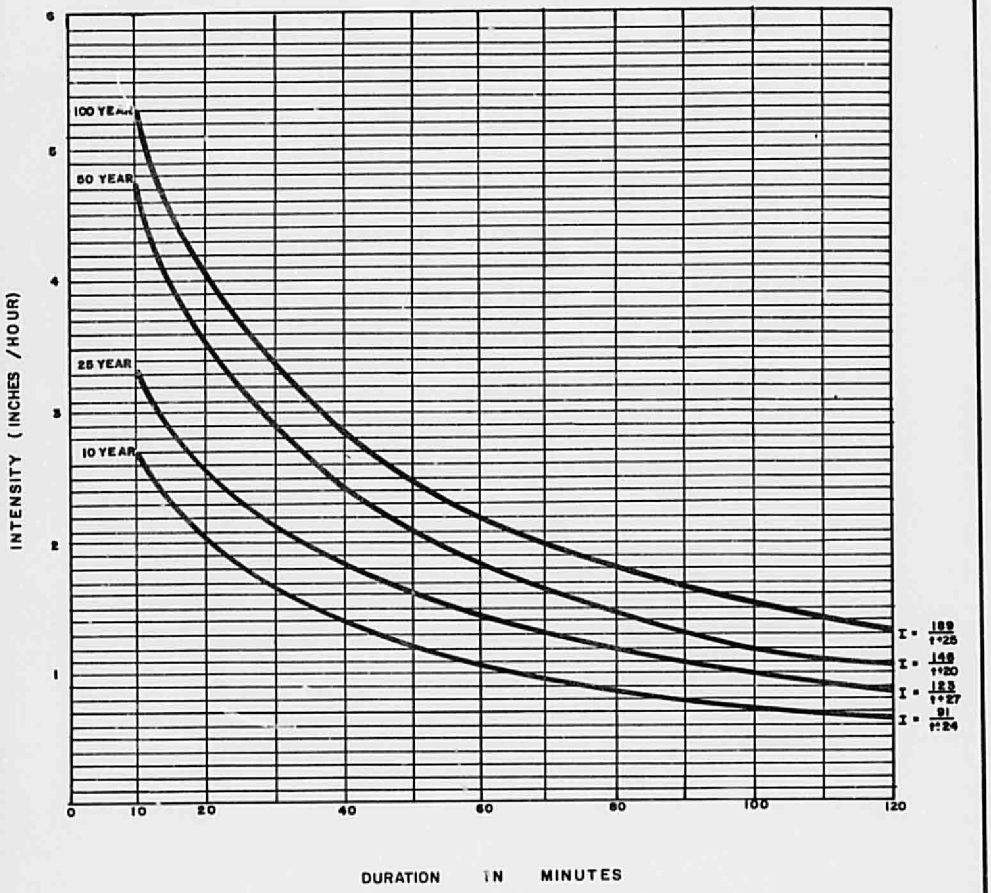
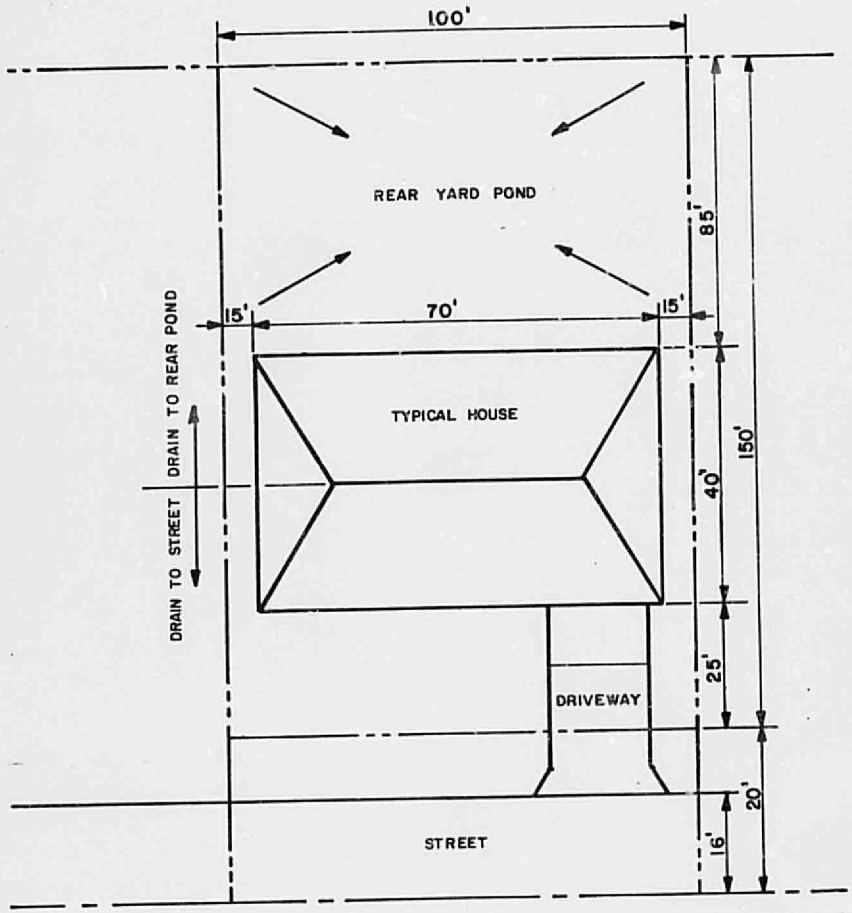


FIGURE 2

INTENSITY DURATION FREQUENCY CURVES

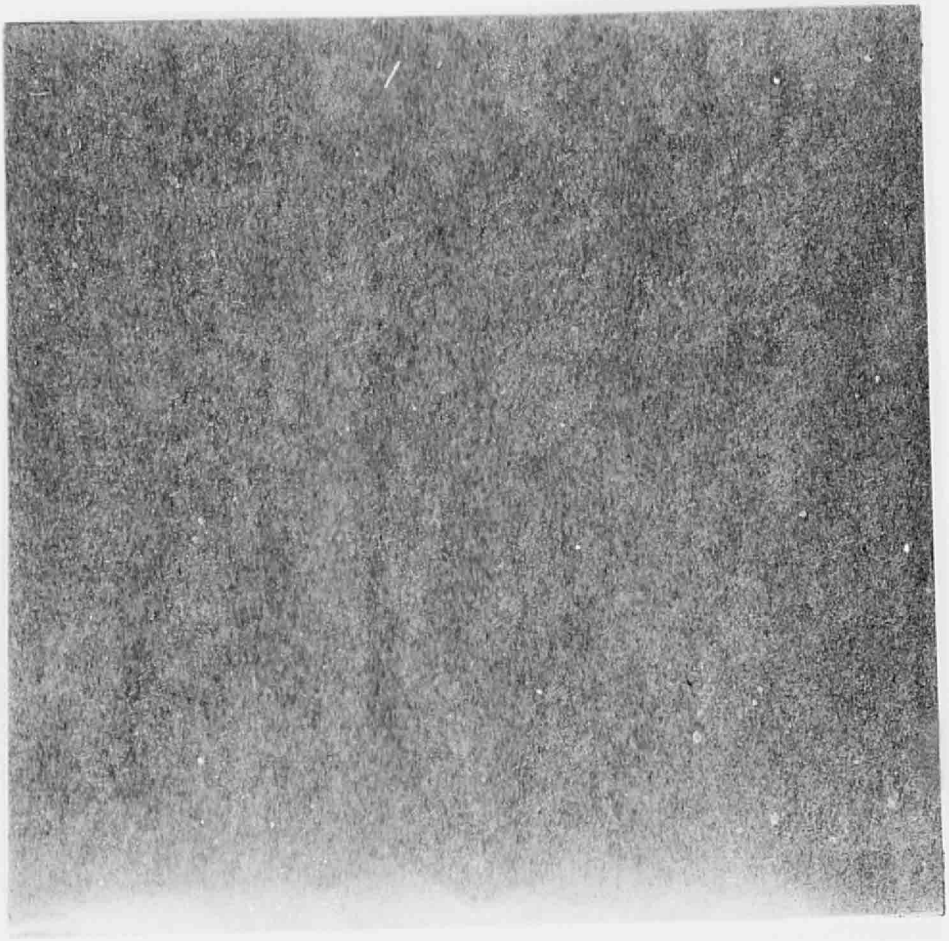


LEGEND

PROPERTY LINE
STREET CENTERLINE

FIGURE 3

TYPICAL LOT DRAINAGE



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

MAYOR
Harry E. Kinney

CHIEF
ADMINISTRATIVE OFFICER
Frank A. Kleinheinz

September 6, 1977

James W. Findley
811 Dallas, N.E.
Albuquerque, N.M. 87110

Dear Mr. Findley

Re: S-77-38

At their meeting of August 31, 1977, the Administrative Review Board approved the preliminary plat for McCanna Bluffs Subdivision, subject to the following conditions:

1. Compliance with the Park Dedication Ordinance
2. Approval of a drainage plan by the City Engineer, with the understanding that any costs relative to serving Lots 11 & 12 (as shown on the amended plat) will be at the developer's expense.
3. The provision of a 10 ft. non-vehicular easement to the north
4. Rearrangement of the lots on the south side of Paseo del Rey to increase the buildable area of Lot 11.

If you have any questions concerning this matter, please do not hesitate to contact me.

Sincerely,

Phil Garcia
Principal Planner

PG:bg

cc: Jim Milton, COG

AGENDA ITEM NO. 3

CITY OF ALBUQUERQUE
PLANNING DEPARTMENT

ADMINISTRATIVE REVIEW BOARD
August 31, 1977
S-77-38

S-77-38 James W. Findley requests approval of the proposed McCanna Bluffs Subdivision on Lots 2 thru 5, Block 14, Palisades Addition, located on the east side of Vista Grande Drive, N.W. between I-40 and Crown Point Court, containing approximately 6 acres.

PL Map No.: H-11 Material: Report, Plat

COMMENTS FROM OTHER DEPARTMENTS:

AMAFCA:	"Drainage plan in compliance with AMAFCA Resolution 1972-2 will be required."
City Engineer:	"Require drainage study prior to approval of plat. All costs for drainage facilities must be borne by the developer. Appears Lots 9 & 10 include a maximum portion of steep slopes. Sanitary sewer service may be a problem for Lots 9 & 10."
Traffic Engineer:	"No objection."
Department of Transportation:	"No comment."
COG:	"No transportation objection."
Water Engineer:	"No objection."
Liquid Waste Engineer:	"No objection."
Environmental Health:	"Methods to control dust during grading and construction will be required. Due to sandy soil condition on this parcel of land, methods to prevent soil erosion on the northeast lots needs special attention."
Parks & Recreation:	"Under Ordinance 7-1976 the developer is required to pay $1,014 (13 units x $78.00)."
APS:	"No objection."

PLANNING DEPARTMENT COMMENTS TO ADMINISTRATIVE REVIEW BOARD 8-31-77:

This is a proposed replat of 4 lots within the Palisades Addition. It is located on the "west bank" of the Rio Grande, and adjacent to the "Bluffs" a condominium development which has never been completed. The density in that development was approved at 7 DU/A.

The proposed replat contains 13 lots resulting in a density of 1.9 DU/A. As is shown on the proposed replat, the grades for Lots 9 & 10 drop sharply after the 5103 elevation point. A grade difference of approximately 25 ft. is apparent. Sanitary sewer service therefore will be a problem and must be resolved by individual pumps at the developer's expense.

The two cul-de-sacs are shown with a 50 ft. right of way including a 50 ft. radius for the turn-around. The right of way could be decreased to 40 ft. and possibly less depending on the drainage requirements. In addition, the "estate type" street sections are a possibility again if drainage requirements permit. Sidewalks probably would not be needed in such a short cul de sac serving only 6-7 lots. However, if sidewalks are to be eliminated a variance under a separate request will be required. The replat is in conformance with the City's Subdivision Ordinance in all respects. Compliance with the City's Park Dedication Ordinance is required as well as approval of a drainage plan by the City Engineer.

RECOMMENDATION: Approval of S-77-38 is recommended subject to compliance with the City's Park Dedication Policy and approval of a drainage plan by the City Engineer, with the understanding that any costs relative to serving Lots 9 & 10 with sanitary sewer service will be at the developer's expense.

Phil Garcia
Principal Planner

PG:dg

cc: James W. Findley, 811 Dallas NE; 87110

OCT 24 1977

Goldberg · Mann & Associates
Engineers · Planners
2329 Wisconsin N.E., Suite E Albuquerque, New Mexico 87110 (505) 292-1092

7-04

October 19, 1977

Mr. H.R. Orr
Public Works Department
400 Marquette N.W.
Albuquerque, New Mexico 87102

Attention: Mr. V.M. Kimmick Re: McCanna Bluffs Subdivision

Dear Mr. Orr:

Goldberg - Mann and Associates has been retained as the engineer for McCanna Bluffs Subdivision. We are currently preparing the drainage report and final plat.

We request that we be allowed to design all streets and utilities for this project.

Please sign this letter and return it to signify your concurrence with our request.

Thank you.

Yours sincerely,

Thomas T. Mann Jr. P.E.
President

V.M. Kimmick - City Engineer