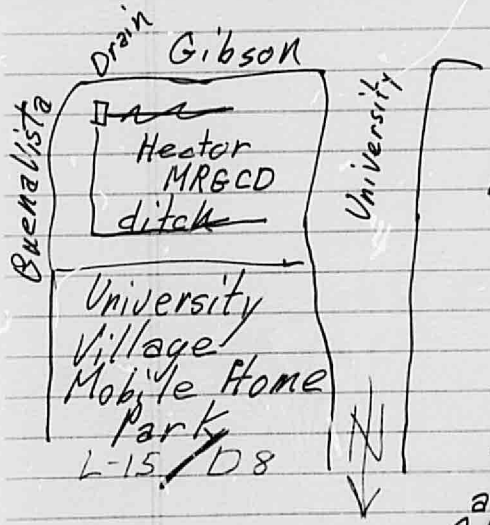
Jerry Ward 247-2631
7-13-93
University & Gibson
Ditch between UVMHP & Gibson



Ditch not maintained
overflow into Mobile
Home Park

Talked to Glenn
Jurgensen 7-15-93
about cleaning ditch.
Glenn said he would
take a look at the
ditch & see what he
can do. I told Mrs Ward
this. the same day.

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR	CHIEF ADMINISTRATIVE OFFICER	DEPUTY CAO PUBLIC SERVICES	DEPUTY CAO PLANNING/DEVELOPMENT
KEN SCHULTZ	GENE ROMO	FRANK MARTINEZ	BILL MUELLER

April 21, 1988

Jeff Mortensen, P.E.
Tom Mann Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: CONCEPTUAL GRADING & DRAINAGE PLAN FOR UNIVERSITY VILLAGE
SUBMITTED APRIL 4, 1988, FOR SITE DEVELOPMENT PLAN APPROVAL
(L15/D8)

Dear Mr. Mortensen:

Your submittal, referred to above, is approved for Site Development Plan sign-off by the Hydrology Section.

Before we can approve a Building Permit for any phase, however, we will need a drainage easement for the arroyo which borders the site on the north.

When sizing the storm drain to replace the arroyo, please use the guidelines found in the May, 1986, paper by Richard Heggen, "Closed Conduit Conveyance of Arroyo Flow". If you do not have a copy of this paper, we will gladly provide you with a one.

When making the street capacity calculations, please check that the depth of flow for the 10 year storm runoff does not exceed 0.5' and that the product of the depth and the velocity is less than 6.5, per the DPM.

If you have any questions, please call me at 768-2650.

Cordially,

Roger L. Green, PE
For G. Stuart Reeder, P.E.
C.E./Hydrology Section

GSR

xc: owner
architect

AN EQUAL OPPORTUNITY EMPLOYER

0000 0000 1576

61003

DRAINAGE INFORMATION SHEET

PROJECT TITLE: UNIVERSITY VILLAGE ZONE ATLAS/DRNG. FILE #: L-15/D8

LEGAL DESCRIPTION: TRACTS A, B & C, UNIVERSITY VILLAGE

CITY ADDRESS: _____

ENGINEERING FIRM: TOM MANN & ASSOC. CONTACT: J.G. MORTENSEN

ADDRESS: 811 DALLAS NE PHONE: 265-5611

OWNER: RICHARD CHESS CONTACT: ARCHITECT

ADDRESS: _____ PHONE: _____

ARCHITECT: LAWRENCE GARCIA CONTACT: LAWRENCE GARCIA, JR.

ADDRESS: 10200 Menaul NE #215 87112 PHONE: 292-7229

SURVEYOR: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

RECEIVED
APR 04 1988
HYDROLOGY SECTION

PRE-DESIGN MEETING:

✓ YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. 88-0171

EPC NO. _____

PROJ. NO. 15/D8

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

✓ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

✓ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 04-04-88

BY: J.G. MORTENSEN

25×10 32×10

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

HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

September 15, 1986

Leonard P. Utter
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: REVISED CONCEPTUAL GRADING & DRAINAGE PLAN SUBMITTAL OF UNIVERSITY VILLAGE - RECEIVED AUGUST 29, 1986 FOR SITE DEVELOPMENT AGREEMENT (L-15/D8)

Dear Leonard:

The above referenced submittal, revised August 29, 1986, is approved for Site Development Plan.

At time of Building Permit request, a detailed Drainage Plan will be required. An interim drainage scheme to discharge Basin 2 into the existing arroyo must be included with this detailed Drainage Plan.

If you have any questions, call me at 766-7644.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

RAG/bsj

0000 0000 1578

G1001.

DRAINAGE INFORMATION S

PROJECT TITLE: UNIVERSITY VILLAGE ZONE ATLAS/DRNG. FILE #: L-15

LEGAL DESCRIPTION: TRACTS A, B+C OF UNIVERSITY VILLAGE

CITY ADDRESS: KNOWN

ENGINEERING FIRM:	MANN + ASSOC	CONTACT:	LEONARD P. UTTER
ADDRESS:	811 DALLAS N.E.	PHONE:	265-5611
OWNER:	CONTACT ARCHITECT	CONTACT:	LARRY GARCIA
ADDRESS:		PHONE:	292-7229
ARCHITECT:	LARRY GARCIA	CONTACT:	LARRY GARCIA
ADDRESS:		PHONE:	292-7229
SURVEYOR:		CONTACT:	LARRY GARCIA
ADDRESS:		PHONE:	292-7229
CONTRACTOR:	NOT KNOWN	CONTACT:	
ADDRESS:		PHONE:	

RECEIVED
AUG 29 1986
HYDROLOGY SECTION

PRE-DESIGN MEETING:
- ✓ YES
- ___ NO
- ✓ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. ___
EPC NO. ___
PROJ. NO. L15-128

TYPE OF SUBMITTAL:
- ___ DRAINAGE REPORT
- ___ DRAINAGE PLAN
- ✓ CONCEPTUAL GRADING & DRAINAGE PLAN
- ___ GRADING PLAN
- ___ EROSION CONTROL PLAN
- ___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:
- ___ SKETCH PLAT APPROVAL
- ___ PRELIMINARY PLAT APPROVAL
- ✓ SITE DEVELOPMENT PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ BUILDING PERMIT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- ___ CERTIFICATE OF OCCUPANCY APPROVAL
- ___ ROUGH GRADING PERMIT APPROVAL
- ___ GRADING/PAVING PERMIT APPROVAL
- ✓ OTHER RESUBMITTAL (SPECIFY)

DATE SUBMITTED: AUG 29, 1986

BY: [signature]

25×10 32×10

811 DALLAS, N.E. • ALBUQUERQUE • NEW MEXICO • 87110 • 505 265-5611

Tom Mann Associates, Inc. Engineers

61001
August 28, 1986

Mr. Roger A. Green
Hydrology Section
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Conceptual Grading & Drainage Plan (L15/D8)

Dear Mr. Green:

I have reviewed your comments on the above referenced project and have addressed the comments as follows:

1. The street capacity for the 10 year storm runoff allows on free driving lane as shown in the calculations.

2. There is an existing depressed sidewalk channel located on the west side of University Boulevard N.E. which discharges directly into the arroyo which is the outfall for the Basin. The calculations have determined adequate capacity for the 100-year storm runoff.

Should you have any questions or comments concerning any aspect of this project, please do not hesitate to call.

Sincerely,

TOM MANN & ASSOCIATES, INC.

Leonard P. Utter
Project Engineer

LPU:djj

0000 0000 1580

X.C.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

August 14, 1986

Jeff Mortensen, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: CONCEPTUAL GRADING & DRAINAGE PLAN SUBMITTAL OF UNIVERSITY VILLAGE - RECEIVED JULY 28, 1986 FOR SITE DEVELOPMENT PLAN APPROVAL (L-15/D8)

Dear Jeff:

I have reviewed the above referenced submittal, dated July 25, 1986, and have the following items to be addressed before Site Development Plan approval:

1. Provide street capacity calculations for University Boulevard to see if ordinance criteria, requiring one free driving lane, is being met with the developed discharge from University Village.

2. Provide capacity of existing storm drain inlets in University Boulevard to direct street flows into the arroyo.

If you have any questions, call me at 766-7644.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

RAG/bsj

PUBLIC WORKS DEPARTMENT

Walter Nickerson, P.E., City Engineer ENGINEERING GROUP Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER

25×10 32×10

0000 0000 1581

DRAINAGE INFORMATION SHEET

PROJECT TITLE: UNIVERSITY VILLAGE ZONE ATLAS/DRNG. FILE #: L-15/D8

LEGAL DESCRIPTION: TRACTS A, B+C OF UNIVERSITY VILLAGE

CITY ADDRESS: NOT KNOWN

ENGINEERING FIRM: TOM MANN + ASSOC CONTACT: LEONARD P. UTTER

ADDRESS: 811 DALLAS N.E. PHONE: 265-5611

OWNER: CONTACT ARCHITECT CONTACT: LARRY GARCIA

ADDRESS: _____ PHONE: 292-7229

ARCHITECT: LARRY GARCIA CONTACT: LARRY GARCIA

ADDRESS: _____ PHONE: 292-7229

SURVEYOR: _____ CONTACT: LARRY GARCIA

ADDRESS: _____ PHONE: 292-7229

CONTRACTOR: NOT KNOWN CONTACT: _____

ADDRESS: _____ PHONE: _____

RECEIVED
JUL 28 1986
HYDROLOGY SECTION

PRE-DESIGN MEETING:

✓ YES

___ NO

✓ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

✓ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

✓ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: July 28, 1986

BY: [signature]

25×10 32×10

61001
07-24-86
JGM

STREET ANALYSIS:

Q_{100} = 56.5 cfs ; Q_{10} = 37.1 cfs.

n = 0.017

S = 0.014

32' FF STREET

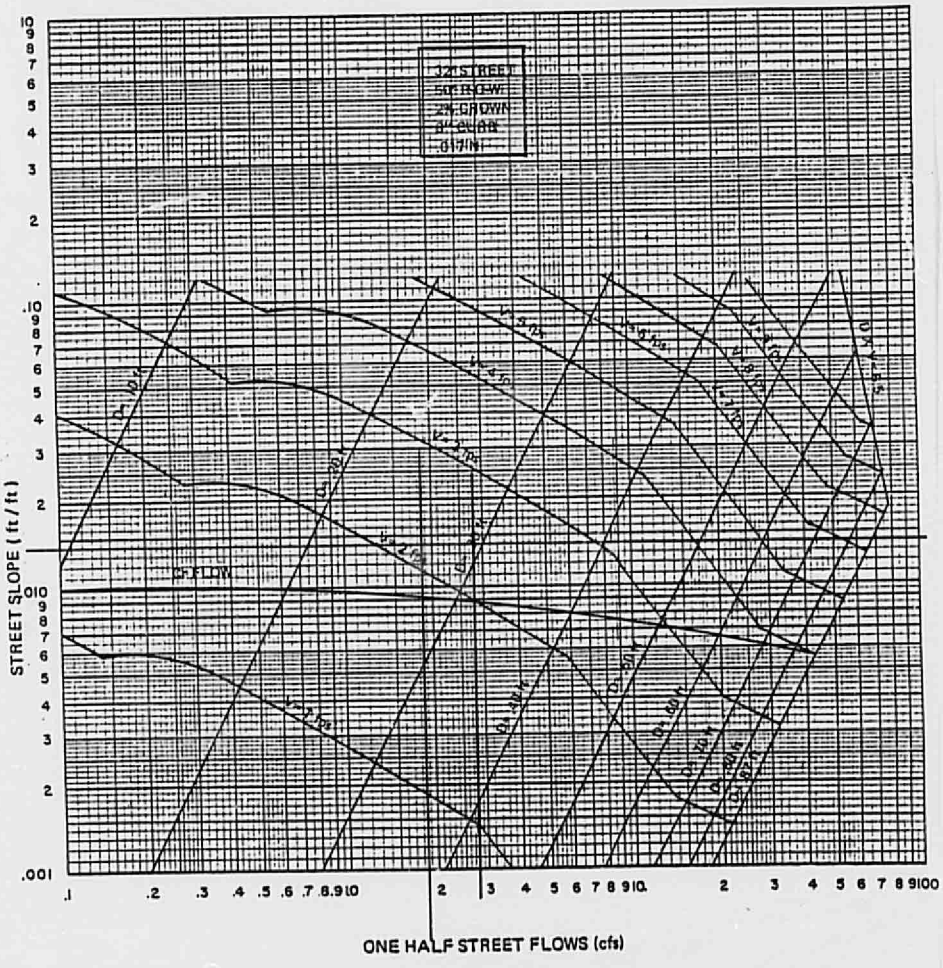
FROM PLATE 22.3 D-1 FOR $\frac{1}{2}$ FLOW = 28.2 (100)
18.6 (10)

@ $\frac{1}{2}Q_{10}$ = 18.6 cfs, $v \simeq 2.1$ fps
$d \simeq 0.26$ ft

@ $\frac{1}{2}Q_{100}$ = 28.2 cfs, $v \simeq 2.4$ fps
$d \simeq 0.3$ ft.

$v_{10} \times d_{10} = 2.1(0.26) = 0.55' \ll 6.5$

STREET CAPACITY



CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO.: L15-D8 DATE: 6/18/86

PLANNING DIVISION NOS: EPC: _____ DRB: _____

SUBJECT: _____

STREET ADDRESS (IF KNOWN): _____

SUBDIVISION NAME: [illegible]

APPROVAL REQUESTED:

_____ PRELIMINARY PLAT
X SITE DEVELOPMENT PLAN
_____ OTHER

_____ FINAL PLAT
_____ BUILDING PERMIT
_____ ROUGH GRADING

	WHO	REPRESENTING
ATTENDANCE:	[illegible]	TOM MAUK
	[illegible]	CITY
	[illegible]	City

FINDINGS.

1. [illegible]

2. [illegible]

3. [illegible]

4. [illegible]

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED: [illegible] SIGNED: [illegible]
TITLE: _____ TITLE: _____
DATE: 6/18/86 DATE: 06-18-86

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

25×10 32×10

JOHN B. ROBERT
EXECUTIVE ENGINEER

B. H. SWINBURNE, CHAIRMAN
FRED LUTHY, JR., VICE-CHAIRMAN
RICHARD H. CLOUGH, SEC.-TREAS.
WILLIAM V. HEREFORD, DIRECTOR
FRANCES McCOY, DIRECTOR

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority

2112 GIRARD N.E.
P. O. BOX 25851 - ALBUQUERQUE, N. M. 87125
TELEPHONE 268-4519

March 26, 1975

Mr. Hans Coucheron-Aamot, P.E.
Molzen-Corbin & Associates, Inc.
Post Office Box 3632
Albuquerque, New Mexico 87110

Dear Mr. Coucheron-Aamot:

We have reviewed the drainage report for the University Village Mobile Home Park, Phase III, which you transmitted by your letter of March 25, 1975. The report meets the requirements of Drainage Resolution #1972-2 provided that the most northerly lots of the most easterly terrace, as indicated by an asterisk on the attached drainage drawing, not be occupied or developed until such time as the channel along the northerly property line has been stabilized so that the danger of erosion, which would cause cave-offs and endanger mobile homes placed on those two sites, has been eliminated.

It will also be necessary for your client to construct the catchment basins and provide the necessary rundowns indicated in your plans prior to occupancy of any portion of this phase of the development.

Sincerely yours,

John B. Robert

John B. Robert
Executive Engineer

RECEIVED
MAR 29 1975
BUILDING
DEPARTMENT

cj
Enclosure
cc: City of Albuquerque Planning Dept.
" " " Engineering Dept.
" " " Building & Inspection.

25×10 32×10

DRAINAGE REPORT

FOR

UNIVERSITY VILLAGE, PHASE III

MOBILE HOME PARK

March 24, 1975

SCOPE: This report presents a proposed drainage plan for the University Village, Phase III, Mobile Home Park.

EXISTING CONDITIONS: The area proposed for development is presently raw land with sparse grass. The land has been terraced such that the present run-off goes to the arroyo along the north side of the property, except that the run-off from the small area (approximately 0.9 acres) projecting from the southwest corner goes to Eastern Avenue. The run-off from this area in a developed condition was included in the Drainage Report for University Village, Phase II (April 1973).

There are no significant areas contributing run-off from outside the property. Run-off from the east is intercepted by Buena Vista Avenue, and the existing mobile home park area to the south drains to Eastern Avenue.

PROPOSED PLAN:

It is proposed to divide the property into four drainage areas as shown on the attached drainage plan. Run-off from Area I, II, and III will be collected in drop inlets and conducted to the existing arroyo in corrugated metal pipes. The run-off from Area IV will drain to Eastern Avenue as shown in the Drainage Report for University Village Phase II.

COMPUTATIONS:

The "rational formula", for run-off determination was used as follows:

Q = C I A, in which:

Q = run-off in cubic feet per second

C = run-off coefficient

I = rainfall intensity in inches per hour

A = watershed area in acres

The coefficient, C, was determined as follows:

Roofs and paved areas	60% @ 0.90 =	0.54
Lawn area	40% @ 0.15 =	0.06
C	=	0.60

The rainfall intensity was determined by using the 100 year storm intensity-duration curve from Chart No. 1 of "Master Plan of Drainage, City of Albuquerque, New Mexico, and Environs, 1963", by Gordon Herkenhoff and Associates.

The times of concentrations, etc. for the purpose of determining rainfall intensities were obtained from D. L. Yarnell's nomograph for overland flow time as published in Seelye's "Data Book for Civil Engineers".

The results of the computations were tabulated as follows:

Area	C	tc. (Min.)	I (in/hr.)	A (acres)	Q (cfs.)
I	0.6	7.25	5.4	3.3	10.7
II	0.6	8.1	5.4	3.3	10.7
III	0.6	8.75	5.4	3.7	12.0
IV	0.6	4.0	5.4	0.9	2.9

A City of Albuquerque, Type D drop inlet will require a head of H ft. to accept 12.0 cfs.

$$Q = 2/3\ C\ A\ \sqrt{2gH'}$$

$$12 = 2/3 \times 0.6 \times 4.0\ \sqrt{64.4\ H'}$$

$$H = 0.87'$$

CONCLUSIONS AND RECOMMENDATIONS:

The proposed plan will result in some additional run-off due to the large percentage of impervious area in the development. However, more than 90% of the run-off will be discharged into the

existing arroyo along the north side, and the increased flow, approximately 20 cfs., is well within the capacity of the arroyo.

The unpaved areas of the development should be graded to minimal or no slope where possible to provide as much water retention and infiltration as possible.

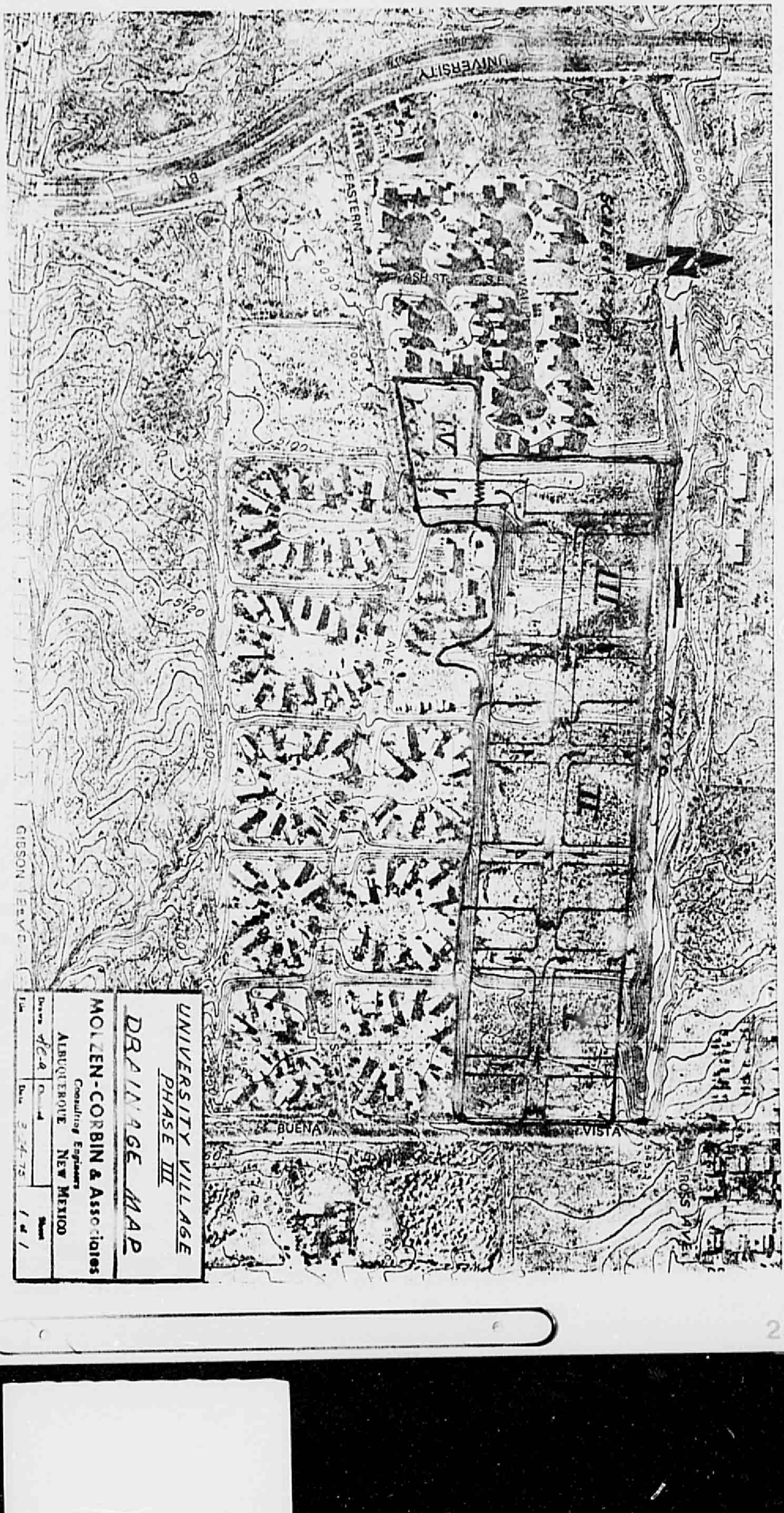
The arroyo along the north side of the property was investigated as shown in Appendix A to this report.

The expected flow from a 100 year storm is well within the capacity of the arroyo. However, the large quantities at high velocities that would be discharged from the 54" diameter storm sewer at the northeast corner of the property would probably cause considerable bank caving and a dangerous situation at the outlet and immediately downstream.

The Owner is currently negotiating with the City of Albuquerque for the construction of facilities to solve this potential problem. It is strongly recommended that the two northernmost mobile home sites on the top level of the park be left vacant until such construction has been completed.

Albert D. Corbin, P.E.
MOLZEN-CORBIN & ASSOCIATES

0000 0000 1590



25× 32×

APPENDIX A

DRAINAGE REPORT

FOR

UNIVERSITY VILLAGE, PHASE III

ARROYO ALONG NORTH SIDE OF THE PROPERTY:

The watershed and storm sewer system contributing to flows in the arroyo along the north side of University Village is shown on the attached part copies of "Albuquerque East" USGS quadrangle map and City of Albuquerque storm sewer map.

The overland flow from Area II is cut off by Gibson Boulevard, however, as much as 130 c.f.s. could be picked up by the storm sewer from this area.

The drainage from Area I was determined by the "rational formula", Q = CIA, in which C was taken as 0.5 (future fully developed conditions); I_{100}=4.2 in/hr. was obtained from Chart No. 1 of "Master Plan of Drainage, City of Albuquerque, New Mexico and Environs, 1963" by Gordon Herkenhoff and Associates, using a T_c of 20 minutes; and the area, 270 acres, was planimetered from the quadrangle map.

Flow from Area I = 0.5 x 4.2 x 270 - approximate 570 c.f.s.

Flow from Area II = - approximate 130 c.f.s.

Total flow to arroyo @ Buena Vista Dr.-approximate 700 c.f.s.

The least capacity of the arroyo occurs west of University Boulevard where it runs through natural sandy ground with a channel bottom of 25'± and 5' to 6' vertical banks. The capacity here was determined by Manning's formula as follows:

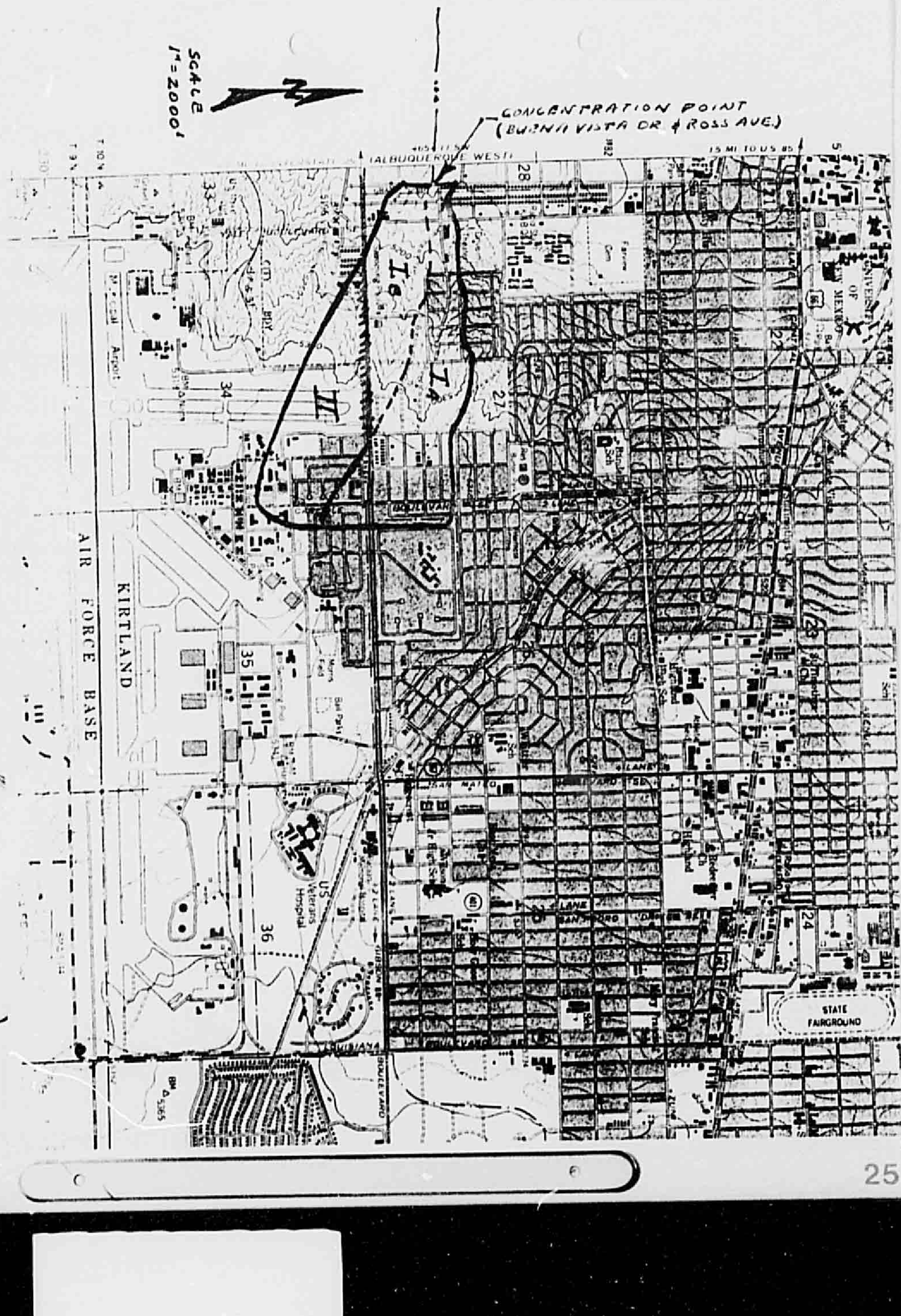
$$Q = A \frac{1}{n} R^{2/3} S^{1/2} = (25 \times 5) \frac{1}{0.025} \left(\frac{25 \times 5}{(25 + 10)}\right)^{2/3} \sqrt{0.022}$$

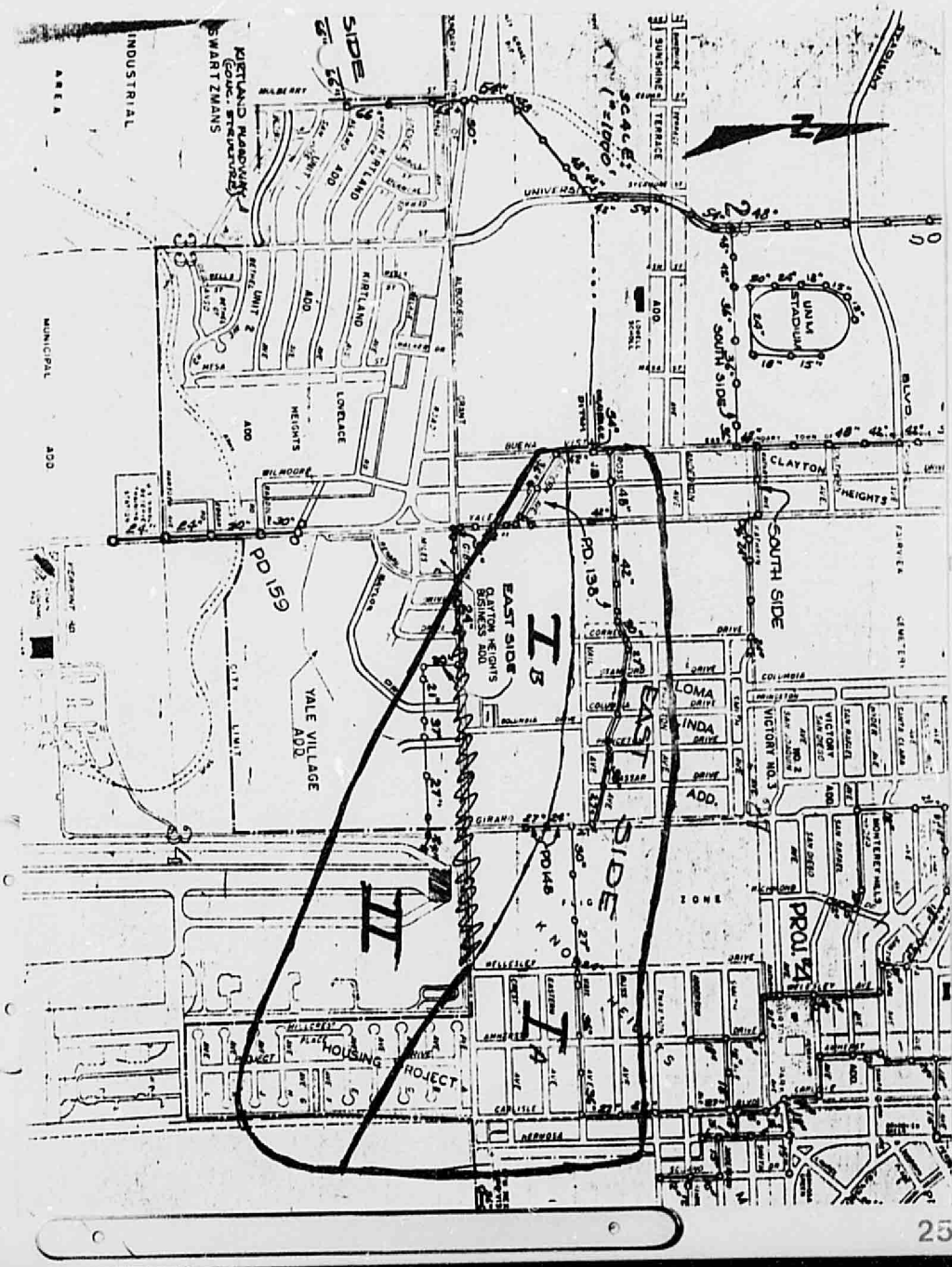
$$= 1{,}733 \text{ c.f.s.}$$

A flow of 1,000 c.f.s. would produce a depth of flow of 3.5 ft., leaving a freeboard of approximately 2 ft.

From University Boulevard approximately 1600 ft. eastward, the arroyo bottom varies from 25 to 40 feet in width and the banks vary from nearly vertical to approximately 4:1 sideslope with a least height of 6 to 7 ft. The last 5-600 ft. from here to the existing concrete rundown at Buena Vista Drive has recently been filled in from both sides with earth and rubble such that at present only a V-ditch with 1:1 sideslopes and banks varying from 15 to 25 ft. high remains.

The 54" diameter outlet from the storm sewer system could discharge 350-400 c.f.s. of the total 700 c.f.s. runoff from the 100 year storm at velocities up to 25 fps.





25×10 32×10