

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103



KEN SCHULTZ
MAYOR

May 2, 1989

Jerry Campbell
Fred Denney & Associates, Inc.
2400 Comanche Road, NE
Albuquerque, New Mexico 87107

RE: DRAINAGE STUDY FOR AMHERST DRIVE IMPROVEMENTS
(K-16/D34) RECEIVED APRIL 6, 1989

Dear Mr. Campbell:

The referenced drainage study is approved.

When the Work Order drawings are prepared, please forward a copy of them to me so I can review the detail layout of the improvements.

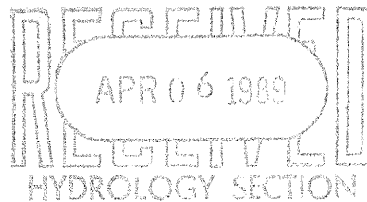
Should you have any questions, please call me at 768-2650.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

CAM/bsj
(WP+1088)

DRAINAGE STUDY FOR
AMHERST DRIVE IMPROVEMENTS
BETWEEN SILVER AVENUE SE
AND CAMPUS BOULEVARD NE



APRIL, 1989

PREPARED BY:
FRED DENNEY & ASSOCIATES, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
2400 COMANCHE ROAD NE
ALBUQUERQUE, NM 87107
(505) 884-0696

DRAINAGE INFORMATION SHEET

Drainage Study

PROJECT TITLE: Amherst Drive Improvements ZONE ATLAS/DRNG. FILE #: K-16-7034

LEGAL DESCRIPTION: Amherst Drive Between Silver Avenue SE and Campus Blvd. NE

CITY ADDRESS: _____

ENGINEERING FIRM: FRED DENNEY & ASSOCIATES, INC. CONTACT: Jerry Campbell/Fred Denney

ADDRESS: 2400 Comanche NE, Albuquerque, NM 87107 PHONE: 884-0696

OWNER: City of Albuquerque Project (Planning Dept.) CONTACT: Cheryl Azar

ADDRESS: One Civic Plaza Room 3047 PHONE: 768-3281

ARCHITECT: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: FRED DENNEY & ASSOCIATES INC. INC. CONTACT: Kevin Daly/Fred Denney

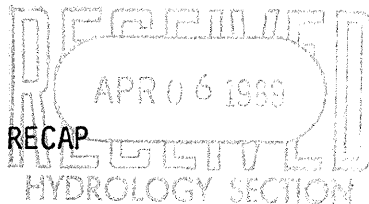
ADDRESS: 2400 Comanche NE, Albuquerque, NM 87107 PHONE: 884-0696

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

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:

☐ SECTOR PLAN APPROVAL
☐ 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

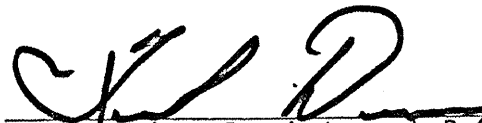
DATE SUBMITTED: April 5th, 1989

BY: *Fred Denney*

☒ OTHER W.O. (SPECIFY)

EV. 10/85

I, Fred Denney, hereby certify that
the enclosed documents and drawings were prepared under
my supervision and are true and correct to the best of
my knowledge and belief.



New Mexico Registered Professional
Engineer and Land Surveyor No. 1967

SEAL



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DRAINAGE STUDY FOR
AMHERST DRIVE IMPROVEMENTS
BETWEEN SILVER AVENUE SE AND CAMPUS BOULEVARD NE

I. PURPOSE

The purpose of this report is to determine an economical and effective storm water management plan for Amherst Drive between Silver Avenue SE and Campus Boulevard NE.

II. GENERAL

The drainage basin affecting the project consists of 11.6 acres, 40% of which is developed residential and 60% is developed retail/commercial. Currently, drainage is being handled partly by gutter flow, the exception being two drop inlets on the south side of Silver Avenue SE at Amherst Drive SE which intercept a portion of the runoff from the residential area and convey it westward. All gutter flows on the south side of Central Avenue do not cross Central Avenue within the project area; but, are conveyed east past the project. This flow, as well as flows originating north of the centerline of Central Avenue, find their way into Campus Boulevard either as gutter flow or in the 72" storm sewer therein.

III. DRAINAGE

For the purpose of analysis, the drainage basin affecting the project was subdivided into five subbasins (see Exhibit I). The 6-hour rainfall volume, 100 year frequency, is 2.3 inches (see Exhibit II).

III. DRAINAGE - CONTINUED

1) Area = 4.8 acres

$$T_c = 10 \text{ min.}$$

$$I = 2.3 \times 6.84 \times 10^{-0.51} = 4.86 \text{ in./hr.}$$

$$C \quad \text{landscaped } \frac{80}{210} \times 0.25 = 0.095$$

$$\text{impervious } \frac{130}{210} \times 0.95 = \frac{0.588}{0.683} \quad \text{use } 0.7$$

$$Q = AIC = 4.8 \times 4.86 \times 0.7 = 16.3 \text{ cfs}$$

This flow is intercepted by two Type C inlets at Silver Avenue and Amherst Drive which are operating in an almost sump condition due to the lack of grade on Silver Avenue. Any flow that passes these inlets is confined to the south side of Silver Avenue and does not affect the project.

2) Area = 1.2 acres

$$T_c = 10 \text{ min.}$$

$$I = 2.3 \times 6.84 \times 10^{-0.51} = 4.86 \text{ in./hr.}$$

$$C \quad 100\% \text{ impervious} = 0.95$$

$$Q = AIC = 1.2 \times 4.86 \times 0.95 = 5.5 \text{ cfs}$$

This is the flow that must be passed by the proposed landscaping on the south side of Central Avenue. It is divided equally between the two gutters and is discharged onto Central Avenue.

3) Area = 0.5 acres

$$T_c = 10 \text{ min.}$$

$$I = 2.3 \times 6.84 \times 10^{-0.51} = 4.86 \text{ in./hr.}$$

$$C \quad 100\% \text{ impervious} = 0.95$$

$$Q = AIC = 0.5 \times 4.86 \times 0.95 = 2.3 \text{ cfs}$$

This flow must be passed by the proposed landscaping on the east side of Amherst Drive, north of Central Avenue, and is discharged onto Campus Boulevard.

III. DRAINAGE - CONTINUED

$$V = \frac{Q}{A} = \frac{18.9}{8.41} = \underline{2.25} \text{ fps}$$

Therefore, the gutter will carry the flow without overtopping the curb.

IV. CONCLUSION

The Amherst Drive Improvements project is essentially a cosmetic project to economically bolster the Nob Hill area. Little funding is available; therefore, drainage is planned to be left, as much as possible, in its present condition by the use of low maintenance means. Since landscaping of a portion of the currently impervious roadways is the object of the project, slightly smaller flows will result.



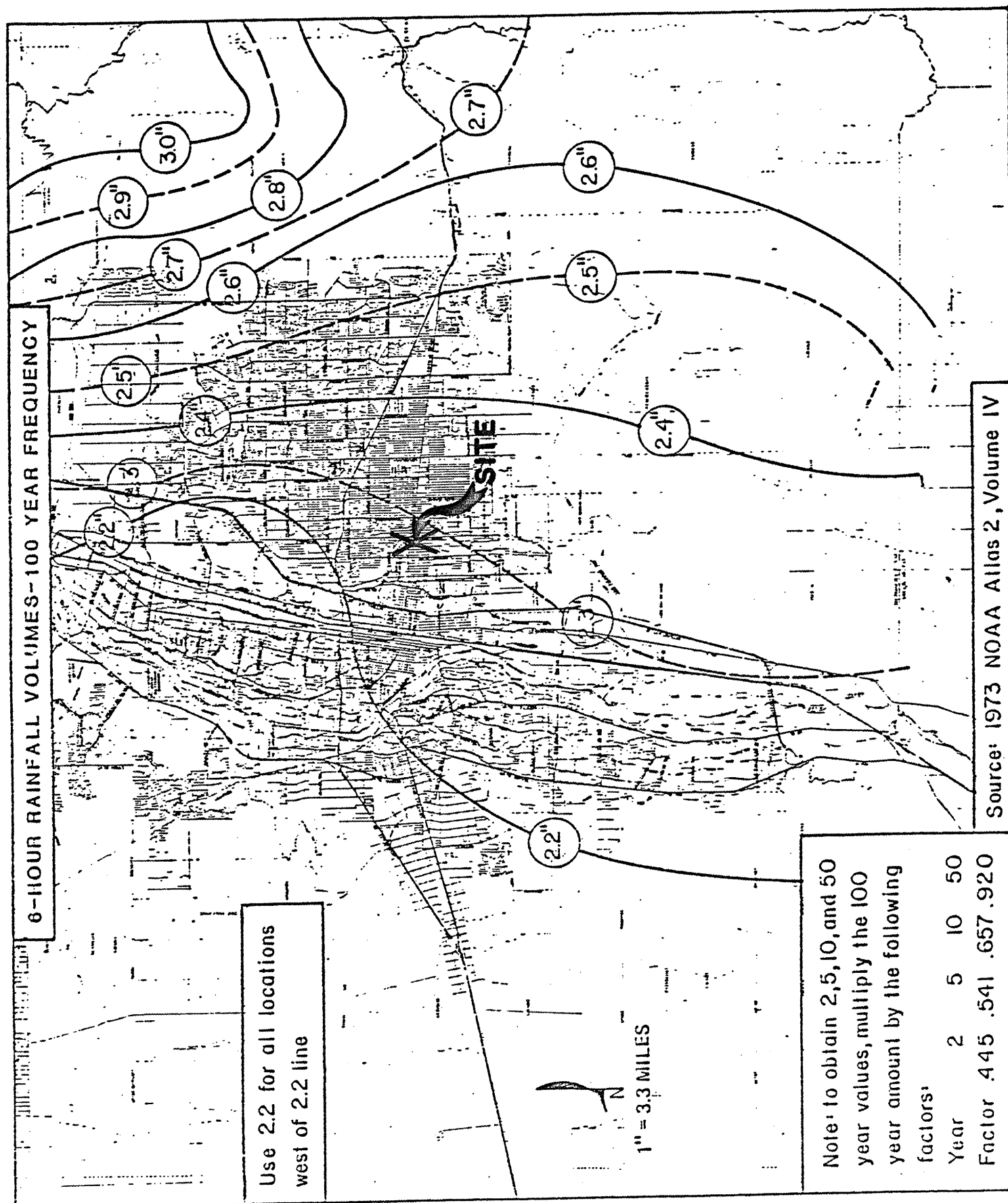


PLATE 22.2 D-1



LEGAL DESCRIPTION	SECTION
1 to 4	6 1 4
5 to 8	SEC 34

UNIFORM PROPERTY CODE	SECTION
1-10-101	

The legislation governing platting in the State of New Mexico is contained in the Uniform Property Code, Chapter 1, Section 1-10-101, and the Uniform Platting Act, Chapter 1, Section 1-10-102, of the Statutes of the State of New Mexico.

MAP APPROVED THROUGH
MAY 1978

K-16-Z
KANSAS PLATTING ACT

EXHIBIT III