HYDROLOGY L22/D17 ONE PLAN

L 22/ D17

1 PLAN

I am approving the Dr. Report for Bob Myers recreation vehicle center but I find that it does not quite meet my criteria which is that the runoff of any given site needs to be routed through the ponding area. A good part of ~~[illegible]~~ Area "B" runs off without been intercepted by any ponding directly into Central. The land naturally slopes to the north and the drainage for Wilkins Motel has been conceivably used to flow across the property. Now there is a block wall to the south and a Dr. court to the east

DRAINAGE REPORT

FOR

BOB MYERS RECREATIONAL VEHICLE CENTER

ALBUQUERQUE, NEW MEXICO

PREPARED FOR:

CHANT CONTRACTORS INC.
6207 PAN AMERICAN FREEWAY N.E.
ALBUQUERQUE, NEW MEXICO

BY:

A & E ENGINEERING INC.
5823 LOMAS BOULEVARD N.E.
ALBUQUERQUE, NEW MEXICO

FEBRUARY 15, 1978

Theodore M. Conrardy

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REGISTERED PROFESSIONAL
ENGINEER NO. 2933

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
No. 2933
NEW MEXICO
T. M. CONRARDY

M. Conrardy 2/22/78

A&E ENGINEERING INC.
CIVIL ENGINEERING, LAND PLANNING, AND SURVEYING

February 15, 1978

Mr. C. Dan Durham
Chant Contractors Inc.
6207 Pan American Freeway N.E.
Albuquerque, New Mexico 87110

RE: DRAINAGE REPORT FOR BOB MYERS RECREATIONAL VEHICLE CENTER

Dear Sir:

We are transmitting this drainage report for a tract of land known as Lots 7 and 8 of the Morgan Addition and an undivided strip of land 93.43 feet wide and contigous to Lot 8 in Albuquerque, New Mexico. This parcel of land will be developed into the Bob Myers Recreational Vehicle Center and is located on the south side of Central Ave. N.E. about 250 feet west of Western Skies Drive. The control of the runoff shall comply with the requirements of the Albuquerque Metropolitan Arroyo Flood Control Authority and also with the City of Albuquerque drainage policies .

We do appreciate this opportunity to serve you and if any questions develop, we will be available to assist you in any responses regarding this report.

Very truly yours,

A & E ENGINEERING, INC.

John F. Esquibel, President

5823 LOMAS N.E. ALBUQUERQUE, NEW MEXICO 87110 505/266-8791

DRAINAGE REPORT

FOR

BOB MYERS RECREATIONAL VEHICLE CENTER

ALBUQUERQUE, NEW MEXICO

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Plates

Drainage Plan

GENERAL:

This drainage report consists of a hydrologic study of a probable 100-year storm affecting this proposed development on the South side of Central at about 10,210 Central Avenue S.E.

LOCATION AND DESCRIPTION:

The property under study is a parcel of land zoned Commercial C-2 and contains about 2.94 acres. It is located on the South side of Central Ave. S.E. about 250 feet West of Western Skies Drive. This property is more particularly described as Lots numbered 7 and 8 of the Morgan Addition and also an undivided tract of land 93.43 feet wide East and contigous to Lot 8. This parcel is bordered on the East by a mini storage warehouse and on the South by the Four Hills Mobile Home Park and on the West by Waynes Recreational Vehicles and on the North by Central Ave. S.E.

The existing terrain for this parcel slopes to the Northwest at about 2.3 percent grade.

PROPOSED DEVELOPMENT:

This parcel of land is to be developed into a sales and maintances recreational vehicle center and will be known as Bob Myers Recreational Vehicle Center. It will be graded, paved, and landscaped to retain storm water generated by this development. Ponds have been located to collect and retain the runoff.

PROPOSED DRAINAGE PLANS:

In order to control the on-site drainage developed by this proposed development, the area has been designed with limiting grades in order to reduce runoff velocities.

The drainage has been divided into two (2) drainage areas to prevent concentration of runoff at only one point. Each of the drainage areas will drain into two ponds and the pond collecting runoff from Area "B" will overflow and drain out into Central Ave. if needed; as can be seen on the drainage plan attached herewith. Area "A"'s runoff will drain to the South portion of this development where a pond is located to intercept that portion of the runoff.

Area "B"'s runoff will drain to the Northwest corner of this parcel where a pond has been designed to intercept the runoff and also allow for overflow.

There is no offsite runoff affecting this parcel of land. It is recommended that the developer construct a concrete block wall along the east side of this property to elimate the possibility of any offsite runoff to enter this development from the adjacent property to the East and South east.

DISCUSSION OF METHOD:

Development of this area will be controlled by the guidelines set forth in the recent Resolution of the Albuquerque Metropolitan Arroyo Flood Control Authority and the City of Albuquerque.

The amount of storm water is computed by using a 100-year storm, this being a storm consisting of 100-year 6 hours precipitation as shown by the rainfall frequency Maps for New Mexico, June 1967, published by the Special Studies Branch, Office of Hydrology, United States Weather Bureau.

The pond area was calcultaed so that the volume of water ponded would exceed the increased volume runoff resulting from the development.

ON-SITE DRAINAGE CALCULATIONS

The 100-year 6 hour precipitation factor for this area is 2.7 inches.

The area is 2.94 acres = 128,066.4 square feet.

Volume of runoff before development, allowing 65% perculation:

$\frac{2.7}{12}$ X 128,066.4 sq. ft. X 0.35 = 10,085 cu. ft.

Volume of runoff after development:

Landscaped areas (grassed and rock gravel)

$\frac{2.7}{12}$ X 31,650 sq. ft. X 0.30 = 2136 cu. ft.

Paved areas (driveways, building, parking lots)

$\frac{2.7}{12}$ X 96,416 sq. ft. X 1.0 = 21,694 cu. ft.

Runoff after development

A. Paved Area = 2136 cu. ft.
B. Landscaped & Natural = 21694 cu. ft.
Total = 23,830 cu. ft.

Runoff before development = 10,085 cu. ft.

Runoff to be retained on-site and ponded

(23,830 - 10,085) = 13,745 cu. ft.

Area "A" runoff

A. Landscaped area

$\frac{2.7}{12}$ X 26,850 sq. ft. X 0.30 = 1812 cu. ft.

B. Paved area

$\frac{2.7}{12}$ X 52,300 sq. ft. X 1.0 = 11,767 cu. ft.

C. Total runoff generated by Area "A"

(1812 + 11,767 cu. ft.) = 13,579 cu. ft.

Area "A" Pond Capacity

280' X 50' X 1" = 14,000 cu. ft.

Area "B" Runoff

A. Landscaped Area

$\frac{2.7}{12}$ X 4800 sq. ft. X 30 = 324 cu. ft.

B. Paved Area

$\frac{2.7}{12}$ X 44,416 sq. ft. X 1.0 = 9,926 cu. ft.

C. Total runoff gererated by Area "B"

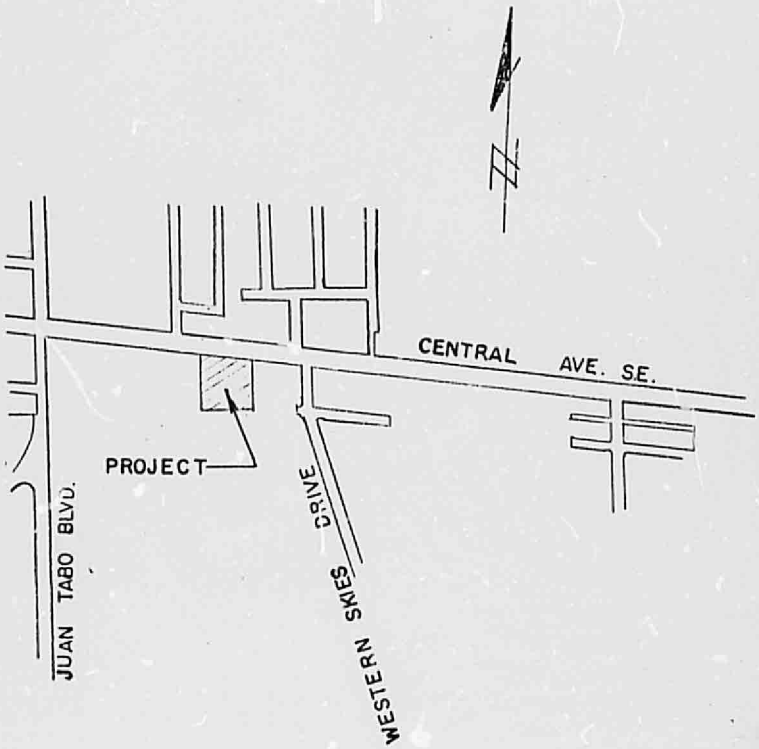
(324 cu. ft. + 9,926 cu. ft.) = 10,250 cu. ft.

Area "B" Ponding Capacity

700 sq. ft. X 2.0	=	1400 cu. ft.
Total ponding capacity	=	15,400 cu. ft.
Required ponding capacity	=	13,745 cu. ft.
Excess Ponding	=	1655 cu. ft.

SUMMARY:

It is recommended that this development be approved since the computations show that the proposed design is adequate to satisfactorily handle a 100-year storm.



LOCATION MAP
NO SCALE