BLOCK 22
TEXAS STREET
···West To Tennesee···

DRAINAGE REPORT

PREPARED FOR:

Cottrell, Vaughan, James N. Rowland, Inc.
4125 Carlisle NE
Albuquerque, New Mexico

DECEMBER 1972

BOHANNAN WESTMAN HUSTON

DRAINAGE REPORT

FOR

BLOCK 22

TEXAS STREET - WEST OF TENNESSEE

December 6, 1972

Prepared for:

COTTRELL, VAUGHAN & JAMES N. ROWLAND, INC.
4125 Carlisle N.E.
Albuquerque, New Mexico
87107

By:

BOHANNAN, WESTMAN HUSTON & ASSOCIATES, INC.
4125 Carlisle N.E.
Albuquerque, New Mexico
87107

Raymond R. Gibson, P.E. & L.S.
Chief Engineer

BOHANNAN WESTMAN HUSTON & ASSOCIATES INC.
ENGINEERS & PHOTOGRAMMETRISTS
4125 CARLISLE BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87107
PHONE 505 345-2681

December 6, 1972

Cottrell, Vaughan & James N. Rowland, Inc.
4125 Carlisle Blvd. N.E.
Albuquerque, New Mexico 87107

Dear Gentlemen:

We are submitting this Drainage Report to you on Block 22, adjacent to and north of Lomas Avenue between Texas and Tennessee Streets.

The recommended treatment for the runoff will carry it into an existing storm sewer to the Median Channel in Interstate 40 or by overland flow in an existing swale north of Texas Street to the Interstate. The drainage is then carried in the Median Channel and North Channel diversion system.

We appreciate this opportunity to serve you, and we are available for assistance should questions concerning this drainage arise.

Very truly yours,

Raymond R. Gibson, P.E. & L.S.
Chief Engineer

RRG/tag

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TEXAS STREET - WEST OF TENNESSEE
Albuquerque, New Mexico

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TEXAS STREET - WEST OF TENNESSEE

LOCATION AND DESCRIPTION

The entire block bounded by Lomas on the South, Texas on the East, Tennessee on the West, and Marble on the North is vacant land at present. There is evidence of prior development, probably residential. Some old footings, a few trees and a gas meter on Texas Street indicate a house once existed. Lomas is a four lane boulevard, Texas is paved, and Marble is paved. Tennessee is not paved.

EXISTING DRAINAGE

There is no external drainage which can come onto the property. The drainage on the property is largely ponded by the existing curbs on the North and East. Overflow drainage will flow into Marble Street.

In front of the Hayes Junior High School, there are five (5) drop inlets from the flowlines of the East and West curbs on Texas Street. These apparently lead to a storm sewer in Utah Street which crosses the school property and exits in a 48" culvert into the Median Channel in the I-40 Freeway. There is no connection for this storm sewer shown on the City Storm Sewer Plans or records. This storm sewer in Utah Street extends across Lomas and serves a wide area.

Overflow from the storm sewer inlets in Texas may flow through a curb cut and down a swale following an extension of the general alignment of Texas northward. This swale flows into the swale parallel to the Freeway and south of the Eastbound lanes. Small flows in this swale can be carried into the Median Channel by a drop inlet and 18" pipe about 200 feet west of Texas Street. Large flows would overflow the water bar and enter the Median Channel through a 60" culvert under the Eastbound lanes some 300 feet further west.

The property in Block 22 is 580 feet long with a slope of about 0.5%. The surface is partially grass, with some bare ground. However, a good portion of the runoff will be trapped and will likely infiltrate into the subsoil.

Using a time of concentration of 26 minutes, an i of 3.8 inches per hour and a c factor of .40 (because of retention), the present runoff will be approximately 6.0 cfs for the 580' x 300' tract (4 acres). This quantity is for a 100 year storm as computed by the Rational Formula, Q = cia, and using intensity curve for the City of Albuquerque.

DEVELOPMENT

The entire tract will have buildings or pavement. The development will be a commercial auto dealership. A very small planting area will exist by Lomas Boulevard of approximately 4000 square feet. In this area total retention of runoff will be possible.

Drainage after development will be of greater extent than at present. Again, using the Rational formula, and with a time of

concentration of 11 minutes, an i of 5.4 inches per hour and a c factor of .95 for the paved area of 3.9 acres, the developed 100 year runoff will be 20 cfs.

If the 48" sewer was running very close to capacity it would be carrying over 70 cfs. The additional 14 cfs caused by development may overflow the drop inlets and flow down the swale. However, the drop inlet and the 60" culvert should easily accomodate the added increment of runoff. This added increment will be lost in the total flow of several thousand cfs in the Median Channel at this point.

CONCLUSIONS AND RECOMMENDATIONS

The development of Block 22 as a commercial development will increase the instantaneous runoff by 14 cfs. This additional runoff may be accomodated by grading it to Texas Street. The original 6 cfs can be channeled into Marble Street in the same general flow pattern as presently exists.

The 48" storm sewer should in most instances be able to accomodate this runoff because it would peak at the very outlet of the storm sewer. Overflows may be accomodated by the Freeway swale and the large 60" culvert under the eastbound lanes. A good portion of the undeveloped drainage this culvert originally carried is now carried in streets and storm sewers to other entrance points to the Median Channel.

It must be recognized that the area adjacent to Lomas Boulevard will be subject to continuing commercial development,

and a subsequent increase in instantaneous flows will be coincident with this development. In some instances where damage to surrounding property may occur, special storm sewers may be necessary. However, this tract will not endanger adjacent lands or create large amounts of increased runoff.

It is recommended that this development plan be approved, because its construction should not damage existing or future development as to drainage. No additional flow will be introduced into Marble Street and the additional 14 cfs channeled to Texas Street should not overtax the combined capacity of Texas Street, to storm sewers and the existing swales.

BIBLIOGRAPHY

Gordon Herkenhoff and Associates
for the City of Albuquerque - Master Plan of Drainage 1963

Elwin E. Seelye - Vol. 1 Design

U.S. Government - Tech Paper #40
Rainfall Frequency Atlas
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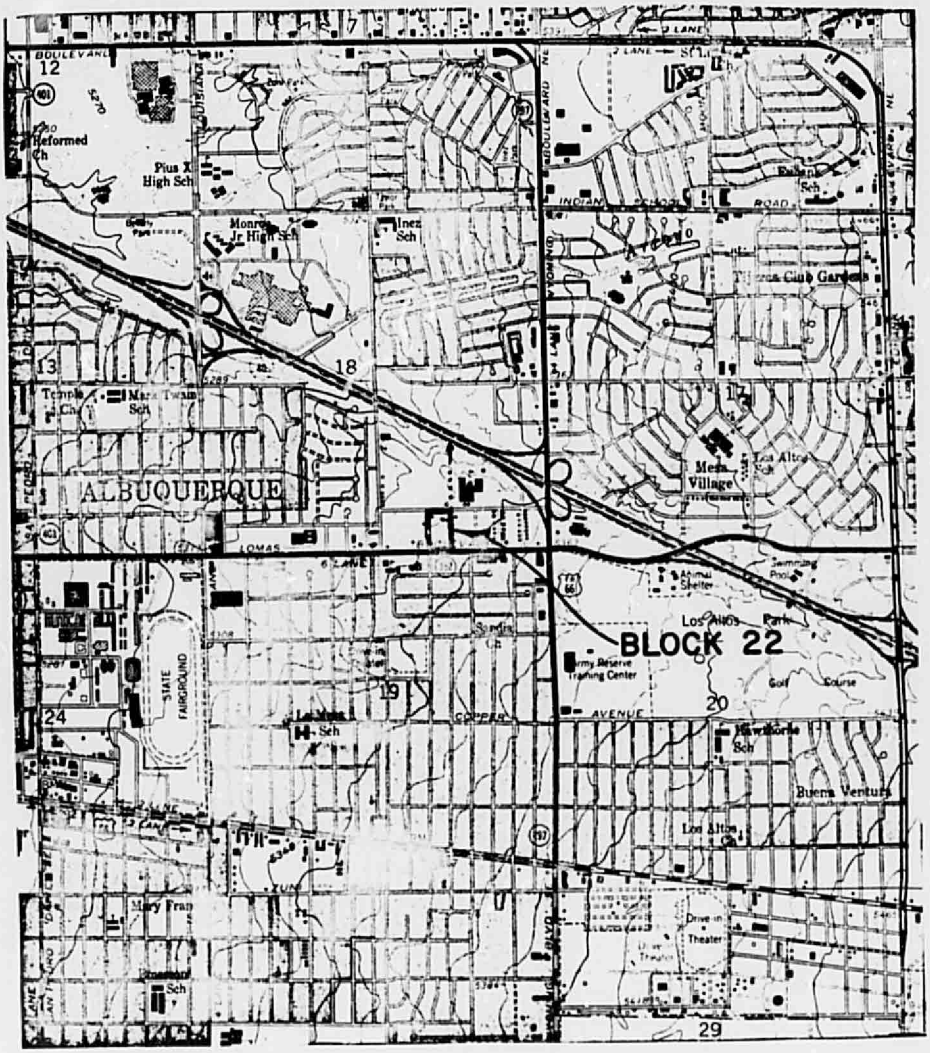
LOCATION PLAN



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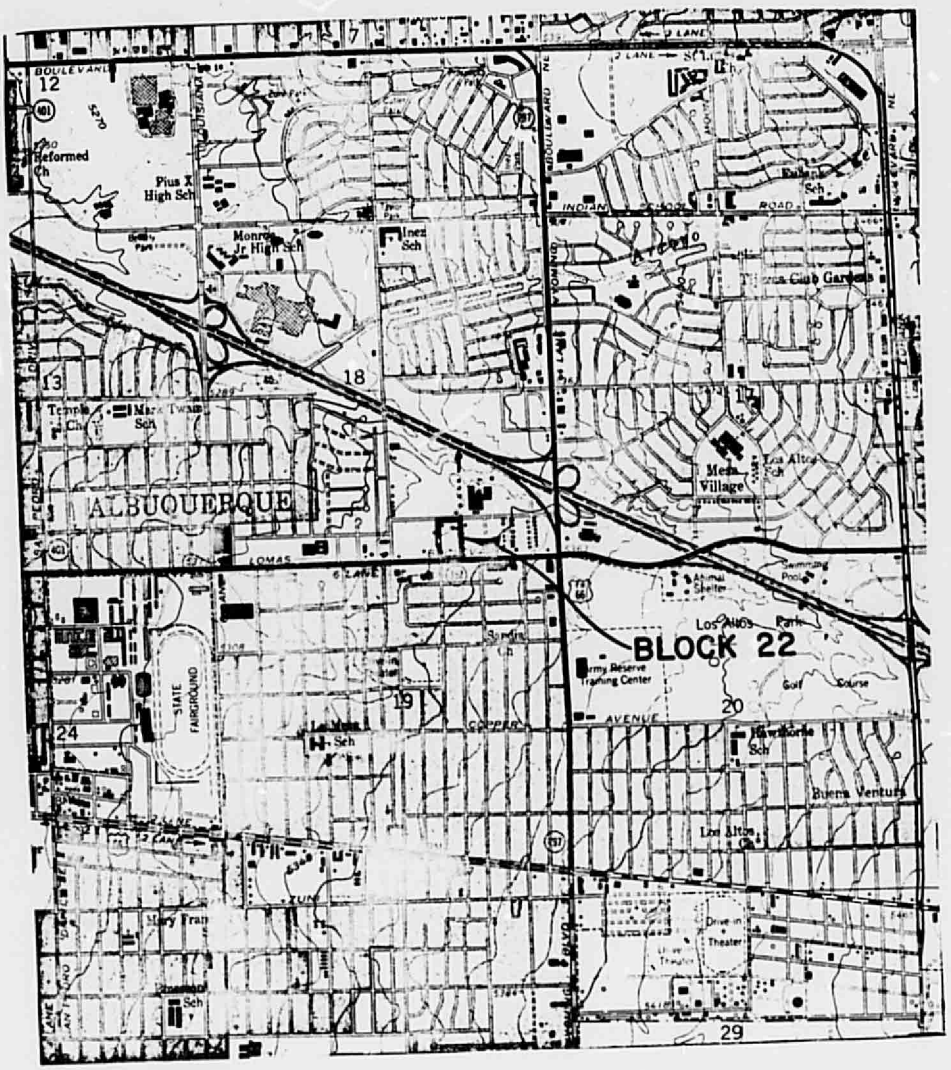

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