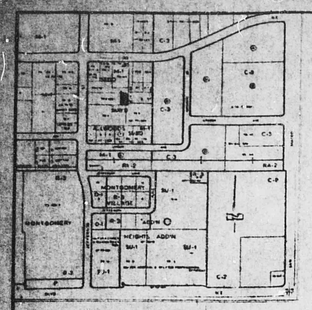
HYDROLOGY

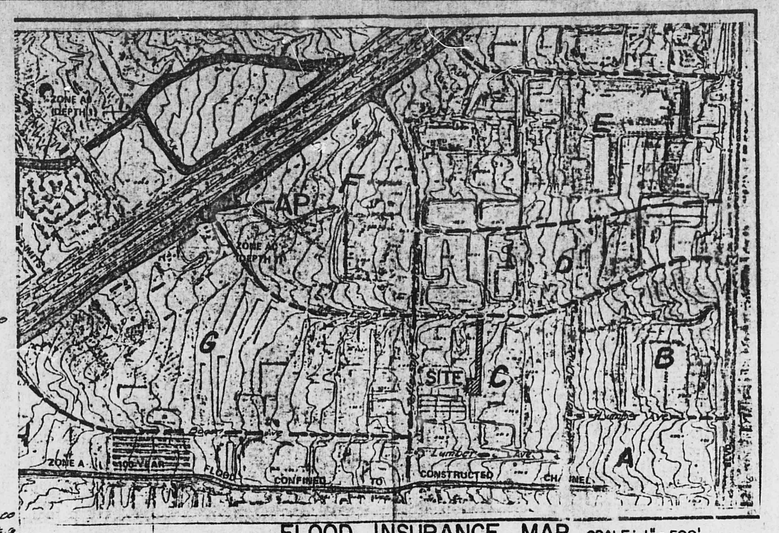
F17/D51

1 PLAN FOR

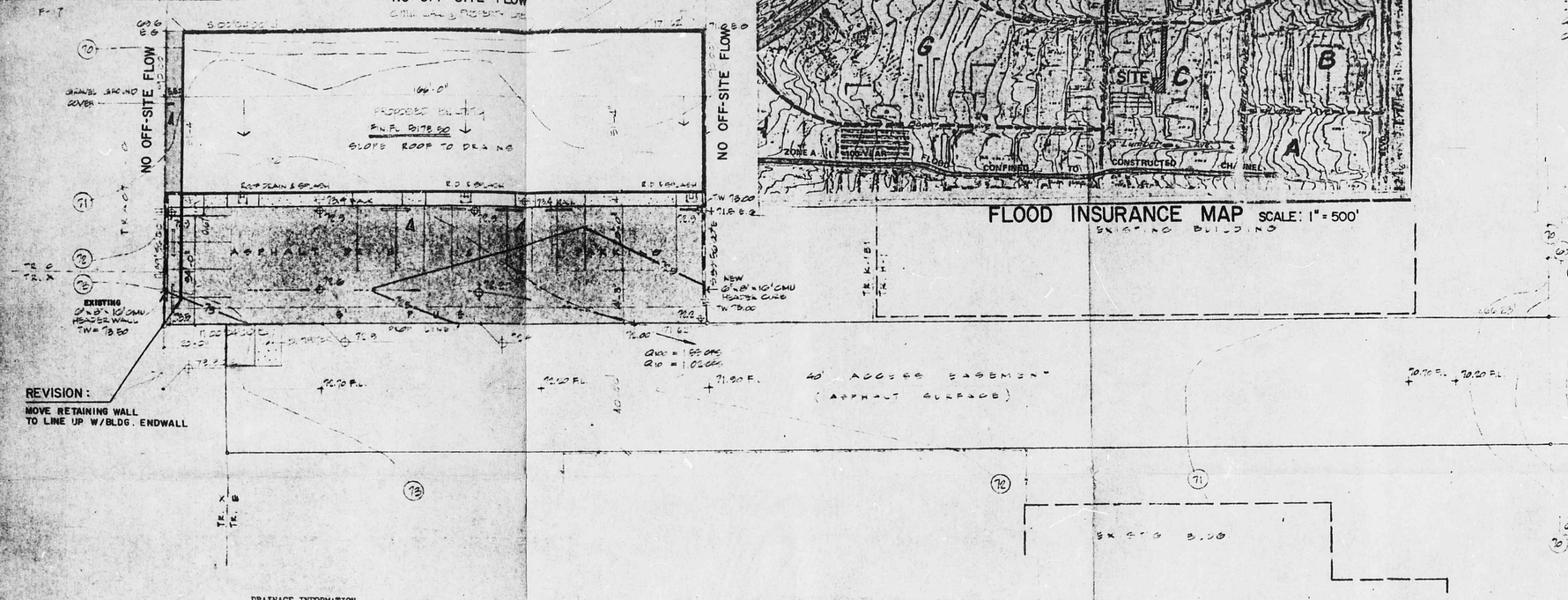
SEGO LEASE

F17-D51





FLOOD INSURANCE MAP SCALE: 1" = 500'



STREET FLOW ANALYSIS

DISCHARGE POINT TO MCLEOD ROAD

BASIN	AREA	RUN	SLOPE	V	Tc	i 100	Q100
B	13.0	1600	.093	2.1	10	4.65	77.0
C	13.5	1150	.01	1.4	10.44	4.55	43.2
D	7.2	1078	.02	1.9	10.13	4.61	57.4

Q_{100} = 179.6 CFS PEAK

Q_{10} = 118 CFS

TO FLOW KERCH SOLUTION

i: 100 DPM, PLATE 22.2 D-1

Q = CIA

C = % BELOW DPM PLATE 22.2 C-1 70% IMPERVIOUS SURFACE B.

DRAINAGE INFORMATION

I. References

A. City of Albuquerque, Development Process Manual (DPM), Volume 2, Design Criteria
B. Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico, U.S. Soil Conservation Service, Sheet 21
C. Flood Insurance Rate Map, City of Albuquerque, New Mexico Panel 16/50

II. General Information

A. Site Location and Elevation Data
1. Legal Description: Tract "N" Sego Subdivision, City of Albuquerque, Bernalillo County, New Mexico
2. Total Site Area: 0.355 acres 15445.8 square feet
3. City Address: 4606 A McLeod N.E.
4. City Bench Mark:
5. County Zone Atlas: F-17-Z

B. Soil Type (Reference B) EMB, Embudo, Hydrologic Soils Group B
C. 6-hour, 100 year rain, R_6 = 2.2 inches Reference A, Plate 22.2 D-1
D. Runoff Coefficient ("C" Factor) Reference A, Plate 22.2 C-1
Undeveloped "C" Factor, Curve is 0.34
Developed "C" Factor, assume the following values:

Buildings and concrete surfaces	1.00
Asphalt concrete paving	0.90
Landscaping, same as natural soil	0.15

Weighted "C" Factor:

Type of Surface	"C"	Area (SF)	C x A
Buildings	1.00	8500	8500
Concrete	1.00	328	328
Landscaping or natural	0.34	439	149
Asphalt	0.90	6179	5561
Totals		15446	14538

Weighted "C" Factor = $\frac{\sum (\text{"C"} \times A)}{\sum}$ = .94

E. Time of Concentration - Developed Area
Watershed length L = 177
Watershed change in elevation h = 1.24
Watershed slope S = h/L = .07
by Kirpich equation $T = 0.0078 (L^{0.77}/S^{0.385})$ = 1.2 minutes < 10 minutes
T_c = 10 minutes minimum

F. Intensity Reference A, Plate 22.2 D-1
$I = R_6 \times 6.86 \times T_c^{-0.51}$
= 4.65 in/hr

G. Peak Discharge - Rational Method: Q = CIA
Q = .94 x 4.65 x 0.355 =
= 1.55 cfs @ DISCHARGE POINT TO ACCESS EASEMENT

III. Existing Conditions (Paved Storage of Vehicles)

A. "C" Factor = 0.90
B. Time of Concentration Use 10 min.
C. Intensity Reference Plate 22.2 D-2
I = 4.65 in/hr
D. Peak Discharge - Rational Method: Q = CIA

Q = 0.90 x 4.65 x 0.355 = 1.49 cfs

IV. Downstream Analysis
This site contributes to a flooding situation in Pan American Road at the intersection of McLeod Road NE. However as can be seen from the outlined drainage areas this site will best the peak flows to the Analysis point. But the best reason for free discharge is the peak flows in McLeod Road NE reach a possible flooding situation in 15.5 minutes from drainage areas B, C, and D with a total Q100 of 179.6 cfs. Our site can peak at this point in 2.4 minutes and help releave a potential problem. Futher as can be seen from the existing conditions no addition of runoff is being made. Therefore free discharge is recommended.

BENCH MARK

G-F17 LOCATED AT INTERSECT ON OF MONTGOMERY BOULEVARD AND JEFFERSON STREET NE SQUARE ON BASED ON HEAD OF CURB IN WNW RETURN. ELEV 5160.08

TEM

TOP OF CURB ADJ TO WEST LINE OF EASEMENT ON SOUTH SIDE OF MCLEOD ROAD.

ELEV 5167.21

LEGEND

CONTOUR INTERVAL - ONE FOOT EXISTING
ONE-HALF FOOT PROPOSED

(70) EXISTING CONTOUR

70 PROPOSED CONTOUR

+ EXISTING SPOT ELEVATION

& PROPOSED SPOT ELEVATION

PROPOSED CONTOURS AND SPOT ELEVATIONS ARE TO FINISH SURFACES.
CONTRACTOR SHALL DETERMINE APPROPRIATE SLOPE USE.

CONCEPTUAL DRAINAGE PLAN

MCLEOD ROAD, NE
TRACT "N"
SEGO SUBDIVISION
ALBUQUERQUE, NEW MEXICO

FOR DURA BILT

RECEIVED NOV 06 1985 HYDROLOGY SECTION

PLAN SCALE: 1" = 20'

1-A Revised Landscaping April 3, 1985

2- Revised Retaining Wall Nov. 5, 1985

RICHARD V. HALL NEW MEXICO 7918 REGISTERED PROFESSIONAL ENGINEER

MARCH 13, 1985

F17/D51

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