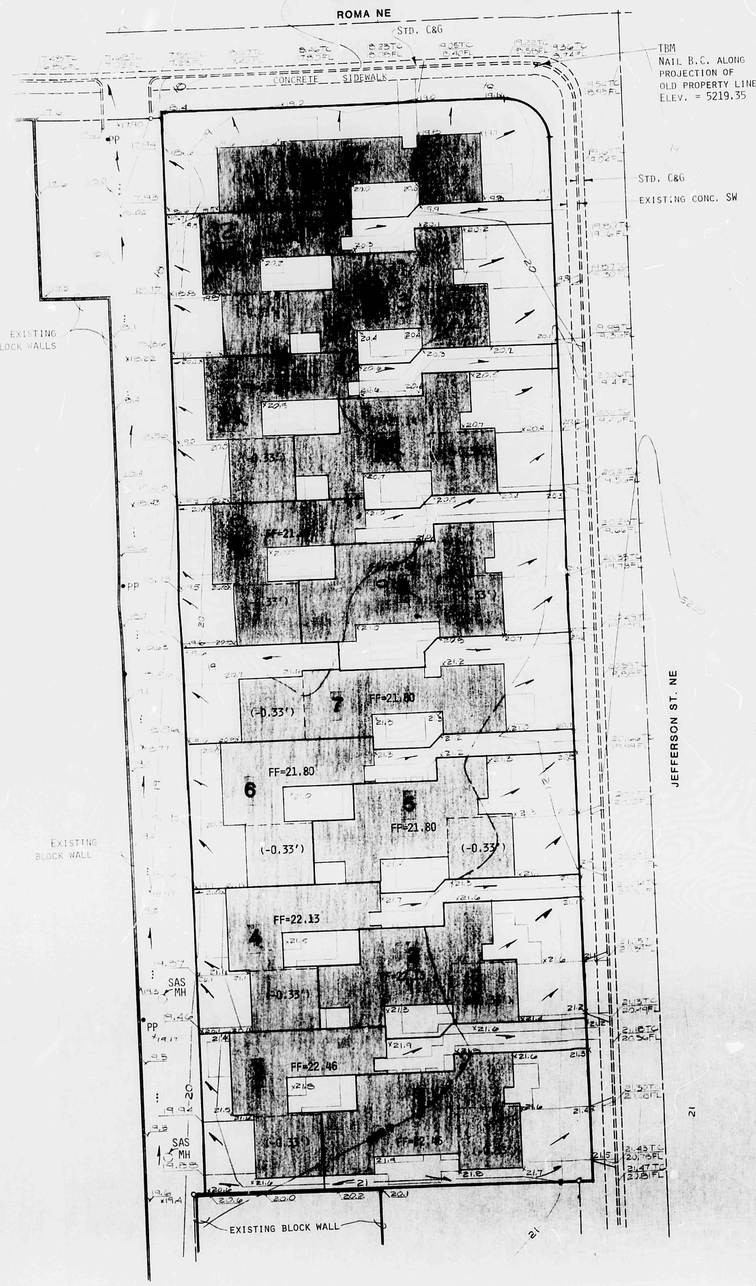
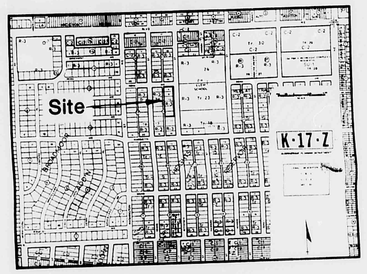
HYDROLOGY K17/D27 1 PLAN

K17/D27

1 Plan

CITY OF ALBUQUERQUE





VICINITY MAP

LEGEND

5220	EXISTING CONTOUR
19.8	EXISTING SPOT ELEVATION
PP	POWER POLE
	EXISTING CURB & GUTTER
	FLOW DIRECTIONAL ARROW
20	PROPOSED CONTOUR
x19.2	PROPOSED SPOT ELEVATION
FF = 21.47	FINISH FLOOR ELEVATION
(-0.33')	FINISH FLOOR (MINUS ELEV. FROM FF)
	DRAINAGE SWALE

NOTES

1. TOPOGRAPHIC SURVEY PERFORMED BY GORDON J. DOUGLAS & ASSOC., P.C. (10-28-83).
2. ELEVATIONS TIED INTO ACS BENCH MARK 1-117 LOCATED AT THE INTERSECTION OF MONROE ST. N.E. AND LOMAS BLVD., IN THE NW QUADRANT OF THE INTERSECTION. ELEVATION = 5225.223
3. TEMPORARY BENCH MARK AS SHOWN ON PLAN
4. THIS SITE IS NOT SUBJECT TO ANY FLOODING AS DEFINED ON PANEL 29 OF 50 OF THE NATIONAL FLOOD INSURANCE PROGRAM, DATED OCT. 14, 1983.

OFF-SITE CONDITIONS

THIS SITE DOES NOT ACCEPT ANY OFF-SITE STORM WATERS IN ITS PRESENT UNDEVELOPED STATE, AND SIMILARLY, WILL NOT ACCEPT OFF-SITE STORM WATERS ONCE IT IS DEVELOPED.

ON-SITE CONDITIONS

UNDEVELOPED DRAINAGE CALCULATIONS

BASE DATA: AREA = 50,340 S.F. = 1.1557 AC.
Tc = 10 MIN.
I = 4.95
'C' = 0.40
D = 2.3" = 0.192'

Q_{10} = (0.40)(4.95)(1.1557)(0.657) = 1.5 CFS
Q_{100}= (0.40)(4.95)(1.1557) = 2.3 CFS
V_{10} = (0.40)(0.192)(50,340)(0.657)= 2,540 CF
V_{100}= (0.40)(0.192)(50,340) = 3,866 CF

THE FLOWS GENERATED FROM THE 10 YR. AND 100 YR. EVENT PRESENTLY SHEET FLOW ACROSS THE SITE IN A SOUTHEAST TO NORTHWEST DIRECTION AND ARE INTERCEPTED BY THE UNIMPROVED PUBLIC ALLEY ALONG THE SITE'S WEST BOUNDARY. THE ALLEY HAS AN INVERTED CROWN AND DISCHARGES ITS' FLOWS OUT OF AN EXISTING ALLEY ENTRANCE AND ONTO THE PAVED SURFACE OF ROMA AVE.

DEVELOPED DRAINAGE CALCULATIONS AND CONDITIONS

BASE DATA: SAME AS ABOVE EXCEPT FOR:
'C' = 0.82

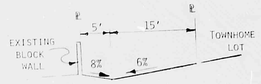
Q_{10} = (0.82)(4.95)(1.1557)(0.657) = 3.1 CFS
Q_{100}= (0.82)(4.95)(1.1557) = 4.7 CFS
V_{10} = (0.82)(0.192)(50,340)(0.657)= 5,207 CF
V_{100}= (0.82)(0.192)(50,340) = 7,925 CF

IT MUST BE ASSUMED THAT ALL FLOWS SHALL EXIT THE SITE IN A SHEET FLOW CONDITION, SIMILAR TO THE UNDEVELOPED DISCHARGE, EXCEPT THAT NOW APPROXIMATELY ONE-HALF OF THE DEVELOPED FLOWS EXIT TO THE RIGHT-OF-WAY OF JEFFERSON ST. THIS LEAVES THE ALLEY WITH A ZERO NET INCREASE IN THE AMOUNT OF STORM WATERS THAT IT MUST ACCEPT.

THERE ARE NO DRAINAGE IMPROVEMENTS REQUIRED FOR THIS DEVELOPMENT. A DRAINAGE VARIANCE WAS SECURED FROM THE CITY ENGINEER WHICH ALLOWS FOR A 100% FREE DISCHARGE OF THE DEVELOPED STORM WATERS. THIS WAIVER OF DETENTION WAS GRANTED DUE TO THE ADEQUACY OF THE DOWNSTREAM SYSTEM AND DUE TO THE FACT THAT THIS IS AN IN-FILL DEVELOPMENT IN A TOTALLY DEVELOPED AREA.

ALLEY FLOW CARRYING CHARACTERISTICS

THE ADJACENT OFF-SITE PUBLIC ALLEY SHALL BE PAVED AS A CONDITION OF FINAL DEVELOPMENT. ITS' CROSS-SECTION SHALL BE SIMILAR TO ITS' NATURAL CONTOURS, THAT BEING WITH AN INVERTED CROWN. IT WILL ACT AS AN OPEN-CHANNEL AND HAS THE FOLLOWING FLOW CARRYING CAPACITIES.



ALLEY CROSS-SECTION

SLOPE = 0.4%
MAX. DEPTH = 0.4'
N = 0.24

ALLEY CHANNEL DATA

Q_{MAX} = 3.5 CFS
V = 1.4 FPS
D = 0.4 FT.
TIME OF TRAVEL = 4.8 MIN.

LEGAL DESCRIPTION

A CERTAIN TRACT OF LAND SITUATE IN THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, SAID TRACT BEING A REPLAT OF LOTS A, B, 13, 14, 15 AND 16, BLOCK 18 OF THE HEIGHTS RESERVIOR ADDITION AS FILED IN VOLUME B-1, PAGE 173 IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE POINT OF TANGENCY OF THE RIGHT-OF-WAY RADIUS IN THE SOUTHEAST QUADRANT OF THE INTERSECTION OF JEFFERSON ST. N.E. AND ROMA AVE. N.E. FROM WHENCE THE NORTHEAST CORNER OF LOT A OF THE PREVIOUSLY MENTIONED ADDITION BEING A 2" PIPE BEARS N 20°45'38" W, 13.98 FEET DISTANT; WHENCE THE CITY OF ALBUQUERQUE CONTROL STATION 1-117 BEARS N 69°17'45" E, 2,125.25 FEET DISTANT FOR A TIE;

THENCE, S 00°15'28" W A DISTANCE OF 358.87 FEET TO A POINT FOR CORNER;

THENCE, N 89°49'00" W A DISTANCE OF 139.50 FEET ALONG A PORTION OF THE NORTH LOT LINE OF LOT 17 OF SAID HEIGHTS RESERVIOR ADDITION TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF A PUBLIC ALLEY;

THENCE, N 00°15'28" E A DISTANCE OF 371.69 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF ROMA AVE. N.E.;

THENCE, S 89°49'00" E, A DISTANCE OF 4.00 FEET ALONG SAID RIGHT-OF-WAY LINE TO A POINT FOR CORNER;

THENCE, N 00°15'28" E, A DISTANCE OF 2.00 FEET TO A POINT FOR CORNER;

THENCE, S 89°49'00" E A DISTANCE OF 120.48 FEET TO THE POINT OF CURVATURE OF A CURVE HAVING A RADIUS OF 15.00 FEET AND A CENTRAL ANGLE OF 90°04'28";

THENCE, ALONG THE ARC OF SAID CURVE A DISTANCE OF 23.58 FEET TO THE POINT OF BEGINNING AND CONTAINING 1.1961 ACRES OF LAND, MORE OR LESS.

ENGINEER'S CERTIFICATE

THE INFORMATION SHOWN HEREON DEPICTS THE EXISTING AND PROPOSED CONDITIONS OF THE JEFFERSON COURT GARDEN HOMES. I HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NEW MEXICO AND THAT THIS PLAN WAS PREPARED BY ME AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Fred C. Arfman 12-23-83
FRED C. ARFMAN DATE
REGISTERED PROFESSIONAL N.M.
ENGINEER NO. 7322
FOR
ISAACSON & ARFMAN, P.A.

FRED C. ARFMAN NEW MEXICO 7322 REGISTERED PROFESSIONAL ENGINEER

Date
Designed
Checked

Isaacson & Arfman, P.A.
CONSULTING ENGINEERING ASSOCIATES
Albuquerque, New Mexico

Site Drainage & Grading Exhibit

JEFFERSON COURT GARDEN HOMES

Sheet 1 of 1

THIS PLAN SHOULD BE COPIED ON LIGHT AND COPIED ON DARK.

CITY OF ALBUQUERQUE
THIS MICROFILM IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

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CITY OF ALBUQUERQUE

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