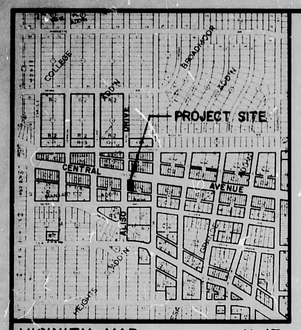
Hydrology K17/D38 ARGOS DRAINAGE

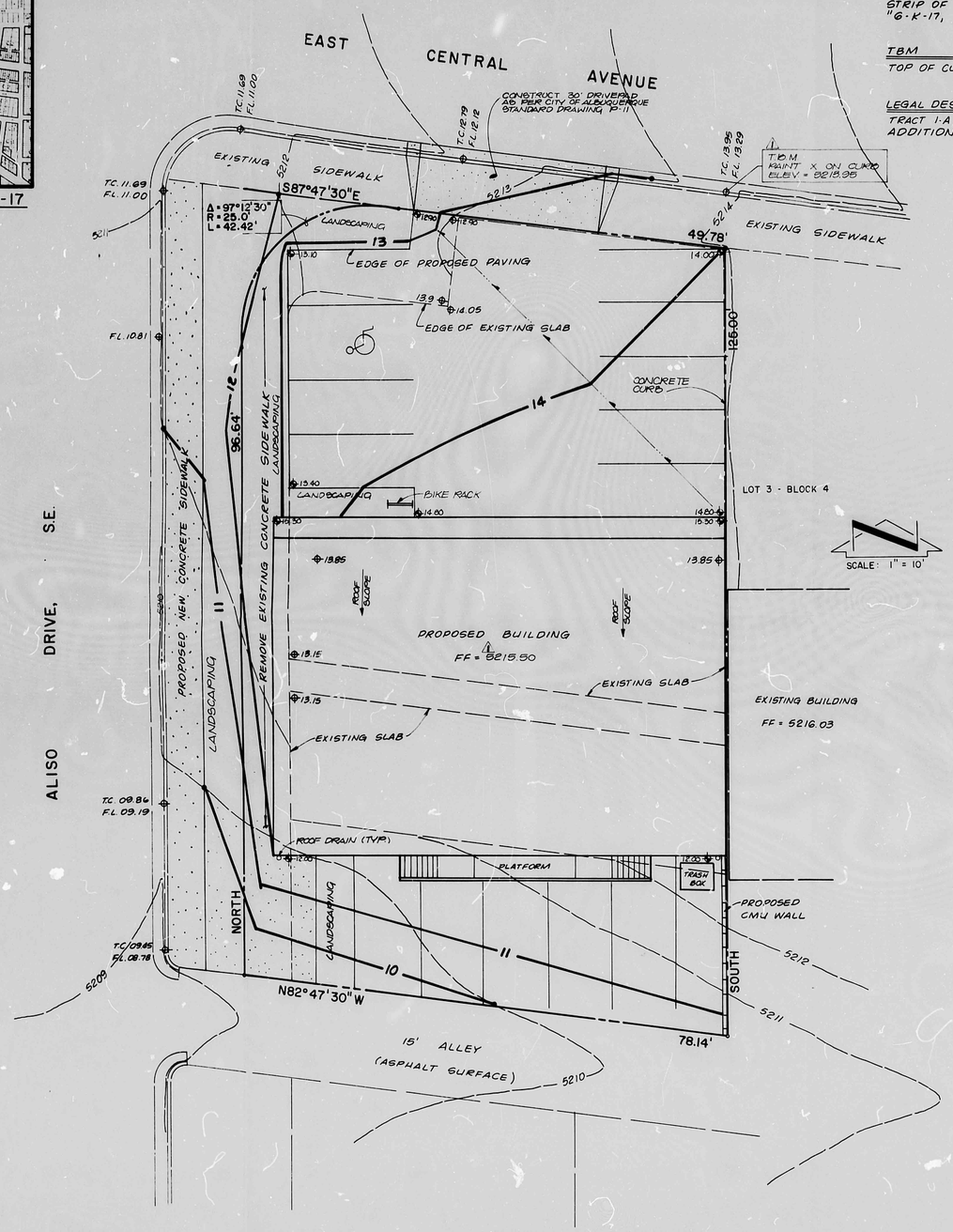
K17/D38

Argos Drainage

1 Plan



VICINITY MAP K-17
SCALE 1" = 800'±



BENCHMARK

6·K17 3" ACS BRASS CAP SET IN CONCRETE CYLINDER FLUSH W/GROUND 53' EAST OF ℄ OF CARLISLE BLVD. IN MEDIAN STRIP OF CENTRAL AVENUE STAMPED "6·K-17, 1974 ACS"
ELEV.=5199.599

TBM

TOP OF CURB ADJ TO PROPERTY CORNER
ELEV. = 5213.95

LEGAL DESCRIPTION

TRACT 1-A, BLOCK 4, MANKATO PLACE ADDITION

·LEGEND·

◆	PROPOSED SPOT ELEVATION
◇	EXISTING SPOT ELEVATION
5G	PROPOSED CONTOUR
5855	EXISTING CONTOUR
	SWALE
	PROPERTY LINE
	CONCRETE
	PROPOSED ASPHALT
	PROPOSED FENCE
—x—x—	EXISTING FENCE
TC 02.00	TOP OF CURB
FL 01.65	FLOW LINE

CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 765-1234, FOR LOCATION OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

EROSION CONTROL MEASURES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

DRAINAGE PLAN

The following items concerning the Argos Building Drainage Plan are contained hereon:

1. Vicinity Map 2. Grading Plan 3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located on the south side of East Central Avenue and the west side of Aliso Drive S.E. At the present time, the site contains asphalt and a foundation from a previous building. The adjacent sites are developed.

As shown by Plate K-17 of the Albuquerque Master Drainage Study, the site does not lie within a designated Flood Hazard Zone. The project site is higher than Central Avenue to the north and Aliso Drive to the west. A concrete curb and/or a CMU wall will be constructed between this parcel and the parcel to the east. The alley is paved in an inverted section, therefore, offsite flows will not enter the site.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'-0" intervals, 2) continuity between existing and proposed elevations, 3) limit and character of the existing improvements, and 4) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements consist of the construction of a building, landscaping and associated parking. At present, the site drains to the west and south. The proposed grading indicates that the parking in the front of the building will drain to the north to Central Avenue and enter Central Avenue through a drivepad. The flows from the roof and the southern parking area will flow to the south into the alley which will convey the flows into Aliso Drive.

The Calculations which appear below analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used for this analysis in accordance with the City of Albuquerque Development Process Manual, Volume II. As shown by these calculations, the proposed improvements will result in a decrease in the runoff discharged from the site. This pattern of runoff is consistent with the pre-design conference re-cap which accompanies this submittal.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 31:
Cut and Fill, Cu
Hydrologic Soil Group A

Rational Method

Discharge: $Q = CiA$
where C varies
$i = P_6 (6.84) T_c^{-0.51} = 4.86$ in./hr
$P_6 = 2.3$ in (DPM Plate 22.2 D-1)
$T_c = 10$ min (minimum)
A = area, acres

Volume: $V = CP_6A(1/12)$
where C varies
$P_6 = 2.3$ in (DPM Plate 22.2 D-1)
A = area, acres

Existing Condition

$A_{total} = 9{,}690$ sf = 0.22 Ac
$A_{imp} = 8{,}900$ sf; % impervious = 92%
C = 0.77 (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.77(4.86)(0.22) = 0.82$ cfs
$V_{100} = CP_6A = 0.77(2.3/12)(9{,}690) = 1{,}430$ cf

Developed Condition

$A_{total} = 9{,}690$ sf = 0.22 Ac
$A_{imp} = 8{,}016$ sf; % impervious = 83%
C = 0.67 (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.67(4.86)(0.22) = 0.72$ cfs
$V_{100} = CP_6A = 0.67(2.3/12)(9{,}690) = 1{,}244$ cf

Comparison

$Q_{100} = -0.82 + 0.72 = -0.10$ cfs
$V_{100} = -1{,}430 + 1{,}244 = -186$ cf

RECEIVED
JUL 22 1985
HYDROLOGY SECTION

REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW MEXICO
THOMAS A. MANN
1392
AND LAND SURVEYOR
7/22/85

John Mann Associates, P.C.
811 DALLAS N.E. · ALBUQUERQUE · NEW MEXICO · 87110
ENGINEERS

NO.	DATE	BY	REVISIONS
1	7/85	TTM	ADDED TBM & NOTE FOR FINISH FLOOR

DESIGNED BY T.M.
DRAWN BY L.A.H.
APPROVED T.M.

JOB NO. 50801
DATE 7·85

ARGOS GRADING AND DRAINAGE PLAN

FILE NO.
SHEET 1 OF 1

K17/D038