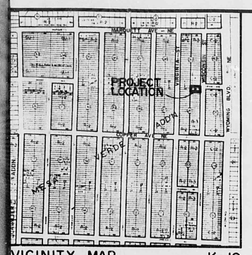
HYDROLOGY K19/D70 1 PLAN

K19/D70

1 Plan

D 24 C 20 B 16 A 12 | CITY OF ALBUQUERQUE C D



VICINITY MAP K-19

SCALE : 1" = 800'

PROJECT BENCHMARK

A SQUARE Ø, CHISELED ON TOP OF CONCRETE CURB LOCATED @ THE INTERSECTION OF LOMAS BLVD. N.E. AND UTAH ST. N.E. IN THE NORTHWEST QUADRANT OF THE INTERSECTION, APPROXIMATELY 20' WEST OF THE NNW CURB RETURN. (B.M. # 2-J19)
ELEVATION = 5350.12 FEET (M.S.L.D.)

TBM

ELEVATION OF SANITARY SEWER MANHOLE RIM, MANHOLE LOCATED APPROXIMATELY 30.4 EAST OF THE NORTHEAST PROPERTY CORNER AS SHOWN ON THE DRAWING BELOW.
ELEVATION = 5370.24 FEET (M.S.L.D.)

LEGAL DESCRIPTION

LOT 26-A, BLOCK 26, MESA VERDE ADDITION

LEGEND

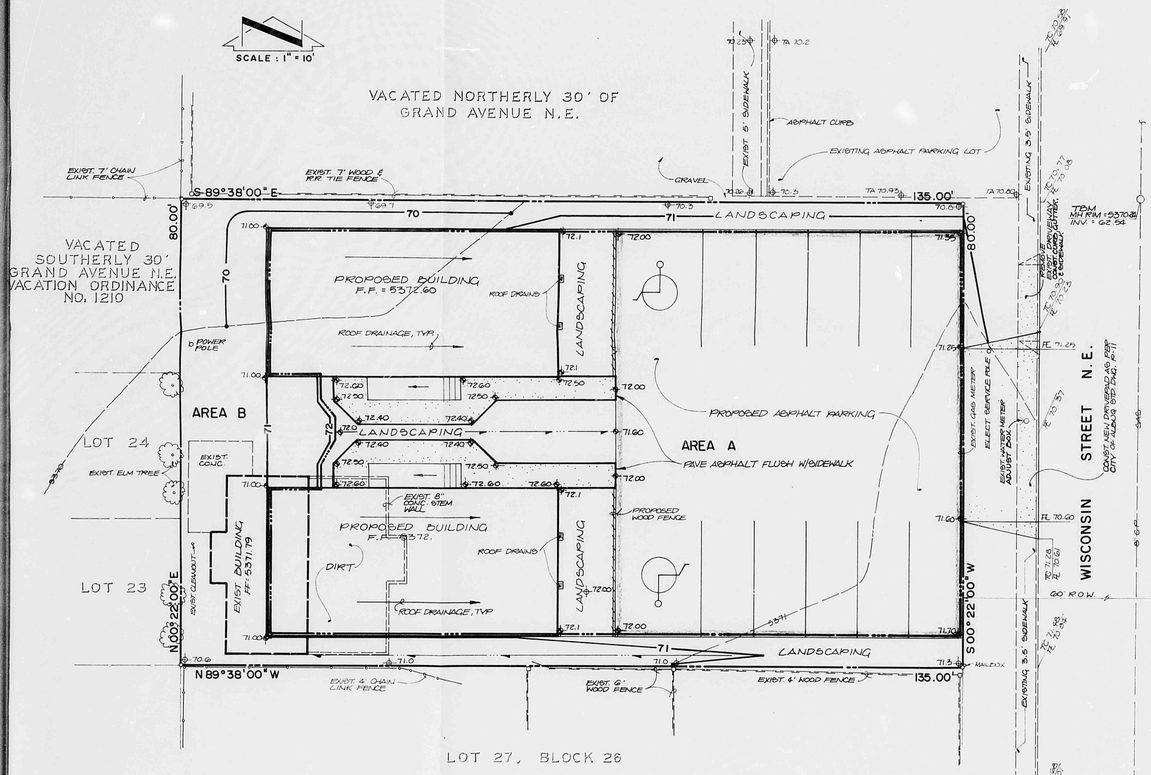
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- 5G — PROPOSED CONTOUR
- 5850 — EXISTING CONTOUR
- SWALE
- PROPERTY LINE
- CONCRETE
- PROPOSED ASPHALT
- PROPOSED FENCE
- —x—x— EXISTING FENCE
- TC 02.00 — TOP OF CURB
- FL 01.65 — FLOW LINE
- DRAINAGE BASIN BOUNDARY

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 Wisconsin 4-Plex 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 west side of Wisconsin Street N.E. between Marquette Avenue N.E. and Copper Avenue N.E. At present, much of the surrounding area is developed residentially. The site is partially undeveloped and can be considered an infill site.

As shown by Plate K-19 of the Albuquerque Master Drainage Study, the site does not lie within a designated Flood Hazard Zone. At present the runoff generated by this site flows northwest through the vacated southerly 30' of Grand Avenue N.E. (Vacation Ordinance No. 1210), then to Virginia Street N.E., then north to Marquette Avenue N.E. The runoff continues west to Mesilla Street N.E. and outfalls to the Fairgrounds Stormwater Relief System.

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 grades, and 3) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements consist of the construction of two four-plexes along with adjacent landscaping and paving. Runoff from Area A flow east to Wisconsin Street N.E. by way of the new drivepad, then north to Marquette Street N.E. and enter the Fairgrounds Relief System as discussed above. Runoff from Area B is undeveloped runoff which discharges from the site in accordance with existing conditions. Runoff within Area B will only be created by that rain which falls within the area which is 100% pervious. No existing offsite flows enter from the east due to Wisconsin Street N.E. No offsite flows will enter from the north or west due to the slope of the land being parallel or below that of the site. Minor offsite flows from the property located to the south of the site are accepted and routed through the site by a very flat swale. This flow has been quantified in the calculations.

The Calculations which appear hereon 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 increase the peak discharge to Wisconsin Street N.E. by 0.8 cfs and will decrease the flow to the west by 0.3 cfs. Based upon this negligible increase in runoff, combined with the fact that this is an infill site that contributes to an existing Fairgrounds Stormwater Relief System, the free discharge of runoff from this site is appropriate.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 31:
TgB, Tijeras; Gravelly Fine Sandy Loam
Hydrologic Soil Group B

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

$A_{total} = 10,800$ sf $= 0.25$ Ac
$A_{IMP} = 561$ sf; % impervious = 5%
$C = 0.36$ (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.36(4.86)(0.25) = 0.4$ cfs
$V_{100} = CP_6A = 0.36(2/3/12)(10.800) = 745$ cf

Developed Condition

Area A

$A_{total} = 8,200$ sf $= 0.19$ Ac
$A_{IMP} = 7,370$ sf; % impervious = 90%
$C = 0.86$ (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.86(4.86)(0.19) = 0.8$ cfs
$V_{100} = CP_6A = 0.86(2.3/12)(8,200) = 1,350$ cf

Area B

$A_{total} = 2,600$ sf $= 0.06$ Ac
$A_{IMP} = 0$ sf; % impervious = 0%
$C = 0.34$ (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.34(4.86)(0.06) = 0.10$ cfs
$V_{100} = CP_6A = 0.34(2.3/12)(2,600) = 170$ cf

Comparison

Area A

$\Delta Q_{100} = 0.8 - 0.0 = 0.8$ cfs (increase)
$\Delta V_{100} = 1,350 - 0.0 = 1,350$ cf (increase)

Area B

$\Delta Q_{100} = 0.1 - 0.4 = 0.3$ cfs (decrease)
$\Delta V_{100} = 170 - 745 = 575$ cf (decrease)

Offsite Flow

$A_{total} = 4,300$ ft$^2 = 0.10$ Ac
$A_{IMP} = 0$ sf; % impervious = 0%
$C = 0.34$ (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.34(4.86)(0.10) = 0.2$ cfs

(.34)(.3)/12 (4,300)

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR — THOMAS E. MANN — 3757 — STATE OF NEW MEXICO

RECEIVED NOV 08 1985 HYDROLOGY SECTION

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

DAVID MANN ASSOCIATES, INC. 811 DALLAS, N.E. · ALBUQUERQUE · NEW MEXICO · 87110 ENGINEERS	NO. / DATE / BY / REVISIONS	DESIGNED BY J.G.M. DRAWN BY S.G.H. APPROVED T.T.M.	JOB NO. 51341 DATE 10-85

GRADING & DRAINAGE PLAN
WISCONSIN 4-PLEXES

FILE NO.
SHEET 1 OF 1

D 24 C 20 B 16 A 12 | CITY OF ALBUQUERQUE | C D