HYDROLOGY

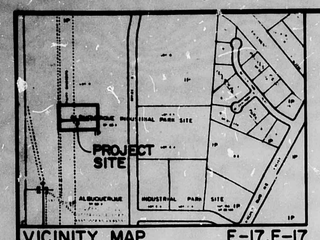
E17/D41G

ONE PLAN

PLAN
FOR

GEORGE BRONACINI
WAREHOUSE

EM-D416



VICINITY MAP E-17, F-17

SCALE: 1" = 800'

PROJECT BENCHMARK

STATION IS A STANDARD BLM BRASS CAP, SET IN CONCRETE MONUMENT STAMPED BC T11N S34 T10N S3. WHICH PROJECTS 1.0' ABOVE GROUND. THE STATION IS LOCATED 5.1 MILES NORTHEAST OF DOWNTOWN ALBUQ. EAST OF THE NORTH DIVERSION CHANNEL AND SOUTH OF OSUNA RD. N.E. TO REACH THE STATION FROM THE INTERCHANGE AT I-25 AND OSUNA RD. N.E., GO WEST ON OSUNA 1.0 MILES TO A DIRT ROAD. TURN RIGHT, GO SOUTH 0.5 MILES TO ANOTHER DIRT ROAD. THE STATION IS LOCATED LEFT OF THIS POINT.

ELEVATION = 5110.406 FEET (M.S.L.D.)

TBM

A SQUARE □ CHISELED IN THE E. AND ℄ OF THE CONCRETE DITCH. TBM LOCATED AT THE NORTHEAST PROPERTY CORNER AS SHOWN ON THE DRAWING BELOW.

ELEVATION = 5114.53 FEET (M.S.L.D.)

LEGAL DESCRIPTION

LOTS 10A & 10B, MIDWAY BUSINESS PARK

LEGEND

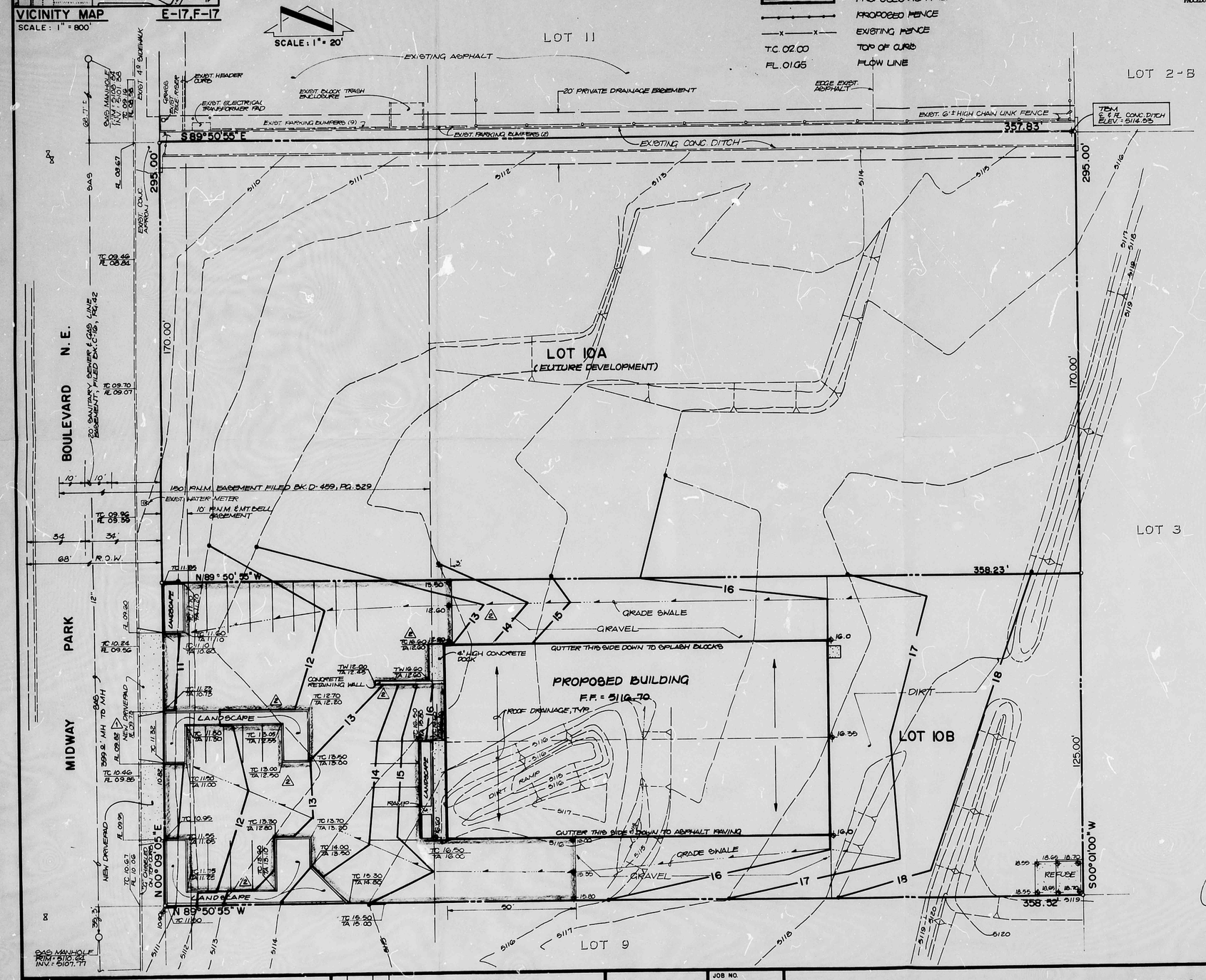
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- 5050 PROPOSED CONTOUR
- 5050 EXISTING CONTOUR
- SWALE
- PROPERTY LINE
- CONCRETE
- PROPOSED ASPHALT
- PROPOSED FENCE
- EXISTING FENCE
- T.C. 02.00 TOP OF CURB
- F.L. 01.65 FLOW LINE

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.

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.



DRAINAGE PLAN

The following items concerning the Lot 10-B, Midway Business Park 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 east side of Midway Park Boulevard N.E. within the Midway Business Park. At present, the site is undeveloped.

As shown by Plates E-17 and F-17 of the Albuquerque Master Drainage Study, the site does not lie within a designated Flood Hazard Zone. At present, runoff generated by this site flows from east to west onto Midway Park Boulevard N.E., a paved street. From this point, the runoff flows north to a concrete channel just north of Midway Place Street. The runoff enters this channel which then discharges into the A.M.A.F.C.A. North Diversion Channel.

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 a warehouse building along with adjacent landscaping and paving. Flows generated by the eastern portion of Lot 10-B flow around the proposed building to the asphalt parking lot via graded swales. The runoff then flows west to discharge through the new drivepad. From this point, the runoff flows north on Midway Park Boulevard and follows the same path discussed above. No offsite flows will enter the site from the properties to the north or south because the land parallels that of the project site. Offsite flows are anticipated from Lot 3, which lies to the east of this site. These flows are accepted and routed through the site. The offsite flows have been calculated below.

The Master Drainage Plan for Midway Business Park (E17-D41, Section 3-C) contains the site to be developed. The site lies within Drainage Basin 3-C, which contains 3.2 acres. Basin 3-C is allowed the discharge of 12.2 cfs. This permits 12.2 cfs/3.2 acres, or 3.8 cfs/acre. The site is 1.02 acres, therefore, 3.8/acres x 1.02 acres = 3.88 cfs is an allowable discharge for this site. Free discharge is, therefore, appropriate for this site. Lot 10-A will be developed in the future. It is anticipated that that development will also discharge its developed runoff to the street, Midway Park Boulevard N.E. It is fully realized that a site specific grading and drainage plan will be required for that site in order to obtain building permit approval for the future development.

The Calculations shown hereon analyze both the existing and proposed 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 peak discharge is increased by approximately 1.3 cfs.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 21:
EmB - Embudo gravelly fine sandy loam
Hydrologic Soil Group B

Rational Method

Discharge: $Q = CiA$
where C varies
$i = P_6 (6.84)\, T_c^{-0.51} = 4.65$ in./hr
$P_6 = 2.2$ in (DPM Plate 22.2 D-1)
$T_c = 10$ min (minimum)
A = area, acres

Volume: $V = CP_6A(1/12)$
where C varies
$P_6 = 2.2$ in (DPM Plate 22.2 D-1)
A = area, acres

Existing Condition

$A_{total} = 44{,}815$ sf = 1.03 Ac
$A_{imp} = 0$ sf; % impervious = 0%
'C' = 0.34 (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.34(4.65)(1.03) = 1.6$ cfs
$V_{100} = CP_6A = 0.34(2.2/12)(44{,}815) = 2{,}790$ cf

Developed Condition

$A_{total} = 44{,}815$ sf = 1.03 Ac
$A_{imp} = 24{,}980$ sf; % impervious = 56%
'C' = 0.61 (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.61(4.65)(1.03) = 2.9$ cfs
$V_{100} = CP_6A = 0.61(2.2/12)(44{,}815) = 5{,}010$ cf

Comparison

$\Delta Q_{100} = 2.9 - 1.6 = 1.3$ cfs (increase)
$\Delta V_{100} = 5{,}010 - 2{,}770 = 2{,}240$ cf (increase)

Offsite Flows

Potential contributing area = Lot 3 = 2.1874 Ac = 95,280 sf
i = 4.65 in/hr
'C' = 0.34 (undeveloped)
$Q_{100} = CiA = 0.34(4.65)(2.1874) = 3.5$ cfs
$V_{100} = CP_6A = 0.34(2.2/12)(95{,}280) = 5{,}940$ cf

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER 10-21-85

THOMAS J. MANN STATE OF NEW MEXICO 7977 REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR

REVISED 10-21-85

RECEIVED NOV 14 1985 HYDROLOGY SECTION

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ENGINEERS

NO.	DATE	BY	REVISIONS
1	10/85	RHD	REVISE PARKING LOT LAYOUT & GRADES
2	11/85	RHD	REVISE PARKING LOT GRADES FOR DOCK

DESIGNED BY: R.H.D.
DRAWN BY: S.G.H.
APPROVED: J.G.M.
JOB NO. 51161
DATE 10·85

GRADING AND DRAINAGE PLAN
LOTS 10A & 10B, MIDWAY BUSINESS PARK

E17/D41G

FILE NO.
SHEET 1 OF 1